

Z
TWEEDDALE
S.33



LIST OF MEMBERS
OF THE
ASIATIC SOCIETY OF BENGAL,
ON THE 31ST DECEMBER, 1866.



LIST OF ORDINARY MEMBERS.

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 The \* distinguishes Non-Subscribing and the † Non-Resident Members.  
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Date of Election.		
1847 June 2.	†Abbott, Brigdr.-Genl. J., Royal Artillery.	Dinapore
1860 Dec. 5.	Abdool Luteef, Khan Bahadur, Maulavi.	Calcutta
1865 June 7.	Agabeg, J. Esq.	Calcutta
1860 July 4.	†Ahmad Khan, Saiëd, Bahadur.	Allyghur
1862 April 2.	†Aitchison, C. U. Esq., C. S.	Lahore
1862 April 4.	†Aitchison, J. E. T. Esq., M. D.	Umritsar
1859 Feb. 2.	*Alabaster, C. Esq.	China
1866 Jan. 0.	†Allan, Major A. S.	Allahabad
1852 July 7.	*Allen, C. Esq., B. C. S.	Europe
1864 May 4.	†Alexander, N. S. Esq., C. S.	Purneah
1860 Oct. 3.	Amir Ali Khan, Múnshí.	Calcutta
1861 May 1.	Anderson, Dr. T., F. L. S.	Calcutta
1865 Jan. 11.	Anderson, Dr. J., F. L. S.	Calcutta
1843 Sept. 4.	*Anderson, Lieut.-Col. W., Bengal Artillery.	Europe
1866 July 4.	†Anderson, A. Esq.	Fyzabad
1864 Dec. 7.	Anderson, W. Esq.	Calcutta
1860 Nov. 7.	†Anley, W. A. D., Esq.	Sarun
1861 Sept. 4.	Asghur Ali Khan Bahadur, Nawab.	Calcutta
1861 July 3.	*Asphar, J. J. T. H. Esq.	Europe
1864 Dec. 7.	†Atkinson, E. F. T. Esq.	Jaunpore
1855 July 4.	Atkinson, W. S. Esq., M. A., F. L. S.	Calcutta
1861 Feb. 6.	†Austen, Capt. H. H. G., H. M.'s 24th Foot, Surv. Genl.'s Dept.	Dehra Dhoon
1826 Sept. 6.	Avdall, J. Esq.	Calcutta
1835 Oct. 7.	*Baker, Col. W. E., Bengal Engineers.	Europe
1865 Nov. 1.	Ball, V. Esq. Geol. Survey.	Calcutta

Date of Election.			
1866	Sept. 5.	Ballard, Lieut.-Col. H., C. B.	Calcutta
1860	Nov. 7.	Banerjea, Rev. K. M.	Calcutta
1864	May 4.	Barry, Dr. J. B.	Calcutta
1866	Jan. 17.	Barton, Rev. J.	Calcutta
1862	Aug. 6.	†Basevi, Capt. J. P., Royal Engineers.	Dehra Dhoon
1860	July 4.	*Batten, G. H. M. Esq., B. C. S.	Europe
1838	Jan. 3.	*Batten, J. H. Esq., B. C. S.	Europe
1859	May 4.	Rayley, E. C. Esq., B. C. S.	Calcutta
1861	Feb. 6.	Bayley, S. C. Esq., B. C. S.	Calcutta
1849	June 6.	Beadon, Hon'ble Sir Cecil, B. C. S.	Calcutta
1864	Sept. 7.	†Beames, J. Esq., B. C. S.	{ Motehary { Chumparun
1841	April 7.	Beaufort, F. L. Esq., B. C. S.	Calcutta
1861	Sept. 4.	*Beavan, Lieut. R. C., late 62nd B. N. I.	Europe
1847	Aug. 4.	Beckwith, J. Esq.,	Allipore
1830	Sept. 1.	*Benson, Lieut.-Col. R.	Europe
1862	Dec. 3.	†Bernard, C. E. Esq., B. C. S.	Nagpore
1862	Aug. 6.	Beverley, H. Esq., C. S.	Calcutta
1862	June 4.	†Bhau Daji, Dr.	Bombay
1862	July 2.	Bhola Nath Mullick, Bábu.	Calcutta
1864	Nov. 2.	Bhoodeb Mookerjee, Bábu.	Chinsurah
1840	July 15.	*Birch, Major-General Sir R. J. H., K. C. B.	Europe
1864	May 4.	Bird, Dr. R., Civil Surgeon.	Howrah
1846	Mar. 4.	*Blagrove, Major T. C., 26th Regt., B. N. I.	Europe
1859	Sept. 7.	Blane, Lieut.-Col. S. J.	Calcutta
1857	Mar. 4.	Blanford, H. F. Esq., A. R. S. M., F. G. S.	Calcutta
1859	Aug. 3.	†Blanford, W. T. Esq., A. R. S. M., F. G. S. Geol. Surv.	Bombay
1864	April 6.	Blochmann, H. Esq., M. A.	Calcutta
1857	Aug. 2.	*Bogle, Lieut.-Col. Sir A., Kt.	Europe
1859	Aug. 3.	Bolie Chand Singh, Bábu.	Calcutta
1866	June 6.	Bourke, W. M. Esq.	Calcutta
1859	Oct. 12.	*Bowring, L. B. Esq., B. C. S.	Europe
1854	Nov. 1.	*Boycott, Dr. T., B. M. S.	Europe
1865	May 3.	†Bradford, C. W. V. Esq.	Hooghly
1860	Mar. 7.	*Brandis, Dr. D.	Europe
1860	Oct. 3.	Brandreth, Hon'ble J. E. L.	Calcutta
1864	Dec. 7.	Branson, J. H. A. Esq.	Calcutta
1862	Jan. 15.	*Briggs, Major D.	Europe
1866	April 4.	†Broderick, H. C. Esq., M. D.	Angur W. Mulwa Central India Horse
1847	June 2.	*Brodie, Capt. T., 5th Regt., B. N. I.	Europe

Date of Election.			
1866 Jan.	17.	†Brown, Lieut.-Col. D.	Amherst
1860 Nov.	7.	†Browne, Capt. Horace A.	Rangoon
1866 Feb.	7.	Browne, Rev. J. Cave	Calcutta
1866 June	6.	†Brownfield, C. Esq.	Gowhatty
1866 June	6.	Buckle, Dr. H. B., C. B.	Calcutta
1863 Aug.	5.	Bunkim Chunder Chatterjee, B. A. Bábu.	Barripore
1856 Sept.	3.	Busheerooddin, Sultan Mohammad.	Chinsurah
1860 June	6.	†Campbell, C. J. Esq., C. E.	Delhi
1859 Sept.	7.	*Campbell, Dr. A.	Europe
1863 June	3.	Campbell, Hon'ble G.	Calcutta
1860 Jan.	3.	†Carnac, J. H. Rivett, Esq., B. C. S.	Nagpore
1865 Nov.	1.	†Carnegy, P. Esq.	Fyzabad
1860 Oct.	3.	†Christian, J. Esq.	Monghyr
1863 Aug.	5.	†Chunder Nath Roy, Cowar.	Natore
1863 April	1.	Cleghorn, Dr. H.	Calcutta
1863 June	3.	†Clementson, E. W. Esq.	Moulmein
1864 May	4.	†Cline, G. W. Esq. L.L.D. F. G. S.	Nagpore
1861 Sept.	4.	†Cockburn, J. F. Esq., C. E.	Kurhurbari Colliery
1862 April	2.	Colles, J. A. P. Esq., M. D.	Calcutta
1851 Mar.	5.	*Colvin, J. H. B. Esq., B. C. S.	Europe
1860 Dec.	5.	†Cooper, F. H. Esq., B. C. S.	Lahore
1857 Mar.	4.	*Cowell, E. B. Esq., M. A.	Europe
1866 May	2.	*Cox, W. H. Esq.	Europe
1866 Jan.	17.	Crawford, J. A. Esq., C. S.	Calcutta
1861 July	3.	*Crockett, Oliver, R. Esq.	China
1866 Feb.	7.	†Daly, N. Esq.	Myanoungh Burma
1862 April	2.	*Dalrymple, F. A. E. Esq., C. S.	Europe
1847 June	2.	†Dalton, Lieut.-Col. E. T., 9th Regt. B. N. I.	Chota Nag- pore
1861 Mar.	6.	†Davey, N. T. Esq., Revenue Survey.	Dacca
1865 May	3.	Davies, C. Esq.	Rotasghur
1861 Nov.	6.	†Davies, R. H. Esq., B. C. S.	Oudh
1864 July	6.	†Debendra Mullick, Bábu.	Calcutta
1856 June	4.	†DeBourbel, Major R., Bengal Engrs.	Assam
1861 June	5.	*Denison, His Excellency Slr W. K. C. B.	Europe
1863 Feb.	4.	†Deo Narain Singh, Hon'ble Rajah.	Benares
1863 June	3.	†Depree, Capt. G. C., Royal Artillery.	Chota Nag- pore
1861 Mar.	6.	*Devereux, Hon'ble H. B., B. C. S.	Europe
1862 May	7.	†Dhunpati Sinha Dooghur, Roy Bahadur.	Azingunge

Date of Election.			
1853	Sept. 7.	Dickens, Lieut.-Col. C. H.	Calcutta
1860	Nov. 7.	Digumber Mitra, Bábú.	Calcutta
1859	Sept. 7.	*Douglas, Lieut.-Col. C.	Europe
1854	July 5.	†Drummond, Hon'ble E., B. C. S.	Allahabad
1864	Dec. 7.	*Dunlop, H. G. Esq.	Europe
1860	Jan. 4.	†Duka, Dr. T.	Simla
1861	May 1.	*Earle, Capt. E. L., Bengal Artillery.	Europe
1857	May 6.	*Eatwell, Dr. W. C. B.	Europe
1840	Oct. 7.	*Edgeworth, M. P. Esq., B. C. S.	Europe
1863	May 6.	†Edgar, J. W. Esq., B. C. S.	Cachar
1865	Feb. 1.	†Egerton, P. H. Esq., B. C. S.	Umritsar
1846	Jan. 7.	*Elliott, Walter, Esq., M. C. S.	Europe
1859	Nov. 2.	†Elliott, C. A. Esq., B. C. S.	Futtehghur
1863	April 1.	†Ellis, Hon'ble R. S., C. S., C. B.	Madras
1856	Mar. 5.	*Ellis, Lieut.-Col. R. R. W., 23rd Regt. B. N. I.	Europe
1854	Nov. 1.	†Elphinstone, Capt. M. W. 4th Regt. B. N. I.	Lahore
1861	Jan. 9.	†Erskine, Hon'ble C. J., Bombay C. S.	Bombay
1856	Aug. 6.	*Erskine, Major W. C. B.	Europe
1863	Oct. 7.	Ewart, Dr. J.	Calcutta
1862	Aug. 6.	*Eyre, Col. Vincent, C. B.	Europe
1865	June 7.	Fawcus, Dr. J.	Calcutta
1851	May 7.	Fayrer, Dr. J., B. M. S.	Calcutta
1863	Jan. 15.	†Fedden, Francis, Esq., Geol. Survey.	Calcutta
1865	Aug. 2.	Fenn, S. Esq.	Calcutta
1859	Oct. 12.	†Fisher, A. Esq.	China
1860	Mar. 7.	*Fitzwilliam, Hon'ble W. S.	Europe
1865	April 5.	*Fleming, Dr. J. M. 29th P. N. I.	Europe
1861	Feb. 6.	†Forrest, R. Esq., Civil Engineer.	Etawah
1863	Dec. 2.	†Forsyth, Lieut. J.	Nagpore
1863	June 3.	†Forsyth, T. D. Esq., C. B.	Lahore
1860	Mar. 7.	†Frere, His Excellency Sir H. Bartle, K. C. B., B. C. S.	Bombay Lahore
1861	Sept. 4.	†Fuller, Capt. A. R.	Lahore
1859	Oct. 12.	†Furlong, Major J. G. R.	Agra
1859	Dec. 7.	Futteh Ali, Maulavi.	Calcutta
1849	Sept. 5.	†Fytche, Lieut.-Col. A. 70th Regt. B. N. I.	Rangoon
1866	Jan. 17.	G. M. Tagore, Esq.	Calcutta
1864	Aug. 11.	†Garrett, C. B. Esq., C. S.	Chaprah
1859	Aug. 3.	Gastrell, Lieut.-Col. J. E., 13th Regt. N. I., Rev. Survey.	Calcutta

Date of Election.			
1859	Sept. 7.	*Geoghegan, J. Esq., B. C. S.	Europe
1865	June 7.	†Giles, A. H. Esq.	Dinajpore
1842	Sept. 2.	*Gladstone, W. Esq.	Europe
1859	Sept. 7.	*Goodeve, E. Esq., M. D.	Europe
1862	July 2.	Gordon, J. D. Esq., C. S.	Calcutta
1864	Dec. 5.	†Gooroochurn Dáss Bábu.	Jungipore
1862	Feb. 5.	†Gourdoss Bysack, Bábu.	Jahanabad
1863	Nov. 4.	†Gowan, Major J. G.	Sirhind Division, Umbala
1859	Dec. 7.	*Grant, Sir J. P., K. C. B.	Europe
1860	Jan. 4.	Grant, T. R. Esq.	Calcutta
1860	July 4.	Grey, Hon'ble W., B. C. S.	Calcutta
1866	June 6.	†Gribble, T. W. Esq., B. C. S.	Sasseeram
1861	Sept. 7.	†Griffin, L. Esq., B. C. S.	Lahore
1860	Nov. 4.	†Griffith, R. T. H. Esq.	Benares
1849	Aug. 1.	Grote, A. Esq., B. C. S., F. L. S.	Calcutta
1861	Feb. 6.	†Growse, F. S. Esq., B. C. S.	Mynpoorie
1862	Feb. 5.	*Guthrie, Col. C. S., Bengal Engrs.	Europe
1847	June 2.	*Hall, F. E. Esq., M. A., D. C. L.	Europe
1866	Jan. 17.	†Hamilton, Capt. T. C.	Moulmein
1863	June 3.	*Hamilton, Col. G. W.	Europe
1855	Mar. 7.	†Hamilton, R. Esq.	Bombay
1828	Nov. 12.	*Hamilton, Sir R. N. Esq., Bart., B. C. S.	Europe
1847	May 5.	*Hannyngham, Col. J. C., 63rd Regt. N. I.	Europe
1859	Oct. 12.	*Hardie, Dr. G. K.	Europe
1866	Nov. 7.	Harendra Krishna Kumar.	Calcutta
1863	Mar. 4.	Hári Dáss Dutt, Bábu.	Calcutta
1862	Oct. 8.	*Harington, Hon'ble H. B.	Europe
1860	Oct. 3.	†Harris, E. B. Esq., C. S.	E. I. Railway Rohnee W. Deoghur
1861	Feb. 6.	†Harrison, A. S. Esq., B. A.	Behar.
1864	Nov. 2.	Hatton, C. W. Esq.	Calcutta
1859	Oct. 12.	†Haughton, Lient.-Col. J. C., C. S. I.	Julpigorie
1848	May 3.	*Hearsay, Maj.-Gen. Sir J. B., K. O. B.	Europe
1862	Aug. 6.	†Heeley, W. L. Esq., C. S.	Berhampore
1866	April 4.	Henry, N. A. Esq.	Calcutta
1859	Aug. 3.	Henessey, J. B. N. Esq.	Calcutta
1853	July 6.	†Herschel, W. J. Esq., B. C. S.	Midnapore
1854	Mar. 1.	*Hichens, Lient. W., Bengal Engrs.	Europe
1866	Jan. 17.	Hicks, J. G. Esq.	Calcutta
1860	May 2.	Hobhouse, C. P. Hon'ble B. C. S.	Calcutta
1859	Sept. 7.	†Hopkinson, H. Lient.-Col. H.	Assam
1863	July 1.	†Horne, C. Esq., C. S.	Mynpoorie

Date of Election.			
1860 Mar.	7.	Hovenden, Major J. J., Bengal Engrs.	Calcutta
1863 Jan.	15.	†Howell, M. S. Esq., C. S.	Shajehanpore
1866 Jan.	17.	†Hughes, Lieut. W. G.	Martaban
1866 Feb.	7.	Hoyle, G. W. Esq.	Calcutta
1866 Mar.	7.	†Irvine, W. Esq., C. S.	Muzafernagar
1860 Jan.	4.	†Innes, Major J. J. M.	Lahore
1862 Oct.	8.	†Irwin, Valentine, Esq., C. S.	Narail, Jessore
1853 Dec.	7.	†Ishureprasád Sinha, Bahadur, Rajah.	Benares
1864 Sept.	7.	*Jackson, Hon'ble E.	Europe
1861 Jan.	9.	Jackson, Hon'ble L. S., B. C. S.	Calcutta
1841 April	7.	*Jackson, W. B. Esq., B. C. S.	Europe
1851 April	2.	Jaḍava Krishna Singha, Bábu.	Calcutta
1861 Dec.	4.	James, Major H. R., C. B.	Calcutta
1864 Sept.	7.	*Jardine, R. Esq., C. S.	Europe
1845 Dec.	3.	†Jerdon, Dr. T. C., M. M. S.	Mussoorie
1866 Feb.	7.	†Johnson, W. H. Esq.	Dehra
1847 June	2.	Johnstone, J. Esq.	Europe
1862 Mar.	5.	*Johnstone, Capt. J., Assistant Commissioner.	Europe
1859 Sept.	7.	*Jones, R. Esq.	Europe
1865 June	7.	†Joykissen Dáss Bahadur, Rajah.	Allyghur
1866 Mar.	7.	Kadar Nath Mookerjee.	Bhowanipore
1858 Feb.	3.	Kaliprosonno Singha, Bábu.	Calcutta
1863 July	1.	*Kane, H. S. Esq., M. D.	Europe
1850 April	3.	*Kay, Rev. W., D. D.	Europe
1861 Dec.	15.	†Kempson, M. Esq., M. A.	Bareilly
1862 Jan.	15.	†King, W. Esq., Jr., Geol. Survey.	Madras
1839 Mar.	6.	*Laidlay, J. W. Esq.	Europe
1861 Mar.	6.	*Laing, Hon'ble S.	Europe
1863 Sept.	2.	Lane, T. B. Esq., B. C. S.	Calcutta
1851 Dec.	3.	†Layard, Major F. P.	Bhagulpore
1864 Feb.	3.	†Leeds, H. Esq., Conservator of Forests.	Burmah
1852 April	7.	Lees, Major W. N., LL. D.	Calcutta
1859 Dec.	7.	Leonard, H. Esq., C. E.	Calcutta
1865 June	7.	†Lewin, Capt. T. H.	Chittagong
1856 Feb.	6.	*Liebig, Dr. G. Von., B. M. S.	Europe
1860 Jan.	4.	Lindsay, E. J. Esq.	Calcutta
1861 Nov.	6.	†Lloyd, Capt. M.	Tounggoo
1862 Dec.	3.	Lobb, S. Esq., M. A.	Calcutta
1835 Oct.	7.	Loch, Hon'ble G., B. C. S.	Calcutta
1864 Nov.	2.	Locke, H. H. Esq.	Calcutta
1866 May	2.	†Lovett, Lieut. B.	Punjab
1828 July	2.	*Low, Major-General Sir J., K. C. B.	Europe

Date of Election.		
1866 Jan. 17.	†Low, James, Esq., G. T. S.	Dehra Dhoon
1861 April 3.	*Lumsden, Major P. S.	Europe
1854 Nov. 1.	*Lushington, F. A. Esq., B. C. S.	Europe
1866 Mar. 7.	†Macdonall, A. P. Esq.	Monghyr
1866 June 6.	†Macdonald, Capt. J. Staff Corps.	Chandu Division, Nagpore
1848 April 5.	†Maclagan, Lieut.-Col. R., F. R. S. E.	Lahore
1866 Jan. 17.	†Macgregor, Lieut. C.	Buxa
1865 Nov. 1.	Mackenzie, A. Esq., C. S.	Calcutta
1863 Jan. 15.	Maine, Hon'ble H. S.	Calcutta
1860 Jan. 4.	Mair, D. K. Esq., M. A.	Calcutta
1865 Mar. 1.	Malleson, Major G. B.	Calcutta
1862 Sept. 3.	Mallet, F. R. Esq.	Calcutta
1860 July 4.	†Man, E. G. Esq.	Burdwan
1852 Nov. 3.	Manickjee Rustomjee, Esq.	Calcutta
1861 June 5.	†Mán Sinha Bahadur, Mahárajah.	Oudh
1864 Aug. 11.	*Marks, Rev. J. Ebenezer.	Europe
1850 Jan. 2.	*Marshman, J. C. Esq.	Europe
1866 July 4.	Mathews, J. H. Esq.	Calcutta
1863 Oct. 7.	†Martin, T. Esq., C. E.	Gowhatty
1863 Nov. 4.	*McClelland, Dr. J.	Europe
1837 Oct. 4.	†McLeod, Hon'ble D. F., C. B., B. C. S.	Lahore
1860 Mar. 7.	†Medlicott, H. B. Esq., F. G. S.	Gwalior
1861 Feb. 6.	†Melville, Capt. A. B., late 67th N. I. Surv. Genl.'s Dept.	Gwalior
1855 Nov. 7.	*Middleton, J. Esq.	Europe
1850 April 3.	*Mills, A. J. M. Esq., B. C. S.	Europe
1847 April 7.	*Money, D. J. Esq., B. C. S.	Europe
1856 Feb. 6.	Money, J. W. B. Esq.	Calcutta
1865 July 5.	†Morland, Major J.	Umballa
1854 Dec. 6.	†Morris, G. G. Esq., B. C. S.	Jessore
1864 June 1.	†Moula Bukhsh, Khan Bahadur, Maulvi	Patna
1837 July 5.	*Muir, J. Esq.	Europe
1854 Oct. 11.	Muir, Hon'ble W., B. C. S.	Calcutta
1859 Aug. 3.	†Murray, Lieut. W. G., 68th N. I.	Mussoorie
1862 July 2.	†Napier, His Excellency Major-Genl. Sir R., K. C. B.	Bombay
1860 Nov. 7.	*Newmarch, Major C. D.	Europe
1865 Feb. 1.	†Newul Kishwar, Moonshree.	Lucknow
1852 Sept. 1.	*Nicholls, Capt. W. T., 24th Regiment, M. N. I.	Europe
1863 Sept. 2.	Norman, Major F. B.	Calcutta
1863 Jan. 15.	Norman, Hon'ble J. P.	Calcutta

Date of Election.			
1860	June 4.	†Oldham, C. Esq., Geological Survey.	Madras
1851	June 4.	Oldham, T. Esq., LL. D., F. R. S.	Calcutta
1864	Dec. 7.	Onslow, D. B. Esq.	Barrackpore
1866	July 4.	Ormsby, M. H. Esq.	Calcutta
1837	June 7.	*O'Shaughnessy, Sir W. B.	Europe
1847	Feb. 10.	*Ousely, Major W. R.	Europe
1864	Mar. 2.	Palmer, Dr. W. J.	Calcutta
1862	May 7.	Partridge, S. B. Esq., M. D.	Calcutta
1860	Feb. 1.	†Pearse, Major G. G.	Madras
1864	Mar. 2.	†Pellew, F. H. Esq., C. S.	Burrisal
1865	Sept. 6.	†Peppe, J. H. Esq.	Gya
1835	July 1	†Phayre, Lt.-Col. A P, C B.	Rangoon
1864	Nov. 2.	Phear, Hon'ble J. B.	Calcutta
1862	Oct. 8.	†Poolin Behary Sen, Bábu.	Berhampore
1839	Mar. 6.	Pratt, Ven'ble Archdeacon J. H., M. A.	Calcutta
1860	Jan. 4.	Preonath Sett, Bábu.	Calcutta
1825	Mar. 9.	*Prinsep, C. R. Esq.	Europe
1837	Feb. 1.	Prosonno Coomar Tagore, Bábu.	Calcutta
1864	Feb. 3.	†Pullan, Lieut. A., G. T. Survey.	Dehra Dhoon
1862	April 2.	Raban, Lieut.-Col. H.	Calcutta
1853	April 6.	Radha Nath Sikdar, Bábu.	Calcutta
1849	Sept. 5.	Rajendra Dutt, Bábu.	Calcutta
1856	Mar. 5.	Rajendalála Mitra, Bábu.	Calcutta
1864	May 4.	Ramánath Bose, Bábu.	Calcutta
1837	Feb. 1.	Ramánath Tagore, Bábu.	Calcutta
1865	July 5.	†Ramsden, Lieut. W. C.	Cawnpore
1866	Jan. 17.	Rattray, A. Esq.	Hidgelee Kan- tee
1860	Mar. 7.	†Reid, H. S. Esq.	Oudh
1864	Dec. 7.	†Richardson, R. J. Esq., C. S.	Gya
1857	June 7.	Riddell, Hon'ble H. B., B. C. S.	Calcutta
1857	Aug. 6.	†Roberts, Hon'ble A. A., B. C. S.	Panjab
1863	April 1.	†Robertson, C. Esq., C. S.	Nyne Tal
1864	Dec. 7.	†Robertson, E. S. Esq.	Azimghur
1863	May 6.	†Robertson, H. D. Esq., C. S.	Saharunpore
1865	Feb. 1.	Robinson, S. H. Esq.	Calcutta
1847	Dec. 1.	*Rogers, Capt. T. E.	Europe
1866	Dec. 5.	Ross, J. M. Esq.	Calcutta
1859	Sept. 7.	Russell, A. E. Esq., B. C. S.	Hoogly
1865	June 7.	†Sárodáprosád Mookerjee, Bábu.'	Baraset
1859	Feb. 2.	Satischunder Roy Mahárajah.	Krishnagar
1856	Aug. 6.	Satyasharana Ghosal, Rajah.	Bhookylas, Calcutta
1861	Dec. 4.	†Saunders, C. B. Esq., B. C. S.	Mysore

Date of Election.		
1864 June 1.	*Saunders, J. O'B. Esq.	Europe
1854 Dec. 6.	†Saxton, Lt.-Col. G. H., F. G. S., 38th M. N. I.	Ganjam Calcutta
1854 May 2.	Schiller, F. Esq.	Europe
1860 Feb. 1.	*Scott, Col. E. W. S.	Dhera Dhoon
1859 Aug. 3.	†Scott, W. H. Esq.	Europe
1866 Jan. 17.	*Seaton, Lieut. G.	Calcutta
1863 Sept. 3.	Sama Churn Sirkar, Bábu.	Dhera Dhoon
1860 July 4.	†Shelverton, G. Esq.	Gowhatty
1866 Sept. 5.	Sherer, Capt. F. S.	
1845 Jan. 14.	*Sherwill, Lt.-Col. W. S., 66th Regi- ment B. N. I., F. G. S., F. R. G. S.	Europe Calcutta
1863 April 1.	Showers, Major C. L.	Calcutta
1864 Feb. 3.	Shumbhoonath Pundit, Hon'ble.	Calcutta
1866 June 6.	Sime, J. Esq., B. A.	Calcutta
1864 Sept. 7.	†Sladen, Capt. E. B.	Mandalay
1866 June 6.	†Smart, R. B. Esq.	Assam
1865 July 5.	Smith, D. Boyes, Esq., M. D.	Calcutta
1856 Feb. 6.	*Smith, Col. J. F.	Europe
1866 May 2.	†Soorut Nauth Mullick, Baboo.	Howrah
1854 Sept. 6.	Spankie, R. Esq., B. C. S.	Agra
1864 Mar. 2.	†Spearman, Lieut. H. R.	Yangzaleen British Bur- mah
1860 May 2.	†Staunton, Major F. S., Beng. Engs.	Darjiling
1843 Sept. 4.	*Stephen, Major J. G., 8th N. I.	Europe
1863 Jan. 15.	Sterndale, R. A. Esq.	Calcutta
1863 May 6.	†Stevens, W. H. Esq.	Futtyghur
1863 Sept. 2.	Stewart, R. D. Esq.	Calcutta
1864 April 6.	†Stewart, J. L. Esq. M. D.	Lahore
1861 Sept. 4.	Stokes, Whitley, Esq.	Calcutta
1863 Nov. 4.	Stoliczka, Dr. F.	Calcutta
1843 May 3.	†Strachey, Lt.-Col. R., F. R. S. F. L. S., F. G. S.	Bombay
1859 Mar. 2.	†Stubbs, Capt. F. W., Beng. Artillery.	Govinghur Umritsur
1861 Oct. 2.	†Sudderuddin, Moonshi.	Pundooah
1858 July 7.	†Sutherland, H. C. Esq., B. C. S.	Backergunje
1864 Aug. 11.	Swinhoe, W. Esq.	Calcutta
1865 Sept. 6.	Tawney, C. H. Esq.	Calcutta
186b April 5.	†Taylor, R. Esq.	Madras
1860 May 2.	†Temple, R. Esq., B. C. S.	Nagpore
1859 Mar. 2.	†Theobald, W. Esq., Jr., Geological Survey.	Thayet Myo

Date of Election.			
1860	June 6.	Thompson, J. G. Esq.	Calcutta
1863	Mar. 4.	†Thompson, Major G. H., Bengal Staff Corps.	Hazareebaug
1855	June 6.	*Thompson, Dr. T., M. D., F. R. S., F. L. S., F. R. G. S.	Europe
1853	Nov. 21.	†Thornhill, C. B. Esq., B. C. S.	Allahabad
1863	June 4	†Thornton, T. H. Esq.	Murree, Punjab
1847	June 2.	Thuillier, Lt.-Col H. L., F. R. G. S., Bengal Artillery.	Calcutta
1863	May 6.	Thuillier, Lt. H. R.	Calcutta
1862	July 2.	*Thurlow, Hon'ble T. J. H.	Europe
1865	July 5.	†Tolbort, T. W. H. Esq., C. S.	Panjab
1865	July 5.	Tonnerre, Dr. C. F.	Calcutta
1862	Feb. 5.	†Torrens, Col. H. D.	Saugor
1861	June 5.	†Tremlett, J. D. Esq., C. S.	Goorranualla, Lahore
1863	Mar. 4.	*Trevelyan, Right Hon'ble Sir C., K. C. B.	Europe
1841	Feb. 3.	Trevor, Hon'ble C. B., B. C. S.	Calcutta
1863	Feb. 4.	*Trevor, E. T. Esq., B. C. S.	Europe
1864	Mar. 2.	*Trevor, Lt. E. A. Royal Eng.	Europe
1464	July 6.	†Trotter, Lieut. H. Bengal Eng.	Meerut
1864	Sept. 4.	Tween, A. Esq., Geological Survey.	Calcutta
1863	May 6.	†Tyler, Dr. J.	Etah
1860	May 2.	†Vanrenen, Capt. A. D., late 71st B. N. I.	Lahore
1864	Feb. 3.	†Verchere, A. M., Esq., M. D.	Kohat
1864	April 6.	†Vijayarāma Gajapati Raj Munnia Sultan Bahadur, Maharajah Mirza.	Vizianagaram
1865	Nov. 1.	Waldie, D. Esq.	Calcutta
1861	May 1.	†Walker, Lt.-Col. J. T., Bom. Engrs.	Dehra Dhoon
1863	Dec. 2.	†Walker, A. G. Esq.	Shahapur, Panjab
1863	May 6.	*Wall, P. W. Esq., C. S.	Europe
1863	Oct. 7.	Waller, Dr. W. K.	Calcutta
1863	Dec. 2.	Walters, Rev. M. D. C.	Calcutta
1862	Jan. 15.	†Ward, G. E. Esq., B. C. S.	Dehra Dhoon
1852	July 7.	*Ward, J. J. Esq., B. C. S.	Europe
1859	July 6.	*Warrand, R. H. M. Esq., B. C. S.	Europe
1865	May 3.	Waterhouse, Lieut. J., Royal Artillery.	Calcutta
1854	July 5.	*Watson, J. Esq., B. C. S.	Europe
1847	Nov. 3.	*Waugh, Major-General Sir A. S., C. B., F. R. S., F. R. G. S.	Europe
1862	Oct. 8.	Wheeler, J. T. Esq.	Calcutta

Date of Election.			
1864	Mar. 2.	Wilkinson, C. J. Esq.	Calcutta
1861	Sept. 4.	†Williams, Dr. C., H. M.'s 68th Regt.	Rangoon
1859	Sept. 7.	†Wilson, W. L. Esq.	Beerbhoom
1859	Aug. 3.	†Wilmot, C. W. Esq.	Deoghur
1865	Feb. 1.	†Wilmot, E. Esq.	Delhi
1866	Mar. 7.	†Wise, Dr. J. F. N.	Dacca
1861	May 7.	Woodrow, H. Esq., M. A.	Calcutta
1859	Mar. 2.	*Wortley, Major A. H. P.	Europe
1862	Aug. 6.	Wylie, J. W. Esq., Bamba C. S.	Calcutta
1855	April 4.	*Young, Lt.-Col. C. B.	Europe
1856	July 2.	*Yule, Lt.-Col. H.	Europe

LIST OF HONORARY MEMBERS.

Date of Election.			
1825	Mar.	9.	M. Garcin de Tassy, Membre del' Inst. Paris
1826	"	1.	Sir John Phillipart. London
1829	July	1.	Count De Noe. Paris
1831	Sept.	7.	Prof. Francis Bopp, Memb. de l' Académie. Berlin
1831	"	7.	Prof. C. Lassen. Bonn
1834	Nov.	5.	Sir J. F. W. Herschel, F. R. S. London
1834	"	5.	Col. W. H. Sykes, F. R. S. London
1835	May	6.	Prof. Lea. Philadelphia
1840	Mar.	4.	M. Reinaud, Memb. de l' Institut., Prof. de l' Arabe. Paris
1842	Feb.	4.	Dr. Ewald. Göttingen
1842	"	4.	Right Hon'ble Sir Edward Ryan, Kt. London
1843	Mar.	30.	Prof. Jules Mohl, Memb. de l' Institut. Paris
1847	May	5.	His Highness Hekekyan Bey. Egypt
1847	Sept.	1.	Col. W. Munro. London
1847	Nov.	3.	His Highness the Nawab Nazim of Bengal. Moorshedabad
1848	Feb.	2.	Dr. J. D. Hooker, R. N., F. R. S. London
1848	Mar.	8.	Prof. Henry Princeton. United States
1853	April	6.	Major-Gen. Sir H. C. Rawlinson, K. C. B., F. R. S., D. C. L. London
1854	Aug.	2.	Col. Sir Proby T. Cautley, K. C. B., F. R. S. London
1855	Mar.	7.	Rájá Rádhákánta Deva, Báhádur. Brindabun
1858	July	6.	B. H. Hodgson, Esq. Europe
1859	Mar.	2.	Hon'ble Sir J. W. Colville, Kt. Europe
1860	"	7.	Prof. Max Müller. Oxford
1860	Nov.	7.	Mons. Stanislas Julien. Paris
1860	"	7.	Col. Sir George Everest, Kt., F. R. S. London
1860	"	7.	Dr. Robert Wight. London
1860	"	7.	Edward Thomas, Esquire. London
1860	"	7.	Dr. Aloys Sprenger. Germany
1860	"	7.	Dr. Albrecht Weber. Berlin
1865	Sept.	6.	Edward Blyth, Esquire. Europe

LIST OF CORRESPONDING MEMBERS.

1844	Oct.	2.	MacGowan, Dr. J. Europe
1856	June	4.	Kremer, Mons. A. Von. Alexandria
1856	"	4.	Porter, Rev. J. Damascus
1856	"	4.	von Schlagintweit, Herr H. Berlin
1856	"	4.	Smith, Dr. E. Beyrout
1856	"	4.	Tailor, J., Esquire. Bussorah
1856	"	4.	Wilson, Dr. Bombay
1857	Mar.	4.	Neitner, J., Esquire. Ceylon

Date of Election.				
1858	„	3.	von Schlagintweit, Herr H. R.	Berlin
1859	Nov.	2.	Frederick, Dr. H.	Batavia
1859	May	4.	Bleeker, Dr. H.	Batavia
1860	Feb.	1.	Baker, Rev. H.	E. Malabar
1860	„	1.	Swinhoe, R., Esq., H. M.'s Consulate.	Amoy
1860	April	4.	Haug, Dr. M.	Poonah
1861	July	3.	Gosche, Dr. R.	Berlin
1862	Mar.	5.	Murray, A., Esquire.	London
1863	Jan.	15.	Goldstücker, Dr. T.	London
1863	July	4.	Barnes, R. H. Esquire.	Ceylon
1866	May	7.	Von. Schlagintweit, Prof. E.	Prussia
1866	„	7.	Sherring, Rev. M. A.	Europe

LIST OF ASSOCIATE MEMBERS.

1835	Oct.	7.	Stephenson, J., Esquire.	Europe
1838	Feb.	7.	Keramut Ali, Saiëd.	Hooghly
1843	Dec.	6.	Long, Rev. J.	Calcutta
1865	May	3.	Dall, Rev. C. H. A.	Calcutta

ELECTIONS IN 1866.

Corresponding Members.

Schlagintweit, Prof. E. Von.	Russia
Sherring, Rev. M. A.	Europe

Ordinary Members.

Major A. S. Allan.	Allahabad
Rev. J. Barton.	Calcutta
Lieut.-Col. D. Brown.	Amherst
J. A. Crawford, Esq., C. S.	Calcutta
*G. M. Tagore, Esq.	Calcutta
Capt T. C. Hamilton.	Moulmein
J. G. Hicks, Esq.	Calcutta
Lieut. W.G. Hughes.	Martaban
James Low, Esq.	Dehra Dhoon.
A. Rattray, Esq.	Hedgellee Kantai
A. Mackenzie, Esq., C. S.	Calcutta
Lieut. G. Seaton.	Tenasserim
N. Daly, Esq.	Myanoung Burma
*Rev. J. Cave Browne.	Calcutta
G. W. Hoyle, Esq.	Calcutta
W. H. Johnson, Esq.	Dehra
Baboo Kadar Nath Mookerjee.	Calcutta
Dr. J. F. N. Wise.	Dacca
W. Irvine, Esq., C. S.	Mozufurnugger
A. P. Macdenall, Esq., C. S.	Calcutta
N. A. Henry, Esq.	Calcutta
H. C. Broderick, Esq., M. D.	Augur West Malwa Cent. Malwa Horse
W. H. Cox, Esq.,	Krishnagur
Lieut. B. Lovelt.	Kohat, Punjab
Baboo Soorut Nath Mullick.	Howrah
W. M. Bourke, Esq.	Calcutta
C. Brounfield, Esq.	Gowhatty
Dr. H. B. Buckle, C. B.	Calcutta
T. W. Gribble, Esq., B. C. S.	Sassereem
Capt. J. Macdonald.	Chanda Division, Nag- pore
J. Sime, Esq., B. A.	Calcutta
R. B. Smart, Esq.	Dacca
A. Anderson, Esq.	Fyzabad
J. H. Mathews, Esq.	Calcutta
M. H. Ormsby, Esq.	Calcutta
Capt. F. S. Sherer.	Gowhatty
Lieut.-Col. H. Ballard, C. B.	Calcutta
Kumar Harendra Krishna Bahadoor.	Calcutta
J. M. Ross, Esq.	Calcutta

LOSS OF MEMBERS DURING THE YEAR 1866.

By Retirement.

Ordinary Members.

R. B. Chapman, Esq.	Calcutta
Hon'ble A. Eden.	Calcutta
H. Duhan, Esq.	Dehra Dhoon
Baboo Kasinauth Chowdry.	Calcutta
R. L. Martin, Esq.	Dacca
C. C. Stevens, Esq.	Barasat
Dr. A. C. Macrae.	Calcutta
Lieut.-Col. D. G. Robinson.	Calcutta
J. C. Wilson, Esq.	Fyzabad
Capt. G. M. Bowie.	Bhugulpore
Baboo Jadoo Nath Mookerjee.	Rajshaye
J. Strachey, Esq., C. S.	Oudh
J. M. Scott, Esq.	Calcutta
J. C. Sarkies, Esq.	Calcutta
Baboo Kaliprasunno Dutt.	Calcutta
Raja Apurva Krishna Bahadoor.	Calcutta
S. Jennings, Esq.	Calcutta
W. T. Dodsworth, Esq.	Dehra Dhoon
A. Money, Esq.	Bhugulpore

By Death.

Dr. E. Roer.	Brunswick, Germany
J. G. Medlicott, Esq.	Midnapore
Raja Pratab Chunder Sing.	Pakpara
Calcutta, Right Rev. Lord Bishop of,	Calcutta
J. Obbard, Esq.	Europe.



1867.]

Proceedings of the Asiatic Society.

ABSTRACT STATEMENT
OF
RECEIPTS AND DISBURSEMENTS
OF THE
ASIATIC SOCIETY,
FOR
THE YEAR 1866.

STATEMENT

Abstract of the Cash Account

		RECEIPTS.		1866.	1865.
ADMISSION FEES.					
Received from New Members, Rs.	1,280 0 0			1,280 0 0	928 0 0
CONTRIBUTIONS.					
Received from Members, ...	8,676 0 0			8,676 0 0	9,445 0 0
JOURNAL.					
Sale proceeds of, and Subscription to the Journal of the Asiatic Society, ...	1,285 10 0				
Refund of Postage Stamps, ...	31 10 0				
Ditto of Packing Charges, ...	3 7 0				
Ditto of the amount from the Baptist Mission Press, overpaid in Bill No. 13438, being the cost of 6 Copies of Journal No IV. 1864, ...	6 6 0				
				1,327 1 0	758 1 0
LIBRARY.					
Sale proceeds of Books, ...	586 0 9				
Refund of Freight, ...	12 2 0				
Ditto of the amount paid for a copy Owen's Comparative Anatomy, Vol. I., ...	12 0 0				
				610 2 9	193 15 0
MUSEUM.					
Received from the General Treasury at 500 Rs. per month, from December, 1865 to April, 1866,	2,500 0 0				
Savings of salary, ...	41 0 3				
Refund in part of the Contingent Expenses, ...	2 6 0				
Ditto of the amount paid from the Contingent Account in March and April to Harry, Taxidermist,	40 0 0				
Ditto in part of the amount paid to Dr. J. Anderson for Medicine by Messrs. Bathgate and Co.'s bill on the 22nd May, 1866, ...	5 13 0				
				2,589 3 3	6,037 13
SECRETARY'S OFFICE.					
Refund of Postage Stamps, ...	17 10 0				
Ditto of Packing Charges, ...	0 7 0				
Savings, ...	4 0 0				
Discount on Postage Stamps, ...	0 7 0				
Refund of Freight, ...	0 5 0				
				22 13 0	34 7 0
General Establishment, ...				17 1 0	1 14 9
Carried over, Rs.		14,522	5 0		

No. 1.

of the Asiatic Society for 1866.

DISBURSEMENTS.

		1866.	1865.
JOURNAL.			
Freight, ..	Rs. 113 11 0		
Printing Charges, ...	1,729 9 0		
Commission on Sale of Books, ...	16 2 1		
Purchase of Postage Stamps, ...	194 10 0		
Packing Charges, ...	28 4 0		
Lithographing and Engraving Charges, &c., ...	705 4 3		
Purchase of a copy of Journal Supplementary Number, Vol. 15,	1 0 0		
Petty Charges, ...	11 7 6		
		2,799 15 10	3,272 4 3
LIBRARY.			
Salary of the Librarian, ...	840 0 0		
Establishment, ...	84 0 0		
Salary for preparing a revised Catalogue, ...	500 0 0		
Purchase of Books, ...	375 3 3		
Ditto of a Standford Library Map of Asia on roller, ...	35 0 0		
Ditto of Album of Photographs of Sháhaná, ...	125 15 6		
Mounting 4 Sheets of german Map of Asia on roller, ...	5 0 0		
Purchase of a set of Photographs of Cashmire, ...	42 0 0		
Ditto of a set of ditto, ...	140 0 0		
Ditto of 27 Photograph Views, ...	69 0 0		
Book-Binding, ...	263 14 0		
Landing Charges, ...	14 10 6		
Commission on Sale of Books, ...	40 13 2		
A Blank Book, ...	5 0 0		
Freight, ...	3 4 0		
Salary of Office Punkha-man, ...	40 0 0		
Ditto for preparing List of the Duplicate Books, ...	40 0 0		
Ditto of ticca Duftory, ...	12 4 3		
6 Dusters for cleaning books, ...	1 12 0		
Repairing two Teak wood Book cases, ...	682 8 0		
Purchase of Custom Stamps, ...	3 0 0		
Petty Charges, ...	23 4 3		
Subscription to the Indian Medi- cal Gazette, ...	15 0 0		
			2,576 9 6
	3,361 8 11		
Purchase of Books through Messrs. Williams and Norgate, London,	1,889 1 10		
		5,250 10 9	
		8,050 10 7	

RECEIPTS.

	Brought over, Rs. 14,522 5 0			
VESTED FUND.				
Sale proceeds of Government				
Securities, ...	...	7,500 0 0		
Interest on ditto, ...	...	255 0 6		
Premium on ditto, ...	...	387 8 0		
		<hr/>	8,142 8 6	337 8 0
COIN FUND.				
Sale proceeds Silver Coins, ...	...	5 0 0		
		<hr/>	5 0 0	236 15 6
BABU POORNO CHUNDER BYSACK.				
Refund in part of the amount advanced for Contingent Expenses, ...	...	1,648 8 6		
		<hr/>	1,648 8 6	762 15 3
MESSRS. WILLIAMS AND NORGATE.				
Sale proceeds of Books on their account, ...	...	4 4 0		
		<hr/>	4 4 0	
MAJOR-GENL. CUNNINGHAM.				
Refund of Packing Charges, ...	...	0 6 6		
		<hr/>	0 6 6	
J. H. BATTEN, ESQ.				
Refund of the amount advanced, ...	...	2 9 0		
		<hr/>	2 9 0	
HARRY, TAXIDERMIST.				
Refund of the amount advanced, ...	...	103 0 0		
		<hr/>	103 0 0	
CAPTAIN M. W. CARR.				
Received from him in Deposit, ...	...	3 12 0		
		<hr/>	3 12 0	
MAJOR A. S. ALLAN.				
Received from him in Deposit, ...	...	7 4 0		
		<hr/>	7 4 0	
JAMES BEAMES, ESQ.				
Received from him in Deposit, ...	...	0 12 0		
		<hr/>	0 12 0	
CAPTAIN C. MACGREGOR.				
Refund of Banghy Expenses and Postage Stamps for sending Library Books, ...	...	5 3 0		
		<hr/>	5 3 0	
REV. H. A. JÆSCHKE.				
Sale proceeds of a Copy of Tibetan Grammar on his account, ...	...	1 0 0		
		<hr/>	1 0 0	
GOVERNMENT NORTH WESTERN PROVINCES.				
Refund of freight for sending Journal and Proceedings for 1865, ...	...	16 5 0		
		<hr/>	16 5 0	
CAPTAIN H. H. G. AUSTEN.				
Refund of the amount paid for sending Library Books, ...	...	15 10 0		
		<hr/>	15 10 0	
			<hr/>	
			Carried over, Rs. 24,478	7 6

DISBURSEMENTS.

Brought over, Rs. 8,050 10 7

MUSEUM.

Salary of the Sub-Curator, ...	500	0	0				
Establishment, ...	320	10	6				
Extra Taxidermist's Salary and Contingent Pay, ...	1,742	13	11				
Contingent Expenses, ...	2,596	7	7				
Advertising Charges, ...	3	12	0				
Paid Messrs. Higgs and Haldar, for white Satin Painting, to Museum Coses, ...	478	14	9				
Ditto ditto for Stands, Railing and Painting, ...	363	14	6				
Ditto ditto for making an animal stand, and taking up and re-setting in brick, &c. &c., ...	78	0	0				
Ditto ditto for Asphaltting two rooms and renewing glasses to the Almirah and Sash door, &c., .	159	10	0				
Printing 500 Copies of Circular, .	15	0	0				
Engraving 3 sets of Figures on Brass with Handle for branding the specimens of the Museum,	13	8	0				
						6,272	11 3 6,468 3 6

SECRETARY'S.

General Establishment, ...	403	8	0				
Secretary's Office Establishment, ...	1,068	0	0				
Purchase of Postage Stamps, ...	128	7	0				
Stationery, ...	139	5	6				
Purchase of Blank Books, ...	7	4	0				
Insufficient Postage, ...	6	3	3				
Printing Charges, ...	12	0	0				
Repairing a Tin Almirah, ...	8	0	0				
Petty Charges, ...	11	6	6				
						1,784	2 3 2,349 13 3

VESTED FUND.

Purchase of 5½ per cent. Government Securities, ...	3,000	0	0				
Interest on ditto, ...	13	12	0				
Premium on ditto, ...	232	8	0				
Commission on ditto, ...	22	8	0				
Brokerage on ditto, ...	9	6	0				
Commission to the Bank of Bengal for drawing Interest on the Government Securities, ...	0	7	10				
Fee for renewing Government Securities, ...	6	0	0				
						3,284	9 10 0 13 6

COIN FUND.

Purchase of Coins, ...	340	0	3				
Ditto of a fire-proof Treasure Chest with Cooly-hire, ...	133	0	0				
Preparing an under Case of ditto with ditto, ...	30	0	0				
Cocoanut Oil for cleaning Coins, .	0	3	0				
						503	3 3 386 11 9

Carried over, Rs. 19,895 5 2

DISBURSEMENTS.

Brought over, Rs.19,895 5 2

BUILDING.

Assessment, ...	...	480 0 0		
Ditto for Lighting, ...	...	96 0 0		
Repairing, ...	...	1,858 15 0		
An Iron shed erected in the compound of the Society, ...	...	200 0 0		
		<u> </u>	2,634 15 0	2,340 7 6

MISCELLANEOUS.

Salary of the Mally,...	...	57 0 0		
Advertising Charges, ...	...	6 0 0		
Meeting Charges, ...	...	179 3 6		
Purchase of Receipt Stamps, ...	...	12 0 0		
Paid 25 per cent. increase of Salaries for 6 months, ...	...	55 14 0		
Ditto W. H. Johnson, Esq., for a Tea pot Khokan, ...	...	8 0 0		
Fee to the Bank of Bengal for Stamping cheques, ...	...	3 2 0		
Petty Charges, ...	...	41 1 3		
		<u> </u>	362 4 9	265 12 3

MUSEUM TRANSFER ACCOUNT.

Printing 25 Copies of Act of the British Parliament, ...	...	20 0 0		
		<u> </u>	20 0 0	58 0 0

ETHNOLOGY COMMITTEE.

Paid Banghy Expenses for sending a parcel of Official Papers, .	...	0 12 0		
Copying Report forwarded by the Government of Bengal on various Human Races, ...	...	10 0 0		
A Blank Book for Proceeding, ...	...	2 8 0		
		<u> </u>	13 4 0	

BABU POORNO CHUNDER BYSACK.

Paid advance on the Contingent Expenses for the Museum, ...	...	1,445 0 0		
		<u> </u>	1,445 0 0	1,045 0 0

JAMES BEAMES, ESQ.

Paid Postage Stamps for sending Library Books, ...	...	4 1 0		
		<u> </u>	4 1 0	

CAPTAIN MACGREGOR.

Paid Banghy Expenses and Postage Stamps for sending Library Books,...	...	5 3 0		
		<u> </u>	5 3 0	

GOVERNMENT NORTH WESTERN PROVINCES.

Paid Railway Freight for sending Journal and Proceedings, ...	...	14 8 0		
		<u> </u>	14 8 0	16 5 0

CAPTAIN H. H. G. AUSTEN.

Paid Banghy Expenses for sending Library Books, ...	...	12 0 0		
		<u> </u>	12 0 0	3 4 0

MESSRS. WILLIAMS AND NORGATE.

Paid freight for Sending their Books, ...	...	8 0 0		
		<u> </u>	8 0 0	385 12 0

Carried over, Rs.24,414 8 11

RECEIPTS.

Brought over, Rs. 24,686 7 6

Carried over, Rs. 24,686 7 6

DISBURSEMENTS.

Brought over, Rs. 24,414 8 11

MOTHOOR MOHUN KUR.

Paid advance for preparing two Book Cases,	200	0	0		
Ditto ditto for an inner case of the New Iron Safe for Coins,...	45	0	0		
	<u> </u>	<u> </u>	<u> </u>	245	0 0

E. T. ATKINSON, ESQ.

Paid Bearing Banghy on a parcel of Library Books returned by him,	3	0	0		
Ditto Banghee and Railway freight for sending Library Books, &c.,.	9	10	3		
	<u> </u>	<u> </u>	<u> </u>	12	10 3
					3 8 0

PROFESSOR G. BUHLER.

Paid Banghy Expenses for sending MSS. and Library Books to Poona,	9	2	0		
	<u> </u>	<u> </u>	<u> </u>	9	2 0

J. H. R. CARNAC, ESQ.

Paid Tin Box and Banghy Expenses for sending Library Books,	9	10	6		
	<u> </u>	<u> </u>	<u> </u>	9	10 6

P. CARNEGIE, ESQ.

Purchase for him a Copy of Pre-historic man, No. 1,	1	0	0		
	<u> </u>	<u> </u>	<u> </u>	1	0 0

COLONEL E. T. DALTON.

Paid Banghy Expenses and Postage Stamps for sending Library Books,	8	15	0		
	<u> </u>	<u> </u>	<u> </u>	8	15 0

F. H. COOPER, ESQ.

Paid Bearing Banghy, on a parcel of Asiatic Society's Journal returned by him,	2	8	0		
	<u> </u>	<u> </u>	<u> </u>	2	8 0

ELPHINSTONE INSTITUTION.

Paid Banghy Expenses for sending Journals,	2	0	0		
	<u> </u>	<u> </u>	<u> </u>	2	0 0

J. H. RAVENSHAW, ESQ.

Paid Banghy Expenses for sending Library Books,	1	13	0		
	<u> </u>	<u> </u>	<u> </u>	1	13 0

DR. J. P. WISE.

Paid Postage Stamps for sending Library Books,	0	12	0		
	<u> </u>	<u> </u>	<u> </u>	0	12 0

H. BEVERLY, ESQ.

Paid Postage Stamps for sending Library Books,	0	13	0		
	<u> </u>	<u> </u>	<u> </u>	0	13 0

Carried over, Rs. 24,708 12 8

Proceedings of the Asiatic Society.

RECEIPTS.

Brought over, Rs 24,686 7 6

BALANCE OF 1865.	
In the Bank of Bengal,	817 3 0
Cash in hand,	103 2 7
	<hr/>

920 5 7

Rupees,	<hr/>	25,606 13 1
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Examined,
Sd. PROTAP CH. GHOSHE,
Asst. Secy.
Asiatic Society Bengal.

Errors and Omissions Excepted,
Sd. BUDDINATH BYSACK,
Cash Keeper,
Asiatic Society Bengal.

Examined and found Correct.
Sd. DAVID WALDIE, } *Auditors.*
Sd. S. H. ROBINSON, }

DISBURSEMENTS.

Brought over, Rs. 24,708 12 8

G. E. WARD, Esq.				
Paid Postage Stamps for sending				
Library Books, ...	...	0 14 0		
		<hr/>	0 14 0	
W. IRVIN, Esq.				
Paid Tin box and freight for sending				
Library Books, ...	...	3 13 3		
		<hr/>	3 13 3	
BALANCE.				
In the Bank of Bengal,	...	830 2 0		
Cash in hand, ...	...	63 3 2		
		<hr/>	893 5 2	
			<hr/>	
			Rs. 25,606 13 1	
			<hr/>	

Examined,
Sd. PROTAP CH. GHOSHE,
Asst. Secy.
Asiatic Society Bengal.

Errors and Omissions Excepted.

Sd. BUDDINATH BYSACK,
Cash Keeper,
Asiatic Society Bengal.

Examined and found correct.

Sd. DAVID WALDIE, }
Sd. S. H. ROBINSON, } *Auditors.*

STATEMENT
Abstract of the Cash

RECEIPTS.		1866.	1865.
ORIENTAL PUBLICATIONS.			
Received by sale of Bibliotheca			
Indica, ..	2,455 0 0		
Ditto by Subscription to ditto, ...	33 4 0		
Ditto by sale of White Yajur Veda,	38 0 0		
Refund of Postage Stamps, ...	21 6 9		
Ditto of Packing Charges, ...	1 1 3		
	2,548 12 0	1,573 9 9	
GOVERNMENT ALLOWANCE.			
Received from the General Treasury at 500 Rs. per month, 12 months, ...			
	6,000 0 0		
	6,000 0 0	6,000 0 0	
VESTED FUND.			
Received Interest on the Government Securities from the Bank of Bengal, ...			
	442 8 0		
	442 8 0	442 8 0	
CUSTODY OF ORIENTAL WORKS.			
Saving of Salary, ...			
	1 13 9		
	1 13 9	10 7 9	
BABU NOBIN CHUNDER ROY.			
Received from him on Deposit, ...			
	2 8 0		
	2 8 0		
C. SESHADRI S'ASTRI.			
Received from him on deposit, ...			
	8 11 0		
	8 11 0		
K. ROGHUNATH ROW.			
Received from him on deposit, ...			
	22 4 3		
	22 4 3		
KUBI HERA CHUND KANJEE.			
Received from him on deposit, ...			
	265 15 0		
	265 15 0		
HOLACUL NARASIMINEAH, Esq.			
Received from him on deposit, ...			
	23 4 0		
	23 4 0		
R. T. H. GRIFFITH, Esq.			
Received from him on deposit, ...			
	74 6 0		
Refund of Postage Stamps paid for sending Bibliotheca Indica,			
	3 0 0		
	77 6 0		
BABU KALLY COOMAR MITTER.			
Received from him on deposit, ...			
	2 13 0		
	2 13 0		
		9,395 15 0	
		Carried over, Rs. 9,395 15 0	

No. 2.

Oriental Fund for 1866.

DISBURSEMENTS.

		1866.	1865.
ORIENTAL PUBLICATIONS.			
Commission on the sale of Books,	169 3 0		
Freight, ...	189 2 0		
Packing Charges, ...	44 14 3		
Purchase of Postage Stamps, ...	48 14 6		
Petty Charges, ...	4 11 6		
	<u> </u>	456 13 3	456 7 3
VESTED FUND.			
Paid Commission to the Bank of Bengal for drawing Interest on the Government Securities, ...	1 1 8		
	<u> </u>	1 1 8	1 1 8
CUSTODY OF ORIENTAL WORKS.			
Salary of the Librarian, ...	360 0 0		
Establishment, ...	72 0 0		
Salary of Duftory, ...	96 0 0		
Book Binding, ...	31 2 0		
Books cleaning, ...	75 0 0		
Fee paid to the Bank of Bengal for Stamping Charges, ...	3 2 0		
Carpenter, Iron Nails and Screws for Suspending Shelves for the Bibliotheca Indica, ...	25 0 0		
Sundry charges for removing Bibliotheca Indica to St. Paul's School, ...	124 2 0		
Extra Writer's Salary, ...	29 13 9		
Paid 25 per cent. increase of salaries for 6 months, ...	30 0 0		
Purchase of Stationery, ...	16 0 0		
Petty Charges, ...	7 12 0		
	<u> </u>	869 15 9	776 13 3
LIBRARY.			
Purchase of Books, ...	517 8 0		
Landing Charges, ...	3 4 9		
Binding 99 Sanskrit MSS. purchased from Benares, ...	39 6 0		
	<u> </u>	560 2 9	205 0 0
PUNDIT CHHOTOO RAM TEWARI.			
Paid on his deposit, ...	3 8 6		
	<u> </u>	3 8 6	
DR. M. HAUG.			
Paid on his deposit, ...	0 10 0		
	<u> </u>	0 10 0	
KUBI HERA CHUND KANJEE.			
Paid on his deposit, ...	41 0 0		
	<u> </u>	41 0 0	
		<u> </u>	<u> </u>
Carried over, Rs.		1,933 3 11	

RECEIPTS.

Brought over, Rs. 9,395 15 0

Carried over, Rs. 9,395 15 0

DISBURSEMENTS.

Brought over, Rs. 1,933 3 11

R. T. H. GRIFFITH, Esq.			
Paid Postage Stamps for sending			
Bibliotheca Indica, ...	3 0 0		
	<u> </u>	3 0 0	
BABU KALLY COOMAR MITTER.			
Paid on his deposit, ...	1 4 0		
	<u> </u>	1 4 0	
COLONEL E. T. DALTON.			
Paid Registering fee and postage			
for sending MSS. to Chhota-			
Nagpore, ...	0 11 0		
	<u> </u>	0 11 0	
AYIN I AKBARI.			
Purchase of 5 copies of Ayin			
Akbari from Lt. Waterhouse, ...	226 4 0		
Printing with paper for circular			
for collecting MSS. of ditto, ...	8 0 0		
Bearing on a parcel of ditto con-			
taining MSS. from Dr. Leitner,	15 0 0		
	<u> </u>	249 4 0	18 5 0
PALI GRAMMAR.			
Purchase of Printing Demy Papers			
for, ...	154 1 6		
Freight and Packing Charges for			
sending ditto, ...	13 5 9		
	<u> </u>	167 7 3	
BIOGRAPHICAL DICTIONARY.			
Editing and Printing Charges, ...	468 0 0		
	<u> </u>	468 0 0	760 0 0
ALUMGIRI NAMAH.			
Editing and Printing Charges, ...	2,628 0 0		
Freight, ...	6 4 6		
	<u> </u>	2,634 4 6	
MIMANSA DARSANA.			
Editing and Printing Charges, ...	762 0 0		
	<u> </u>	762 0 0	237 0 0
NYAYA DARSANA.			
Printing Charges, ...	292 6 0		
	<u> </u>	292 6 0	750 0 0
TAITTIRIYA BRAHMANA.			
Editing and Printing Charges, ...	368 0 0		
	<u> </u>	368 0 0	144 0 0
ASWALAYANA SRAUTA SUTRAS.			
Editing and Printing Charges, ...	416 0 0		
	<u> </u>	416 0 0	1,376 0 0
KAMANDAKI.			
Editing Charges, ...	96 0 0		
	<u> </u>	96 0 0	224 0 0
TAITTIRIYA ARANYAKA.			
Editing and Printing Charges, ...	365 0 0		
	<u> </u>	365 0 0	512 0 0
BRIHAT SANHITA.			
Printing Charges, ...	462 10 0		
	<u> </u>	462 10 0	902 0 0
		<u> </u>	
Carried over, Rs.	8,219 2 8		

RECEIPTS.

Brought over, Rs. 9,395 15 0

BALANCE OF 1865.			
In the Bank of Bengal,	...	519 8 6	
Cash in hand, ..	...	5 8 5	
		<u> </u>	525 0 11

 Rs. 9,920 15 11

Examined,
Sd. PROTAP CH. GHOSHE,
Asst. Secy.
Asiatic Society Bengal.

Errors and Omissions Excepted.
Sd. BUDDINATH BYSACK,
Cash Keeper,
Asiatic Society Bengal.

Examined and found Correct.
Sd. DAVID WALDIE, } *Auditors.*
Sd. S. H. ROBINSON, }

DISBURSEMENTS.

	Brought over, Rs.			8,219	2	8
BADSHAH NAMAH.						
Editing and Printing Charges, ...	876	0	0			
	<hr/>			876	0	0
ASWALAYANA GRIHYA SUTRAS.						
Editing Charges, ...	96	0	0			
	<hr/>			96	0	0
TAITTIRIYA SANHITA.						
Editing Charges, ..	120	0	0	120	0	0
SANKHYA APHORISM OF KAPILA.						
Printing Charges, ...	208	12	0			
	<hr/>			208	12	0
DASA RUPA.						
Printing Charges, ...	227	8	0			
	<hr/>			227	8	0
				<hr/>		
				9,747	6	8
BALANCE.						
In the Bank of Bengal, ...	171	4	10			
Cash in hand, ...	2	4	5			
	<hr/>			173	9	3
				<hr/>		
				Rs. 9,920 15 11		
				<hr/>		

Examined,
Sd. PROTAP Ch. GHOSHE,
Asst. Secy.
Asiatic Society Bengal.

Errors and Omissions Excepted,
Sd. BUDDINATH BYSACK,
Cash Keeper,
Asiatic Society Bengal.

Examined and found correct,
Sd. DAVID WALDIC, } *Auditors.*
Sd. S. H. ROBINSON, }

STATEMENT, No. 3.

Shewing the Assets and Liabilities of the Asiatic Society at the close of 1866.

ASSETS.		1866.		1865.	
CASH.					
In the Bank of Bengal,	Rs. 830	2	0	817	3
Cash in hand,	... 63	3	2	103	2
Government Securities,	... 2,000	0	0	6,500	0
	Rs. 2,893	5	2	7,420	5
OUTSTANDING.					
Contributions,	... 6,322	14	11	5,793	7
Admission fees,	... 186	0	0	480	0
Library Sale of Books,	... 318	12	0	537	10
Journal Subscription,	... 1,176	10	0	568	4
Ditto Sale of,	... 131	14	3	107	10
	Total Rs. 8,136	3	2	7,487	0
LIABILITIES.					
Hon'ble Sir J. W. Colvile, Kt., for amount deposit on his account,	Rs. 276	8	0	276	8
J. W. Laidlay, Esq., for do. do.,	418	7	4	418	7
Salary, Establishment and Con- tingent Charges,...	200	0	0	1,000	0
Subscription to Oriental Trans- lation Fund,	735	0	0	630	0
Printing Journal and Proceed- ings, &c., ... about	6,000	0	0	3,559	7
Bird Catalogue Binding, ...	42	4	0	42	4
Messrs. Williams and Norgate about, ...	1,000	0	0	1,010	0
Museum (cataloguing the speci- mens of the), ...	200	0	0		
Mr. Loeke's Bills for engraving wood cuts, &c. for the Journal about,	200	0	0		
	Total Rs. 9,072	3	4	6,936	10

Examined, Sd. PROTAP CHUNDER GHOSHIE,
Asst. Secy.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR JANUARY, 1867.



The Annual General meeting of the Asiatic Society of Bengal was held on Wednesday the 16th January, 1867.

E. C. Bayley, Esq., President, in the chair.

The Secretary read the Council's Report.

ANNUAL REPORT.

In accordance with the custom of this Society the Council submit their annual report on the present condition of the Society and on the progress of its labours during the past year. With the single exception of Finance, which, owing to temporary causes presently to be explained, is in a less favourable condition than it has been for some years past, the Council believe that in every respect the state of the Society is most satisfactory. The Member-roll, which shewed a slight diminution last year, now re-exhibits a marked increase, the loss of ordinary members by resignation and death being 24 only, while 39 new members have joined the Society. It now counts 391 members against 376 at the close of the last year, and has received therefore a net increase of 15 members. The comparative lists of paying and absent members, shew a still more marked improvement. Last year, there was a decrease of the former by not less than 21, but in the year just concluded, this deficiency has been more than made up, and 38 paying members have been added to the roll. The total number is now 305, of whom 146 are residents. The following table shews the number of members for each of the past ten years.

	Paying	Absent	Total
1857	109	38	147
1858	193	40	233
1859	135	45	180
1860	195	47	242
1861	225	55	281
1862	229	82	311
1863	276	79	355
1864	288	92	380
1865	267	109	376
1866	305	86	391

The losses by death (5 in all) include an unusual number of members whose labours have rendered them well known to the world at large or in the body of our Society. Foremost among them, we have to deplore the sudden and untimely death of the late Bishop of Calcutta, a man whose pre-eminent worth and rare liberality of spirit have made his decease felt as a public loss, not alone by the clergy whom he ruled and by the members of the church he so nobly represented, but by those of every creed, whose object, like his, is the common welfare of men.

Dr. Roer was connected with the Society for very many years, as an associate from 1839 to 1852, and as an ordinary member from 1853 to the time of his decease. In 1841 he was placed in charge of the Society's Library, and in 1847 was appointed Editor of the *Bibliotheca Indica* and Secretary to the Philological Committee. In these different capacities, he took an active part in the affairs of the Society and rendered it most valuable service. In him the Society has to deplore the loss of an oriental scholar of high attainments, and a frequent contributor to its *Journal* and the *Bibliotheca Indica*.

Mr. Joseph G. Medicott is another member, whose loss is deeply regretted by very many of our body. In his public capacity, he was well known as one of the earliest and most energetic members of the Geological Survey of India, on the staff of which he worked for upwards of ten years, and contributed in no small degree to the development of that orderly knowledge of Indian geology which we now possess, and which we owe almost entirely to the steady labours of the officers of the Survey. Arriving in India in 1851, already an

experienced geologist, he was engaged, during the ten years of his connection with the survey, in the Khasia hills, in the Rajmahal hills, and other parts of Bengal and Central India; but his chief and best known publication is that on the geology of the Pachmari hills and the upper vallies of the Soane and Nurbudda, much of which country he surveyed under the peculiar difficulty of having to form his own topographical map *pari passu* with the survey of the geological details. In 1861, when, owing to the outbreak of the civil war in America, the cotton production of India suddenly became an object of the highest importance to the manufacturers of Europe, Mr. Medlicott was commissioned by Government to draw up a handbook on the cotton production of Bengal, a work which gained for him a high reputation among those best able to appreciate its value. In 1862 he joined the Educational Department of Bengal, and up to the time of his decease in May of the past year, he continued to discharge the responsible duties of his post, earning by the liberality and catholicity of his views, not less than by the geniality of his spirit, the respect and confidence of all with whom he had to deal. His minor writings were numerous; chiefly contributions to the Calcutta Review and other periodicals. One of these, his review of Mr. Darwin's well known work on the origin of species, may be mentioned as having been noticed by the eminent author of the original work, as the most appreciative of all the numerous reviews that that remarkable book had drawn forth.

Mr. Obbard was for some years a member of the Society's Council, and especially took an active part in the meteorological discussion of two or three years since. His devotion to this science ceased only with his death, which occurred shortly after his arrival in England, whither he had proceeded in March last.

Two corresponding members have been elected during the past year, viz., Professor Emil von Schlagintweit, well known by his valuable work on Thibetan Buddhism, and the Rev. M. A. Sherring, to whom, in connection with Mr. Horne, the Society is indebted for several valuable contributions to the Journal on the subject of the Buddhist antiquities of Benares.

MUSEUM.

In May last, the long contemplated transfer of the Society's collections to Government concluded the negotiations which have been pending since 1857, and the progressive steps of which have been from time to time reported to the Society. Before making the transfer, the Society had incurred a very large expenditure upon the Museum, in order that it might pass from their hands in a condition worthy of the many eminent men by whose exertions it had been formed. To Dr. J. Anderson, as a member of their own body, the Society are indebted for superintending the restoration and re-arrangement which the long absence of any qualified curator had rendered necessary, and they believe that all qualified to judge will pronounce the Museum in its present condition to be one of which the Society may be proud. The collections will remain in the Society's house until the completion of the new Museum Building. This, it is expected, will be ready to receive them within about three years from the present time.

The Museum is now in charge of the thirteen trustees appointed under the Act (XVI. of 1866,) four of whom, viz. Dr. Partridge, Dr. Fayerer, Mr. Atkinson, and Mr. H. F. Blanford, are nominated by the Council of the Society.

FINANCE.

The heavy outlay on the Museum during the past year, following closely upon that incurred for the restoration of the building, and accompanied by a large increase in the publications of the Society, has temporarily reduced the finances of the Society to an unusually low ebb. On the other hand, unrealized assets, consisting of sums due by members and subscribers to the Journal have increased greatly. Indeed the Council cannot but think that these arrears would have been very much greater than they are, had it not been for the active exertions of the Honorary Treasurer of the Society, who has succeeded by dint of untiring exertions in realizing a considerable portion of the debts outstanding at the end of the last year. Owing to these causes, the Council have had to dispose of not less than 3000 Rs. worth of Government Securities in excess of the sale provided for in the Budget of the last year; as is shewn in the following table of the income and expenditure, as estimated at the beginning of the last year, and as actually received or expended.

INCOME.

	Estimate.	Actual.	Deficit.	Excess.
Admission fees, ...	1,000 0 0	1,280 0 0	...	280 0 0
Subscriptions, ...	8,500 0 0	8,676 0 0	...	176 0 0
Journal,	600 0 0	1,327 0 0	...	727 0 0
Library,	200 0 0	620 0 0	...	420 0 0
Museum,	6,000 0 0	2,589 0 0	3,411.	...
Secretary's Office,	20 0 0	22 0 0	...	2 0 0
Coin Fund,	100 0 0	5 0 0	95.	...
	<hr/>	<hr/>	<hr/>	<hr/>
	25,420 0 0	14,919 0 0	3,506.	1,605 0 0
Sale of Govt. Sects.	1,500 0 0	4,500 0 0	...	3,000 0 0
			<hr/>	<hr/>
			3,506.	4,605 0 0
			<hr/>	<hr/>
			Excess,...	Rs. 1,099 0 0

EXPENDITURE.

	Estimate.	Actual.	Saving.	Excess.
Journal,	4,400 0 0	2,799 0 0	Rs. 1,601.	
Library,	2,000 0 0	5,258 0 0	...	3,258 0 0
Museum,	6,000 0 0	6,272 0 0	...	272 0 0
Secretary's Office,	2,350 0 0	1,784 0 0	„ 566.	
Building,	2,500 0 0	2,634 0 0	...	134 0 0
Coin Fund,	320 0 0	503 0 0	...	183 0 0
Miscellaneous, ...	350 0 0	362 0 0	...	12 0 0
	<hr/>	<hr/>	<hr/>	<hr/>
	17,920 0 0	19,612 0 0	„ 2,167.	3,859 0 0
			<hr/>	<hr/>
			Expenditure Excess,...	Rs. 1,692 0 0
			Income ditto,	„ 1,099 0 0
			<hr/>	<hr/>
			Difference. „	593 0 0

From this it will be seen that the sale of Rs. 3,000 of securities beyond what had been anticipated has been necessitated, chiefly by the heavy expenditure on the Museum within the first five months of the

year, in which period it exceeded the sum estimated for the entire year, while the income, estimated for the entire year, was actually received for 5 months only. The expenditure on the Library has also been considerably in excess of the estimate. But omitting the single item of the museum, the income has also exceeded the estimate by 1,530.

Were the museum expenditure in excess of the receipts for the same item omitted, the sale of the additional Rs. 3,000 of securities would not have been necessary, and there would have been a small surplus of Rs. 683.

This account of the financial condition of the Society would, however, be very imperfect, were the liabilities not also taken into consideration. There are still very heavy (Rs. 7,500) but not greater than the Society can meet without difficulty, if they can succeed in realizing any considerable portion of the very large amount (Rs. 8,100) due by members and subscribers to the Society. The Treasurer has made repeated endeavours to obtain these arrears, and with partial success, but some of the heaviest defaulters have, the Council regret to say, shewn a lamentable disregard of the treasurer's applications, and the Council feel with regret that it may be necessary shortly to adopt very stringent measures towards some of the heaviest defaulters. The Council propose therefore to register the Society under the provisions of Act XXI. of 1860, which will enable them to sue those who are insensible to less coercive forms of application; and at the same time to enforce Rule 11, which provides that the defaulter's name be removed from the Society, and full publicity given to his removal.

The Council have further taken steps to re-organize the financial system, to check expenditure to the utmost, and to place the entire control thereof under the Financial Committee, and they feel confident that, with economy and careful management, the Society's Finances will be restored to their former prosperity long before the time when the removal of the Society to the New Museum Building will put the Society in possession of a largely increased income, by the leasing of its present premises.

The following is the schedule of Income and Expenditure for the ensuing year. Each item has been carefully considered by the Financial Committee, and the amount of each item of Expenditure will not be exceeded in any case without a special reference to the Committee.

INCOME.

Admission fees,	1,000
Subscriptions,	8,600
Journal,	900
Library,	200
Secretary's Office,	20
Coin Fund,	80
	Rs.... 10,800

EXPENDITURE.

Journal,	5,000
Library,	2,150
Secretary's Office,	2,000
Building,	1,000
Coin Fund,	300
Miscellaneous,	350
	Rs.... 10,800

OFFICERS.

The division of the executive work of the Society among four honorary officers has been found to work admirably, and has rendered it possible to carry out many improvements which would have been impracticable under the old system of entrusting the entire work to one or at the utmost two Secretaries. Two new Committees have been formed during the past year, the Secretaryships of which have been undertaken by Mr. Beverley and Dr. J. Anderson. The former gentleman has not hitherto been a member of their body, and the Council have to return their cordial thanks for the valuable assistance he has rendered in conducting the business of the Linguistic Committee.

Babu Protap Chunder Ghoshe has been active and assiduous as Assistant Secretary and Librarian, and the Council have great pleasure in recording their satisfaction with his services.

JOURNAL.

The entire Volume for the past year is larger and more profusely illustrated than any issued for previous years, while it has been fully equal in the value of the matter to that of any previous year. Three numbers of Part I. and two of Part II. have already been issued, and

two more Nos. (one of each Part) are nearly ready for publication. A Special Ethnological number, containing a treatise on the Ethnology of India by the Hon'ble G. Campbell, with some important vocabularies, has also been issued, the price of which to subscribers it has been found necessary to fix at a higher rate than that of the ordinary series. Ten numbers of the Proceedings have also been published, in addition to a number containing the Index and tables for the Volume of 1865, and a double number, completing the Volume for the past year, will be issued in a few days.

All arrears of papers have now been cleared off, and it is believed that in the ensuing year the cost of the publications will be somewhat less therefore than during the past two years. But while the Council fully recognise the necessity for economy, they cannot recommend any curtailment of the publications, so long as reductions can be effected in other departments of the Society's expenditure.

LIBRARY.

Four hundred and sixty-nine volumes, periodicals and pamphlets have been added to the library during the past year and the literature of certain departments of Natural History in which the library was previously very deficient, has been largely added to.

During the ensuing year, the finances will unfortunately allow but a comparatively small expenditure on new works, but a book for recording the names of works which it is desirable to add to the library is kept open for the suggestions of members, and these will be considered, and such as are approved of, added to the library in the order of their importance, as the means of the Society may admit of.

BIBLIOTHECA INDICA.

The editors of the *Bibliotheca Indica* continue to carry on that serial with unabated zeal. They have brought out 24 numbers, including portions of 10 different works, within the year under report. Twelve of these are in Persian, one in Arabic, ten in Sanskrit, and one translation into English from the Sanskrit.

In the new series Mauluvis Kabir ul Din Ahmad and Abdul Rahmán have published the first three fasciculi of the *Pádsháhnámeh* of Abdul Hamid Láhuri, a history of Shah Jehan which will be welcome to oriental scholars as a contemporary and authentic chronicle of the reign of that emperor. The work is being printed from a MS.

belonging to the Society which bears an autograph of Shah Jehan and there are several codices available for collation. As a continuation to it, Mauluvis Khádam Hosaim and Abdul Hai have undertaken an edition of the history of Alamgír (*Alamgírnámeh*) by Mohammed Kázim, of which nine fasciculi have already been issued. Both the works are being printed under the able superintendence of Major Lees.

The Philological Committee have collected ample materials, and have made arrangements for the publication of a new and revised edition of the *Ayin Akbary*. Mr. Blochmann, who has undertaken to edit the work, has already made considerable progress in the task of collation, and the work will be sent to press immediately. The Government of India has been pleased to sanction a special grant of Rs. 5,000 for the publication of this work.

Pandit Rámnáráyana Vidyáratna has completed his edition of the *Srauta Sútra* of *Aswalayana* with a commentary, and is now engaged in an edition of the *Grihya Sútras* of the same author. The work contains rules for the performance of domestic ceremonies according to the ritual of the White Yajur Veda.

Of the aphorisms of the *Mimánsá*, Pandit Maheschandra Nyáyaratna has published two fasciculi; and of the *Taittiriya Aranyáka* of the Black Yajur Veda, Bábu Rájendralála Mitra has brought out two numbers. The last named gentleman was for some time engaged in collecting materials for an edition of the Yoga aphorisms of Patanjali, and has lately been able to send the work to press. It was originally intended that it should include the commentary of Vyása, but that work having been already taken up by Mr. Cowell, for the Sanskrit Text Society of London, the Babu has limited his plan to the text of Patanjali with the gloss of Bhoja Deva and an English translation. This work will complete the Society's edition of the six Darsanas or text books of the leading philosophical schools of India.

In the Old Series, Mr. Cowell has completed the second volume of the Black Yajur Sanhita, and a fasciculus of the third volume has been brought out by Pandita Rámnáráyana Vidyáratna, to whom the work has now been made over. Of the *Bráhmána* of that Veda, Bábu Rájendralála Mitra has brought out two fasciculi. It is expected that he will be able to complete the work in the course of the current year. Bábu Pramadáása Mitra has issued one fasciculus of his transla-

tion of the *Sáhitya Darpana*, and Major Lees one of the *Biographical Dictionary* of persons who knew Mohamed. Both these works are now in a forward state for completion.

The following are lists of the different works published, or in course of publication, in the old and the new series.

OF THE NEW SERIES.

1. The *Taittiríya Aranyaka* of the Black Yajur Veda with the commentary of *Sáyanácháryá*, edited by *Bábu Rájendralála Mitra*, Nos. 88, 97, Fasc. III, IV.

2. The *Srauta Sútra* of *Aswaláyana* with the commentary of *Gárgya Náráyána*, edited by *Rámanáráyána Vidyaratna*, Nos. 90, 93, Fasc. IX, X.

3. The *Mimánsa Darsána* with the commentary of *Sávava Swamin*, edited by *Paṇḍita Mahesáchandra Nyáyaratna*, Nos. 95, 101, Fasc. III, IV.

4. The *Grihya Sútra* of *Aswalayana* with the commentary of *Gárgya Náráyána*, edited by *Rámanáráyana Vidyaratna*, No. 102, Fasc. I.

5. The *Alamgir Námeḥ* by *Muhammad Kázim ibn-i-Mohammad Amin Munshi*, edited by *Mawlawis Khádím Husain*, and *Abdul Hai*, Nos. 87, 89, 91, 92, 94, 98, 99, 103, 104, Fasc. I to IX.

6. The *Bádshahnamáh* by *Abdul Hamid Láhawri*, edited by *Mawlawis Kabir Al Din Ahmad* and *Abdul Rahim*, Nos. 96, 100, 105 Fasc. I, II, III.

OF THE OLD SERIES.

1. The *Taittiríya Brahmána* of the Black Yajur Veda with the commentary of *Sayánachárya*, edited by *Bábu Rájendralála Mitra*, No. 216, Fasc. XXI.

2. The *Sáhitya-Darpana* or *Mirror of Composition*, a treatise on literary criticism by *Viswanatha Kavirája*, translated into English by *Babu Pramadádása Mitra*, and the late *James R. Ballantyne*, LL. D. No. 217, Fasc. IV.

3. The *Sanhitá* of the Black Yajur Veda with the commentary of *Mádhava Achárya*, edited by *Rámanáarayána Vidyaratna*, Nos. 218, 219, Fasc. XX, XXI.

4. A *Biographical Dictionary* of persons who knew *Mohammad*; by *Ibn Hajár*, edited in Arabic by *Mawlawis Abdul Haqq* and *Ḡholám Qádir*, and *Captain W. N. Lees*, No. 215, Fasc. III.

COIN CABINET.

The coin cabinet has received accessions of several new coins, including a collection of thirteen gold Indo-Scythians, several Greek, Bactrian, and Parthian silver pieces, and some gems. Measures are being taken for the arrangement and cataloguing of the collection, and the Council expect, that in course of the current year much will be done to render it easily accessible for reference and comparison.

The report having been read, it was moved by Mr. Beverley, and voted unanimously, that the report just read be approved.

The meeting then proceeded to elect the Council and officers for the ensuing year.

It was proposed by Mr. Blanford and agreed to, that the Hon'ble J. P. Norman and Mr. H. H. Locke be appointed Scrutineers of the ballot.

The ballot having been taken, the President announced, on the report of the Scrutineers, that the following gentlemen had been elected to serve on the Council for the ensuing year.

COUNCIL.

Dr. J. Fayrer, President.

Dr. S. B. Partridge,

The Hon'ble G. Campbell, } Vice-Presidents.

A. Grote, Esq.

E. C. Bayley, Esq.

Dr. T. Anderson.

Dr. J. Ewart.

Dr. D. B. Smith.

A. Mackenzie, Esq.

H. Beverley, Esq.

T. Oldham, Esq.

H. F. Blanford, Esq. General Secretary.

Bábu Rájendralála Mitra, Philological Secretary.

Dr. John Anderson, Natural History Secretary.

Lieutenant-Colonel J. E. Gastrell, Treasurer.

Mr. Mackenzie proposed and Dr. Fayrer seconded—that Dr. D. Waldie and Mr. Robinson be appointed auditors of accounts for the past year.

The President then addressed the meeting previous to vacating the chair.

He said that he congratulated the Society of Dr. Fayerer as their President. It was especially 'opportune, as the arrangement for the experiment of an ethnological congress, which had been first suggested by Dr. Fayerer, would have to be matured by the Society during the ensuing year, and would now have the benefit of Dr. Fayerer's personal supervision. As to the exact present position of that experiment, Dr. Fayerer would be better able to speak than himself, but he could at least say that the proposal had excited much attention and warm sympathy among scientific men and scientific bodies in Europe, and had already resulted in the collection of a large mass of information, both valuable and interesting, regarding the tribes of India and the countries on its borders.

As regards the position of the Society too, the year which had just passed was an important one. Their museum which, valuable and extensive as it was, had outgrown the measure of the Society's resources, had been handed over to the Trustees of the future Imperial Museum.

The President could not but think that experience had already shown the wisdom of this step. The valuable services of Dr. Anderson, which the Society's means could never have enabled it to secure, had already resulted in the addition of much that was required to the Collections, and had saved, improved and utilized much which they already possessed. The President was sure that all the members of the Society who visited the museum would at once recognise the value of Dr. Anderson's labours. And he was convinced that the transfer of the Society's collections to the museum would tend greatly to their improvement and better preservation, and to their better service to the cause of science.

To the members, these collections, with the collections of the new museum, would be still as freely and conveniently available as before, and he believed, in short, that the measure would only result in the greater usefulness, dignity and prosperity of the Asiatic Society.

On one subject only, the reports of the past year which had just been read were unsatisfactory, and it was the point on which the reports always had been unsatisfactory, and this was the pecuniary condition. The labours of Dr. Anderson had shown the necessity for a large expenditure even before the transfer; and this heavy outlay had told

heavily on the Society's means ; he hoped, however, that now, relieved from the maintenance of their collections, their finances would soon recover, but there was and always would be an ample field in India and its immediate neighbourhood, for the profitable expenditure of any amount which either the Society or the Government could afford to devote to the development of antiquities, history or natural science.

In conclusion, he could not but regret that his own enforced absence from Calcutta had prevented him from being as useful to the Society as he could have wished to be. The Society was aware, however, that the Vice-Presidents, and especially Mr. Grote, had fully and ably done the work which ought to have fallen to the President's share ; for this he begged leave to tender them his individual thanks, and would now with great pleasure vacate the chair to make room for Dr. Fayrer.

The President elect, on taking the chair, addressed the meeting as follows.

“ Gentlemen ; I have to thank you for the great though unexpected honour you have conferred on me by electing me to be the President of your Society. I must, however, express my conviction that you have not made a happy selection ; I say so, because I think that the President of a Society, such as this, should be a person with more leisure at his command than I have, and of scientific attainments such as I can have no pretension to. Indeed I am at a loss to understand how the choice can have fallen on one so unfitted, as I am, for such an office, and I confess that my misgivings as to the results, cause me apprehension. When I reflect on the distinguished men who have preceded me, and on all they have done for the Society, I feel how entirely I am at a disadvantage, and how imperfectly even I can ever hope to do justice to the chair, in which you have placed me. On learning at the last meeting of the Council that it was the intention of that body to nominate me as their President, I hastily determined to decline the honour, but on stating my intention to some of my friends, and hearing that to do so would be displeasing to many for whom I entertain the highest regard, I determined to accept the office if offered to me, and do my best, (*i. e.* whatever the turmoil and uncertain leisure of a professional life will permit,) to give you satisfaction, and, if I can, with your aid, to promote the interests of the Society.

“ It is at an eventful period in the history of the Asiatic Society, that the office of President has been assigned to me. In parting with its noble collections, and thus associating itself with the inchoate Imperial Museum, it has given an impulse to the progress of science in this country, that can hardly be over-estimated.

“ Long possessed of one of the richest known collections of natural history, and enjoying the services of a distinguished naturalist as curator, it had yet the mortification of seeing these collections gradually suffer from neglect and decay; the valuable services and contributions of its best supporters frustrated, if not altogether lost; the progress of natural science languishing, and energy failing, because the necessary funds were not forthcoming to meet the demand; and notwithstanding the subsidy of a Government which has so often generously aided in the advance of knowledge, the Society was unable to keep pace with the requirements of the period, or to maintain, in its due freshness and integrity, the position to which it might have fairly been entitled in the scientific world. This happily is no longer to be the case. It is sufficiently apparent even to the most casual observer, among those who frequent the Society’s meetings, that a great change has already taken place; and I feel certain that what we now see is but an earnest of much more that is to come.

“ The Imperial Museum will hold our collections. The curator of that Institution will jealously preserve and guard whatever we entrust to his care. Scientific men and others in India will contribute to him what they *would* have sent to us; but our interest is still with our collections, and to us the world will look for further contributions and further elaboration and generalization of the mass of material already accumulated. With the impulse that science has received by the recent conjoined action of the Government and the Society, I would venture to hope that increased activity in furthering scientific enquiry will agitate its members generally; and that a more vivid appreciation of scientific research, and the importance of a more zealous investigation into the large field of knowledge which still lies open in India, will characterize the efforts of every individual connected with the Society; that these rooms will be the scene of many animated discussions of subjects connected with every department of science; and the object of the founder may be fulfilled,—“ That enquiry may be fully extend-

ed, within the geographical limits of Asia, to whatever is performed by man or produced by nature.”

“The annual Report, to which you have just listened, has informed you of much of what has been done, and of the condition of the Society at the close of the past year. It betokens activity and onward movement; it indicates that large and important questions have been dealt with by the Society, not only in the Department of oriental languages, in which it has always held so high a place, under the direction of the eminent native and European philologists who have contributed so largely to the ‘*Bibliotheca Indica*,’ but also in zoology, archæology, meteorology and other departments of natural science, in which enquiry has been pushed, and progress made.

“Questions of the day, most occupying men’s minds,—those connected with the origin of our species,—the history, affinities and relations of the infinite number of varieties of the human race, whether illustrated by physical conformation or linguistic peculiarities, have been prominently brought before the Society, for investigation; and are perhaps, at your hands, to receive the solution of some of the most interesting problems connected with the enquiry.

“The Natural History of the Fauna and Flora of the country, its mineral and other telluric treasures, already much investigated by many able men, yet present ample field for research and discovery.

“A noble Botanic Garden and herbarium, although unconnected with the Society, (which we may hope to see supplemented by a section of Economic Botany, in the Museum) already represent the treasures of this department of the organized kingdoms of nature.

“In Geology and Palæontology, a museum and records worthy of the distinguished Geologists who are at the head of that Department of Science in India, are accessible to the scientific world, and are available to you either for study or comparison.

“For those who are interested in numismatic and archæological relics, collections exist in the Society’s Museum, of no mean repute; and it is with pleasure that I note the commencement of a Department of Social Science under the auspices of a talented and energetic member of our Society, which is thus indirectly connected with the Asiatic Society. I have also the gratification of recording the initiation of a movement among several members of the Society and others, for

establishing that most useful and instructive of all places of public recreation, a Zoological garden. This is a subject which I trust will receive public support and the countenance of the Society, and will soon be reckoned among the accomplished facts of Calcutta.

“It is a subject of congratulation in the interests of natural science, that the Society has many energetic collectors, enquirers and contributors scattered over the length and breadth of the land; all working, and zealous for its well-doing.

“The geological, topographical, geometrical and archæological surveys are steadily progressing, and accumulating funds of information of the most important nature, under the eminent men who direct their operations, and to whom we may naturally look for—and from whom indeed we have always received—the most valuable contributions to our present stock of knowledge. With such means at our disposal,—with such great opportunities,—with a Government well disposed towards the pursuit of science, and some of whose members are on our roll,—with an able staff and select committees to work each department of scientific enquiry,—surely we ought not to fail in contributing that quota of knowledge to the great general stock, which is naturally looked for, and may be expected from us by kindred societies in Europe.

“You will have observed that it has not been altogether progress during the past year. Financially the Society has been and is embarrassed, but we may reasonably hope that the increasing number of the members will obviate for the future this source of trouble, and that the many long outstanding arrears will be speedily liquidated. We have suffered too by the inscrutable hand of death. You have heard an obituary notice of several eminent and staunch supporters of the Society, among whom I regret to say that of Sir G. Everest ought to have appeared. They were good and true men, earnest enquirers into those questions which engage our Society and the scientific world generally; and though it is perhaps neither the time nor place to allude further to what they have done, or to express our regret for their loss, yet I cannot refrain from adding one tribute of regret to that which has lately engaged the sympathies of men of every denomination, for the untimely loss of a good man, cut off in his prime in the midst of a noble work, respected and beloved alike by learned and unlearned, by members of all sects, and every religious denomination and creed.

“But there is business of importance still before the meeting, and I ought not to detain you longer. I again thank you for the honour you have done me, and express a hope that the year to come may be even more prosperous than that just passed away.”

The meeting then resolved itself into an ordinary monthly meeting. The minutes of the previous meeting were read and confirmed.

The following presentations were announced—

1. From Baboo Bishwambhar Nath Mookerjee; a pair of sandals made of *patha* leaves, a kind of plant abundant in Peshawar.
2. From C. J. Crawford, Esq., through Mr. Grote; a steel print portrait of Dr. Latham.
3. From the Deputy Commissioner of the Upper Godavery district, two human skulls.
4. From the Rev. G. U. Pope, through the Rev. C. H. A. Dall; five Tamil printed works, by the Rev. G. U. Pope.
5. From Dr. J. Fayrer; a spear of a Naga chief, and a bow and arrows from the Andaman Islands.

The following letter from W. Masters, Esq., on the November fall of meteors, was read:—

“I respond to the spirit of your last letter by forwarding an account of meteors that fell on the 14th instant, for record in the Proceedings of your Society. I have sent a popular account of them to the “Englishman” for general information: to this I shall add a few particulars which I did not consider of sufficient interest to insert in the original.

“My attention was first drawn to these visitors to our sphere, in 1833 (I believe), when, a little before sunrise, while seated in an upper verandah in Calcutta and looking south, I observed white, pearly, flakey, I might almost say, tiny spiritual things of the shape of Rupert drops falling, as I fancied, perpendicularly down, about a yard or two apart, and about 15 succeeding each other in two or three minutes within the range of direct vision. Day followed too quickly for this exhibition to last long.

“Since that time I had been watching their recurrence without success; and was on the look out for them from the 9th to the 13th instant, when only a few stragglers presented themselves. Up to 11

P. M. of the 13th, there was no sign of meteors; but at half-past 4 A. M. of the 14th instant, they were in great abundance over Kishnaghur. I cannot say at what hour they first began to fall, although I have made inquiries of watchmen and others. I looked out about half past four or a quarter to five, and observed them shooting along the sky divergingly and very rapidly, from some part of the *head* of *Leo major*; and by their manner of comporting themselves, was immediately convinced that we had come upon the great shoal of November. I was most interested in detecting, if possible, the precise point of divergence; and it soon became evident that, contrary to received opinion, γ *Leonis* was not the starting point. After counting fifty in about five minutes, I woke up five others to witness the phenomenon and give aid in watching and counting.

“ We arranged ourselves looking in different directions, and as each saw a meteor, there was a distinct call of the next number 51, 52, 53 &c.; the stars shooting out sometimes faster than they could be counted: some were lost on this account; some, owing to the excitement of my young coadjutors; and many, while I was waking up aid. Yet, in less than half an hour, we counted four hundred and twenty; had we been all together during the half hour, we should certainly have counted more than five hundred.

“ The velocity of these meteors was exceedingly great; there was no lagging or hesitation in their course, as is frequently the case with ordinary meteors: but they darted like rockets from an unseen centre, sometimes three or four in one direction nearly, slightly diverging, leaving long and short trains with much divergence horizonwards and narrow convergence upwards. I shall call these *a* for reference in the sequel. Others shot in different directions, east, west, north, and south, and intermediate points were filled up in rapid succession; not one appeared to fall perpendicularly to the earth; all described glowing arcs in the sky, varying from 20° to 60° ; a few points of light excepted, which described scarcely 3° or 4° .

“ Their decided and long courses, all seeking the horizon directly, and their persistent trains of the light, which looked like meridians on a globe, strongly and unmistakably pointed to a spot in the head of *Leo major*, then some degrees eastward of the zenith, as their radiating point.

“ The meteors did not actually start into view at one point ; many commenced their courses about 30° or 40° from the supposed point of divergence, seeking the different points of the horizon, while the upper portions of their trains pointed to the same spot in the sky. These were generally large and bright, and illumined the trees and walls like a flash of lightning from a thunder cloud near the horizon ; others, comparatively small, darted or first shewed themselves only a few degrees from the radiating centre, sometimes three at once, leaving their trains for leisurely tracing backwards ; those with long trains and long courses, generally burst or blazed out about 20° or 30° from the horizon ; some within 20° of it. No sound of any kind was heard : the light of these meteors, when they blazed out, was reddish : the trains left behind were generally broad, spreading about half a degree, glowing at first like the fresh mark of phosphorus on a wall, then quickly becoming pale like the tail of a comet, or like the mingling of muriatic acid gas and ammonia, and lasting from half a minute to one minute and a half.

“ One took me quite by surprise ; it blazed out like a star of the 2nd or 3rd magnitude between μ and ϵ of *Leo major*, as bright as ϵ but not of the same silveryness or intensity, and gradually faded away in the same spot, without any visible *linear course* whatever : it suggested the idea of a meteor coming straight to the eye.

“ I looked out again at 6 A. M. before the sun rose, and saw a streak of white light, like a Rupert's drop with a long thread behind, shoot down from the direction of *Leo major*, to *Capella Alajoth* in the north west, the only star then visible. It appeared to be close at hand, and looked exactly like those of 1833, with the exception of the long thread. About three or four of the meteors enumerated above did not shoot from the diverging point : if they belonged to the same set, they must have been drawn out of their course.

“ After as careful a survey as the circumstances would permit, I have no doubt that the centre of radiation was somewhere between the two stars in the head of *Leo major*, viz. ϵ and μ ; and probably at the precise spot where a meteor appeared and disappeared. I saw one meteor start a few degrees north of μ , (scarcely 3° ,) to a point between north and north-east, and its course, traced backwards, passed straight over μ and ϵ ; and the clear impression of the moment on my mind

was, that a line darted from ϵ across μ and onward, the line becoming a meteor some distance farther on. Again, the set of three or four which I have called α above, shot south-eastward, leaving *Regulus* a little to the east: starting nearly on a parallel with *Regulus*, their pale traces, left in the sky, converged unmistakably up to ϵ and μ , one trace proceeding a little more north than the other: and the meteor noticed above which blazed out between these two stars appears to reveal the true point of divergence: Some point near γ *Leonis* was the diverging point in 1833; if other observers confirm my statement, some step, I imagine, will be gained towards the determination of the orbit of the November shoal.

“On the supposition that the meteors are not self-luminous, but become visible after contact with our atmosphere, it would appear that the atmosphere was unpierced by any meteors, (two excepted,) to a distance of about 10° at most, all round ϵ .

“The apex of the Zodiacal light appeared to be some degrees south of both of ϵ and γ *Leonis*.”

21st November, 1866.

“As a sequel to my letter of the 21st ultimo regarding the November meteors, I beg to forward the following particulars. The 27th to the 29th November, and 7th to 12th December, are dates of observation for meteors of a similar kind; but diverging meteors were not seen again or detected till $2\frac{1}{2}$ A. M. of the 12th December; they might have come on at an earlier hour of that date, and they appear to have passed off by 3 A. M.

“They shot divergingly and with great rapidity, not from a point near γ or ϵ *Leonis*, but some point to the westward of these, between ζ in the muzzle of *Leo Major* and the small stars in the foot of the *Lynx* and the tip of its tail; some point about 29° or 30° of north Declination, and 136° of Right Ascension. They darted out at the rate of about three per minute; were small, described short and thin arcs of light, and left no traces: hence it was difficult to fix with any degree of precision upon the exact point of divergence. Some showed themselves only as moderate blazes or bursts of light about 40° or 50° from this point, without any visible arc of light or course. A bright meteor with a long train shot across the area of divergence from nearly due south to north, or from *Alphard* in *Hydra* to θ in *Ursa Major*.

“This display of meteors had nothing brilliant or exciting in it : but notwithstanding its tameness, I think it should be recorded.”

A letter from Dr. Duka presenting a specimen of a meteorite was read.

“The piece of stone which I have the honor of presenting to the Society, is a fragment of a large meteorite that fell near Knyahinya in the neighbourhood of Nagy-Berezna in the county of Ungvár in the north-east of Hungary, near the border of Galicia.

“The phenomenon occurred on the 9th of June last, and according to the statement of Professor Hirsch, communicated by him to Dr. Haidinger of Vienna, the fragments were very numerous, as many as sixty pieces being in the possession of different parties.

“It appears from all I could gather in the country, that on the afternoon of the above-mentioned day, between 4 and 5 o'clock, an enormous detonation took place, which could be compared to a simultaneous discharge of one hundred pieces of artillery. High on the horizon a small cloud was visible, about ten times the size of the sun ; otherwise the heaven was perfectly clear. Upon the detonation, the cloud dispersed in a radiating manner, and in the vacuity no flash was visible. Two or three seconds after the discharge a noise was heard, which seemed to be caused as if waters or rocks were dashing one against another, and this lasted for nearly fifteen seconds ; and at last, with all traces of the cloud, entirely subsided. The labourers working in the fields near the spot, state that, for full half an hour afterwards, a smell of sulphur surrounded them.

“All the fragments were collected within the circumference of about 1,200 yards : they vary in weight from a few ounces to large masses, one of which weighs 27 pounds. A Jewish publican who was quite close, took up a fragment immediately on its falling down, and declares that it was cold like ice, but that his hands smelled of sulphur or garlic for two days subsequently.

“The phenomenon was seen in all directions of the compass, but at a distance, it appeared, instead of a mere cloud, like a ball of fire ; and the furthest distance from which it was reported to have been noticed, is about 80 English miles.

“As this phenomenon occurred about the time when the late disastrous Austrian campaign was about to commence, it excited more than

ordinary interest throughout Austria, and I doubt not but that a full account of it will in due time be published by some of the Scientific Societies in the Empire.

“My specimen is 1 lb 4 ozs. 72 grs. in weight and 8 to 9½ inches in circumference : it is I believe of a structure and composition similar to the Aerolite which fell near Parnallee in February 1857.”

Lieutenant W. J. Williamson, and G. A. D. Anley, Esq., duly proposed at the last meeting, were balloted for and elected as ordinary members.

The following gentlemen were named for ballot as ordinary members at the February meeting.

Colonel J. C. Brooke ; proposed by Dr. J. Anderson, seconded by Dr. J. Ewart.

Lieutenant-Colonel Blair Reid, Governor-General's Agent at Chumla ; proposed by Dr. J. Anderson, seconded by Mr. Grote.

E. V. Westmacott, Esq., C. S., B. A., Assistant Commissioner, Manbhoom ; proposed by Dr. J. Anderson, seconded by Mr. H. F. Blanford.

Alfred Woodley Croft, Esq., Professor, Presidency College ; proposed by J. B. Branson, Esq., seconded by Mr. H. F. Blanford.

John Anderson Paul, Esq., Exchange Hall ; proposed by J. H. Branson, Esq., seconded by Mr. H. F. Blanford.

Letters from Dr. R. Bird and Lt. H. Trotter, intimating their desire to withdraw from the Society were recorded.

An Ethnological Report of the Government of the Straits Settlement was submitted.

In connection with the proposed Ethnographic Congress, Dr. Cleg-horn exhibited five photographs by Messrs. Bourne and Shepherd, illustrating the aborigines of the Himalaya and adjacent countries, who occasionally find their way to Simla. The *Kanait*s of the Hill States and the *Guddees* of Kangra were represented in their proper costume. The most interesting group contained the figures of a Lama from Lhasa and a North Tibetan from Zauskar, rarely seen at that sanatorium.

The receipt of the following communications was announced—

1. From Baboo Gopee Nath Sen, Abstract of Hourly Meteorological Observations made at the Surveyor General's Office in September last.

2. From H. Blochmann, Esq., M. A.

“Notes on Sherajuddaulah and the town of Moorsshedabad, taken from a Persian manuscript of the *Tarikhi-i-Mansuri*.”

3. From F. S. Growse, Esq., M. A. Oxon B. C. S.

“Philological Notes.”

4. From Professor E. Von Schlagintweit.

“Notes in reference to the question of the origin of the aboriginal tribes of India.”

5. From J. Beames, Esq., C. S.

“Further Notes on the derivation of ‘Om and Amen.’”

LIBRARY.

The following are the additions made to the Library since the meeting held in September last.

Presentations.

**** The names of Donors in Capitals.*

Die Fossilen Mollusken des Tertiär-Beckens von Wien, by Dr. M. Böernes (Band. II. Nos. 5 and 6. Bivalve).—THE AUTHOR.

Proceedings of the Delhi Society (in Persian).—THE SOCIETY.

A Treatise on Cultivation (in Persian).—THE DELHI SCIENTIFIC SOCIETY.

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PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR FEBRUARY, 1867.



The monthly meeting was held on Wednesday the 6th February, 1867, at 9 P. M.

Dr. J. Fayrer, President, in the chair.

The minutes of the last meeting were read and confirmed.

The following presentations were announced.

From Lieutenant-Colonel B. Ford, Superintendent, Port Blair ; a box of mineral specimens.

2. From H. B. Webster, Esq., Officiating Collector, Bulandshuhar ; a copper plate inscription found in a ruined Gurbee situated in Mouzah Manpore, Pergunnah Agowtha.

Mr. Blanford, on the part of the Rev. Mr. Henderson, exhibited a specimen of printing in a new kind of Arabic type, the invention of the Rev. M. Jules Ferette.

With reference to the type, Mr Blochmann said ;—

“ The Arabic print, which Mr. Blanford has kindly exhibited, is very interesting, as it is a specimen of a simple but very elegant invention. To print Arabic texts with the vowel points is a matter of some difficulty, as the diacritical points are generally put up in separate rows above and below the text. Mr. Ferette of Damascus has succeeded in printing Arabic texts with the vowel points *in a single line*. This he accomplishes—

1. By omitting unnecessary points, as the *jazm* and the *wasl*.
2. By putting between every two consonants a small joining stroke.

3. By removing the vowel points a little to the left from their positions above or below the consonants, so as to come above or below the joining strokes.

“M. Ferette has now cast types containing both the joining strokes and the vowel points. The joining strokes are of course small, but would not look bad even if they were a little larger, and the removal of the points to the left is rather pleasing, as the consonants also incline to the left, in accordance with the rules of Arabic calligraphy.

“There is only one defect, which, I dare say, could be remedied; viz. in the connected form of the letters *jim*, *he* and *khe*, which in M. Ferette’s specimen consist each of 4 strokes instead of 3.

“With this exception, the general appearance of the types in question is very pleasing, whilst the decrease of the cost and the saving of labour appear to be so considerable, as to justify the belief that M. Ferette’s invention will soon be generally adopted.”

The Council reported that they have nominated the following gentlemen to serve in the several Committees in the ensuing year.

FINANCE.

Colonel J. E. Gastrell.
A. Mackenzie, Esq.
Dr. T. Oldham.

PHILOLOGY.

Major W. N. Lees.
A. Grote, Esq.
H. Blochmann, Esq.
E. C. Bayley, Esq.
The Rev. J. Long.
C. H. Tawney, Esq.
Baboo Jadava Krishna Sing.
Maulavi Abdul Latif Khan Bahadur,

LIBRARY.

A. Grote, Esq.
Major W. N. Lees.
Dr. T. Anderson.
Dr. T. Oldham.

Dr. D. B. Smith.
 W. S. Atkinson, Esq.
 Dr. F. Stoliczka.

NATURAL HISTORY.

Dr. T. Anderson.
 Dr. S. B. Partridge.
 Dr. D. B. Smith.
 Dr. F. Stoliczka.
 Dr. T. Oldham.
 W. S. Atkinson, Esq.
 W. Theobald Esq., Junior.
 A. Grote, Esq.
 Baboo Debendra Mullick.

METEOROLOGICAL AND PHYSICAL SCIENCE.

Dr. T. Oldham.
 Colonel J. E. Gastrell.
 Captain J. P. Basevi.
 Dr. S. B. Partridge.
 Lieutenant-Colonel J. T. Walker.
 D. Waldie, Esq.

COIN COMMITTEE.

Major W. N. Lees.
 A. Grote Esq.
 Captain F. W. Stubbs.
 E. C. Bayley, Esq.

COMMITTEE OF PAPERS.

All the members of the Council.

STATISTICAL COMMITTEE.

Dr. J. Ewart.
 C. B. Garrett, Esq.
 Lieutenant-Colonel J. T. Walker.
 The Hon'ble G. Campbell.

ETHNOLOGICAL COMMITTEE.

Linguistic Section.

Bábu Rájendralála Mitra.
 The Hon'ble G. Campbell.
 H. Blochmann, Esq.

Major W. N. Lees.

J. Beames, Esq.

Dr. J. Anderson.

H. Beverley, Esq., *Secretary.*

Physical Section.

A. Grote, Esq.

Dr. S. B. Partridge.

Dr. T. Oldham.

Dr. J. Ewart.

Dr. J. Fayerer.

H. F. Blanford, Esq.

Dr. John Anderson, *Secretary.*

Letters from the Hon'ble G. Loch and C. W. Hatten, Esq., intimating their desire to withdraw from the Society, were recorded.

The following gentlemen proposed at the last meeting were balloted for and elected as ordinary members.

Colonel J. C. Brooke.

E. V. Westmacott, Esq.,

Lieutenant-Colonel B. Reid.

A. W. Croft, Esq.

J. A. Paul, Esq.

The following gentlemen were named for ballot as ordinary members at the next meeting.

W. G. Willson, Esq., B. A., Cathedral Mission College; proposed by Mr. H. F. Blanford, seconded by the Rev. J. Barton.

G. E. Knox, Esq., B. C. S.; proposed by Mr. H. F. Blanford, seconded by the Rev. J. Barton.

The Hon'ble W. Markby; proposed by Mr. Grote, seconded by Mr. Blanford.

Bábu Peary Mohun Mookerjee, M. A.; proposed by Mr. Grote, seconded by Mr. Blanford.

Captain H. W. King, Commander P. and O. Service; proposed by Dr. J. Fayerer, seconded by Mr. Blanford.

F. Hill, Esq., Professor of Civil Engineering, Presidency College; proposed by Dr. Fayerer, seconded by Mr. Blanford.

Baboo Jogindro Mullick, Zemindar of Andul; proposed by Baboo Jadava Krishna Sing, seconded by Bábu Rájendralála Mitra.

The following letter from Mr. Thomas on the derivation of Arian Alphabets was read—

“I am glad to find that my notice of the derivation of Arian Alphabets attracted attention, and I am most curious to learn the course the discussion took at the meeting of the Asiatic Society of Bengal ; more especially as I am now following out the Indian section of the enquiry, and have arrived, already, at some unexpected results, tending to confirm the original *Dravidian* derivation of the *Sanskrit* Alphabet. The readers of our Journal will not fail to call to mind that Prinsep, in his early comments upon the Lât alphabet, pointed out that, in many instances, the *aspirate* letters were formed by a duplication of the lines of their corresponding *simple* letters. The question was not raised as to *when* these aspirates had been designed, but the inference was, that they had been formed simultaneously with the simple letters, and out of the same elements. I have a different theory to propose, which I submit for the examination and comments of your members ; it is to assume that all the simple letters were *Dravidian*, and constituted a complete and sufficient alphabet for that class of languages, while the aspirates were later additions required for the due expression of *Mâgadhî* and other northern dialects, as the *Sanskrit* in after times added its own sibilants to the latter alphabet. A glance at the subjoined comparative alphabets will shew the 20 consonants (out of the full 21) of the *Dravidian* system, as opposed to the 31 consonants of the *Prakrit* of Asoka’s edicts. Of the additional aspirates of the latter scheme, two only can in any way claim to be ordinary duplications ; the *chh*, and *ṭh* ; while a more simple origin might be sought for the latter in a common circle : *ḍh*, *ḍh* and *ph* may fairly be taken as intentional modifications of their corresponding normal letters, but *kh*, and *gh*, like *ṭh*, and *th* have more in common as fellow aspirates than association with their own leading consonants ; and finally *jh* and *bh* seem to have been unfettered adaptations. The *s* (𑀓) again differs from the *y* (𑀚) only in the reversal of the leading lower limb. As the alphabetical data, upon which alone we have now to rely, are derived from inscriptions embodying a different language, and dating so late as B. C. 250, we can scarcely expect to recover the missing *Dravidian* consonants, but one at least of the vowel tests is significant in the extreme. The *Dravidian* vowels, as contrasted with the *Sanskrit* series by Caldwell, arrange themselves as follows :

Sanskrit, a, ā, i, ī, u, ū, ṛī, ṛī, ṛī, —, ē, ai, —, o, au, ṇ, ah.

Tamil, a, ā, i, ī, u, ū, —, —, —, e, ē, eī, o, ō, —, —, —.

“ The value of the simple *e*, in the Lât character, admits of no doubt, the outline of the letter takes the form of \triangleright , while the elongated vowel is constructed by a duplication of the sound, effected by the addition of a medial *e*, thus $\negtriangleright = Ee$, apparently the original Dravidian \bar{e} , (or possibly $e\bar{i}$), but which, in Asoka’s inscriptions, is made to do duty for $a\bar{i}$. In the more distinctly Sanskrit adaptations of the Devanagari Bactrian alphabet, the initial Λ [η] formed the basis of all the other vowels, whose varying values were discriminated by their several vowel marks.

“ I am unwilling to enlarge upon an avowedly speculative suggestion, but I think few will fail to detect the contrast between the archaic crudeness of the simple letters and the more complicated and cursive forms of the aspirates in the Lât alphabet. Had the latter class of characters uniformly followed the typical design of their corresponding simple letters, there would have been more reason to have assumed a simultaneous and congruous initiation ; but the introduction of anomalous signs among the *gutturals*, the remarkable cursive development assigned to the aspirates, as opposed to the stiff outline of its simple prototype (an advance equal in degree, but less obviously marked in the *dh*, and *dh*,) and the inconsistent development of the *bh*, upon the basis of the old \bar{d} , all seem to indicate a later and independent elaboration of the aspirates.

	Prakrit.					Dravidian.				
Conso- nants	†	”	^	”	⌈	†	᳚	^	᳛	⌈
	d	”	ε	”	᳚	d	᳛	ε	᳛	□
	ç	”	ʃ	”	⌈	ç	○	ʃ	᳛	⌈
	λ	”	᳚	”	⌈	λ	○	᳚	D	⌈
	᳚	”	᳚	”	᳚	᳚	᳚	᳚	᳚	᳚
	᳚		᳚	᳚	”	᳚		᳚	᳚	᳚
	᳚					᳚				
Vowels	᳚	∴	L	D		᳚	∴	L	D	
						Medials, $k\acute{a}$ †, $k\bar{i}$ †, $k\acute{i}$ †, $k\bar{u}$ † $k\bar{e}$ †.				

Sanskrit additions to the Lât alphabet. $\cap = \text{म}$, $\text{᳚} = \text{व}$.”

Bábu Rájendralála Mitra said that it was with great diffidence that he ventured to make a few remarks on the letter read to the meeting. The prominent position held by Mr. Thomas as an oriental scholar; his thorough knowledge of the antiquities of this country, and the service he had already rendered to Indian history by his varied and learned researches, claimed for his opinions and theories the highest consideration. His conversancy with Oriental palæography was unrivalled, and anything said by him in regard to it, was sure to command the respect of all. Then again the arguments on which his new theory of the Dravidian origin of Sanscrit writing was based, had not yet been all given out, and, in their absence, it was impossible to discuss the subject in all its bearings without risk of serious mistakes. The few words that he had then to say, were intended, therefore, more to comply with Mr. Thomas's wish to provoke discussion, and to direct attention to such objections as suggest themselves at first sight, in order that truth may be ultimately elicited, than to rebut his theory.

The subject mooted by Mr. Thomas was of great importance, and since his first letter about it was read to the Society in July last, it had engaged the attention of many persons who take an interest in Oriental antiquities. Since the receipt of Mr. Thomas's last letter, he had himself jotted down a few notes, the substance of which he wished to bring to the notice of the meeting. These he would read as follow,—

“The general position laid down by Mr. Thomas is that ‘the Arians invented no alphabet of their own for their special form of human speech, but were, in all their migrations, indebted to the nationality amid which they settled for their instruction in the science of writing.’ He then instances the *Persian cuneiform*, the *Greek*, the *Latin*, the *Zend*, the *Pehlavi* and the *Devanágari*, as alphabets borrowed by the Arians. It is to the last that I wish to confine myself for the present, as it is to that I have, in my humble way, directed my study for some time.

“It has been said that if the Arians did not elsewhere originate an alphabet, it is not likely that they should do so in India, and that if they always borrowed elsewhere, it is to be presumed that they did so also in this country. But such a line of argument is neither logical nor fair. The Arian race migrated from their cradle at different

times under very different circumstances, and it is not to be supposed that their intellectual condition should remain alike at all times and under all circumstances. As far as we know, the Hellenic and the Teutonic Arians left their common home at a very early period, and the Indians the latest. There would be nothing inconsistent or illogical, therefore, in the supposition that the later colonists went forth in a more advanced social condition than their predecessors, having originated a system of alphabetic writing. But supposing, and most probably such was the case, that they came to India before they had discovered the art of writing, there is nothing to prevent a highly intellectual race from doing so in their adopted country. Indeed the stability of the major of Mr. Thomas is entirely dependent upon the issue of this minor; if it can be shewn that the Hindus did succeed in devising a system of alphabetic writing without borrowing from their neighbours, the general proposition must break down, and the enquiry therefore may, without fear of error, be confined to India.

“Now, in India the Arians came in contact with the Dravidian aborigines, and Mr. Thomas therefore supposes that they must have got their alphabet from those aborigines. But there is not a shadow of historical evidence to shew that those aborigines had a written literature at the time when the Arians came to this country, or for some time after it. Nobody has yet discovered a Dravidian book or inscription sufficiently old to justify such a presumption, nor is there a single tradition extant of there ever having existed a Dravidian literary composition, either sacred or profane, of a pre-Vedic era. The ancient history of the Dravidians, apart from the Arians, is a blank. All that we know of them is from the writings of the Bráhmans, and there we find them to have been the very reverse of a literary race. The races alluded to are the Coles, the Bheels and the Minahs of our day—the rude primitive people who inhabit our woods and wilds, and contend with the tiger of our jungles for a precarious existence. They might have been more civilized before: that some of them owned houses and fortified places, large herds, and stores of gold, is susceptible of proof: but the only source of information accessible to us of these prehistoric times are the Vedas, the oldest Arian records extant, and they describe them to have been, in the days

of the Brahminic Rishis, barbarians of the lowest type, and our poets confounded them with monkeys and satyrs—or wild men of the woods—who were not to be included in the pale of humanity. Some of the epithets used in the Vedas to indicate the aborigines are remarkable. The R̥ig Veda describes them as *M̥ridhravách* or “of imperfect speech.” Elsewhere they are said to be *Anása* or “mouthless” or “speechless.” Some R̥ishis condemned them as “priestless and hymnless, fit only to be slain.” In short, if any faith is to be put in the Vedic narratives regarding the social condition of the people of India in primitive times, we must accept the bulk of the aborigines to have been in a state of society in which leaves and bark supplied the place of clothing, the shade of trees served for boudoirs, and hollows and caverns occupied the place of bedrooms. And all this at a time when the Brahmins had lofty houses, fine clothing, gold ornaments, horses and cars, iron implements, divers arts, poets, astronomers and musicians, in short, everything indicating a tolerably advanced state of civilization. Admitting that they had not come to the art of writing, was it likely that their naked neighbours should have come to it? If we trace the growth and history of the Arian colonization in India, we are led to the conclusion that the Arians continued steadily to advance, and the Dravidians to recede and decay. The Arians gradually became the masters of the finest provinces, and the Dravidians partly betook themselves to jungles and mountain fastnesses, partly got incorporated with the intrusive population, and partly submitted to them as bond slaves, living out of the bounds of their cities and owning no property. This degradation, physical and moral, was not a state of things which would help the Dravidians to take the start of the Arians, and devise the means of recording literary composition, which the latter should fail to achieve. It may be said that the Arians reviled the aborigines from a lofty sense of their own superiority, and called them *asiknis* or “blackies,” very much in the same spirit in which the roughs among their own conquerors call them “niggers” in the present day, and that they were not the repositories of everything that is vile, as they are described to have been. But it is the very gist of the present enquiry to ascertain the relation of the two races in the scale of civilization, and it would be begging the question to say that the Dravidians originated the art of writing, and the Arians borrowed

it. It would be a mere statement without any reliable evidence to support it, no more than to support the theory that the Sanskrit grammar was elaborated at Taxila and not elsewhere in the Panjab, or even in Brahmavarta.

“Mr. Thomas assumes that the Brahminic Arians first constructed an alphabet in the Arianian provinces out of an archaic type of Phœnician, which they continued to use, until they discovered the superior fitness and capabilities of the local Pali. He states that he has been collecting proofs of this for some time past, and each fresh enquiry more and more confirms his early impression. It is a matter of regret that the published report of his lecture does not give any of his evidences, and I am at a loss, therefore, to know on what grounds he takes the Arian alphabet to have been elaborated in the Arianian provinces before the Brahmans came to India. That alphabet may be a Bactrian adaptation from the Phœnician, but the question is, when did the Brahmans first use it? The oldest Arian record is long subsequent to Buddhism; none that I know of dates before the Pali edicts of As’oka; and there is nothing to bridge over the gap of at least some thirteen hundred years between that time and the period when the Brahmans dwelt in Bactria.

“Then as to the Pali, it is evident that it existed in the country long before the time of As’oka. The different shapes under which the same letters of the Pali alphabet appear at Junaghur and Dhauri are marked and peculiar, and they cannot be accounted for by any candid enquirer, except on the supposition that long usage had brought on local peculiarities. The allusions to alphabetic writing in Pāṇini and other purely Indian pre-Buddhist authors point likewise to an Indian, and not to a Bactrian alphabet. Again, the oldest Sanskrit inscription that has yet been found is recorded in the Pali (the Junagarh inscription of As’oka) and not in the Arian letters; indeed no Sanskrit inscription has yet been met with in the Arian characters. The Pali, besides, is a vernacular form of the Sanskrit—the first stage in its transition to the Prakrit—and the alphabet used to write it down may more reasonably be taken to be its legitimate vehicle, and not that of the Dravidian, of which no inscription of any kind, either old or new, has yet been discovered in the Pali character. Indeed, I can see no connexion whatever between the Dravidian languages

and the Pali character. The name Pali is derived from the Sanskrit *páli* a house or *palli* a village, meaning a domestic or village dialect, that is the vernacular, which was not necessarily, nor even probably, Dravidian. But were we to leave all philological proofs aside, and admit the northern Indian vernacular of former days to have been Dravidian, still it must be borne in mind that that name has been recently given to it by Europeans, and therefore it cannot be used as an argument in favour of, or against, the question at issue. Prinsep called the character Lât; had he named it Sanskrit it would have obviated much unnecessary discussion. The giant, in short, is of our own creation, and we can destroy it in any way we like.

“As to the Bactrian, those characters flourished coterminously with the Pali for writing the vernacular in the trans-Indus Provinces, and that too at a time when those provinces were under Bactrian supremacy. It is very rarely met with in the chief seats of the Brahmins, and the natural inference would be, that political influence led to the use of a foreign alphabet in writing down a Sanskritic vernacular—a Sir Charles Trevelyan of the time enforcing a pet system of Bactrianism. The Roman letters are now being used for writing many Indian dialects. Until recently, many up-country Hindus wrote, and indeed even to this day write down their Hindi in Persian characters. I have seen more than one Hindi book printed in Arabic letters. Sheikh Sádi, the Persian moralist, wrote his rekhtá verses—that is Hindi—in Persian; and well may have Bactrian satraps got the Indian Vernacular of their time written in their own national characters. At any rate the use of the Bactrian to record the Pali edicts of A'soka in the Usafzai country, (and that is the oldest instance of the use of the Bactrian,) can in no way prove the antiquity of the Bactrian higher than that of the Pali, as the medium of writing down Sanskrit.

“One remarkable fact which proves the Brahminic origin of the Pali alphabet is its fullness. It contains a number of letters,—aspirates, sibilants and long vowels,—which no Tamilian language has ever had any occasion to use. Had the alphabet been designed by the Tamils, these would never have been devised. Mr. Thomas, in the letter just read, has accounted for them by supposing that the Dravidians had them not, and that the Brahmins added them to adapt the alphabet to

their use. Had such been the case, there would have been some trace in the formation of the letters to indicate their origin under different states of civilization. Such, however, is entirely wanting. The aspirated letters in the simplicity of their configuration differ in no respect from the surds and the sonants. The one set appears to have been produced by the same intellectual effort as the other, and the two are of character exactly alike. I admit that three out of the ten aspirates, viz. *chh*, *ṭh* and *ph* appear to be duplications or modifications of the surds *ch*, *ṭ* and *p*., but they constitute only one-fourth of the total of 12 aspirates, the rest of which are perfectly independent in design and shape. Mr. Thomas thinks the *bh* to be an inconsistent development upon the basis of the old *d*, but there is no reason to show why the aspirated sonant of the labial class should be formed on the model of the unaspirated sonant of the dental, instead of the same letter of its own class. I cannot therefore admit the argument to be of any value. Again the *s* is supposed to be an adaptation of the *y*, "produced by the reversal of its leading lower limb." But the question remains unanswered, why the *s* should be formed on the model of *y* to which it bears no phonetic resemblance whatsoever, instead of any other letter? The hypothesis in this case involves another difficulty; it assumes that the Sanskrit first coined only one *s* sound, leaving it to be inferred that the other two sibilants were introduced into the language a long time after, when we know for certain that the Sanskrit originally had three sibilants, two of which it lost in the Prakrits. As to the vowels, nothing can be more natural than that the long and the short sounds of the same kind should be indicated by slight modifications of the same figure. I cannot conceive that, to account for them, it is necessary to assume their origin at different times under the influence of different nationalities. Those who can devise a system of alphabetic writing may safely be presumed to have sufficient intelligence to make the same letter do duty for both a long and a short sound by a slight modification.

"One other argument in favour of the Tamilian origin of the Sanscrit alphabet I have now to notice: it is the use of what are called cerebral or lingual letters. It has been said that the Arians never used cerebral letters; we find them not in the Zend, the Greek, the Latin, and the Teutonic; ergo they should not be found in the Sanscrit; but since

they are, they must have been taken from the Tamilians. But the major premise in this argument is not tenable. The cerebral letters used in the Sanscrit are *r*, *r*, *sh*, *ṭ*, *ṭh*, *ḍ*, *ḍh*, and *ṇ*. Of these, *r* and *sh* are common to all the Arian languages, and that is enough to shew that the general premise is founded on a mistake, and the deduction from it consequently cannot be accepted as true. It is possible some may tell me that by cerebrals Messrs. Caldwell, Norris and Thomas allude to *ṭ* *ṭh* *ḍ* *ḍh* and *ṇ*, and not to all the letters of that class. This shifting of the ground would scarcely be fair in argument, but accepting the premises on this narrow basis, I think there is not proof sufficient to support it. We know not whether the old fire-worshippers pronounced their *t* as *ṭ* and not *ṭ*, nor do we know the sound that letter had among the Greeks and Romans, for the Greek as pronounced now is not the Greek that was, and were old Homer to appear among the dons of Oxford or Cambridge, he would be almost as unintelligible to the Porsons of our day, as he would be to the people of this country. Leaving the Zend, the Greek and the Latin as uncertain, if we turn to the Teutonic and the Slavonic, we find the cerebral consonants by no means unknown. The Low German along the shore of the Baltic has them, and they are dominant in the Scandinavian, the Russian and the Lithuanian. In the English the *ṭ* is unknown, and, notwithstanding the dictum of grammarians that the English *t* was a dental, it is rarely that an Englishman can pronounce the sound of *ṭ*. With him *ṭ* is the only letter known, and he uses it both for *ṭ* and *ṭ*. Mr. Norris in his paper on the "Scythic Tablets" of Behistun, accounts for the presence of *ṭ* (*ṭ*) in the Scandinavian and the Icelandic, by supposing it to have been borrowed from the Lapp—a Tartar language; but I imagine he will not try to assign to the same cause the origin of the English *t*. Were he to do so, he would have to prove, in the first place, that nations can borrow sounds, and secondly, that the Anglo-Saxons really did so. It is well known that physical and social causes may lead to the loss of certain sounds in a language. The Brahminic Arian originally had a guttural *g*, which the enervating influence of India soon softened down to the modern *ḡ*. In our own day, the Persians and Moghals in Bengal lose the guttural *g* in the course of a single generation. Aspirates and compound consonants are being constantly

softened down through the agency of that and like causes, and often without any apparent cause whatever. Indeed this tendency in languages to soften and wear out and arrange themselves in new forms, is the chief agency in the formation of new dialects, and with its aid we can easily account for the absence of particular letters in particular languages. But there is no proof, on the other hand, to show that nations can borrow sounds. Professor Bühler of Poonah, in a learned paper on the "Sanskrit Linguals," published in the Journal of the Madras Asiatic Society, justly observes :

“ ‘ Regarding the borrowing of sounds, it may suffice for the present to remark that it never has been shown to occur in the languages which were influenced by others in historical times, such as English, Spanish, and the other Romance languages, Persian, &c. Let us consider the case of the English. Though half of its words have been imported by the Norman race, though most of the old Saxon inflections have perished in the struggle between the languages of the conqueror and the conquered, though in some instances even Norman affixes have entered the organism of the original language, the quietism of the Saxon organs of speech has opposed a passive and successful resistance to the introduction of foreign sounds. The English has received neither the clear French ‘ a,’ nor its ‘ u,’ nor its peculiar nasals. On the contrary it has well preserved its broad, impure vowels and diphthongs, and it is now as difficult for the Englishman to pronounce the French ‘ a,’ or ‘ u,’ as it was for his Saxon ancestors eight hundred years ago. But we find still stronger evidence against the loan-theory in the well-known fact, that nations which, like the Jews, the Parsees, the Slavonic tribes of Germany, the Irish, etc., have lost their mother-tongues, are, as nations, unable to adopt, with the words and grammatical laws, also the pronunciation of the foreign language. They adapt its sounds to their own phonetic system, and their peculiarities are recognisable even after the lapse of centuries.’

“ In this country the Afghans, the Persians and the Moghals have failed, in seven hundred years, to acquire the peculiarities of the Indian vernacular sounds, and the Hindus, in a like period, have equally failed to utter the Persian ع and ق. Other instances may be adduced *ad libitum*, but they are, I believe, not necessary. The point at issue is to show that sounds have been borrowed, and not to prove the negative. I shall

leave the subject, therefore, to those who advocate the loan-theory under notice. I may observe, however, that even if it be possible to prove its possibility, it will make but small progress in supporting the conjecture that the Eastern Arians never had any cerebral letter in their language. The Sanskrit has for its basis between 18 and 19 hundred verbal roots, which, by an ingenious series of inflections, agglutinations, affixes and suffixes, produce the entire vocabulary of the language. Now out of these 1800, 335 roots have the contested cerebral letters; 182 of which have the consonants exclusive of r, 116 end in sh, and 37 in ři, or ří. If the loan-theory were admitted, it will have to be proved that the Brahmins, though conquerors and the more civilized of the two, had to borrow one-fifth of their verbal roots from the despised aborigines, and that too at a time when the Rîg Veda hymns were first sung by the ancient Rîshis. This is a feat which, in the present state of philology, will not be easy of accomplishment."

Mr. Bayley said, that he could not but regret that the whole of the evidence on which the theory of Mr. Thomas was based, was not before the Society. It was of course impossible fully to judge of the merits of that theory until this was the case. Mr. Thomas's propositions were in fact two in number;—1st, that the Aryan race generally, and the Indian branch of it in particular, borrowed and did not invent their alphabets; and secondly, that the particular Indian alphabet, of which the earliest form was that known popularly as the "Lath" character, was borrowed from the Dravidian races which were in occupation of India or part of it, before the advent of the Brahmins. Now he thought, that at least the grounds on which the first proposition was based, were to some extent apparent. It was not, as Baboo Rajendra Lal seemed to suppose, based solely on the argument that the Aryan race having clearly borrowed alphabets in some cases, were necessarily to be considered incapable of originating one for themselves. Rajendra Lal indeed did not deny that the Aryans had borrowed alphabets from the natives whose countries they overran, and one undeniable instance of this action on their part, was their adoption of the arrow-headed character.

As Mr. Bayley understood Mr. Thomas's assumption, however, it was at least based on better ground than Baboo Rajendra Lal imagined :

When a nation already sufficiently organized and powerful to overrun its neighbours, starts on a career of conquest, and, having as yet no alphabet of its own, occupies countries where an alphabet is already established, it was *a priori* improbable that it should take the trouble of inventing one of its own. Of course, it did not follow, as Rajendra Lal pointed out, that because the earlier Aryan hordes possessed no alphabet of their own invention, that this was necessarily the case also with later hordes, issuing from the same stock and the same "nidus," but there was a strong antecedent improbability that a race which certainly at a comparatively late period of the world's history possessed no alphabet, and was then surrounded by neighbours who did, neighbours with whom, by conquest, some sort of intercourse must have been established,—should nevertheless invent rather than adopt an alphabet. Ceasing, however, to argue from pure probabilities, there was, Mr. Bayley thought, some external evidence for concluding that the Lath alphabet was *not* an Aryan invention, but adopted.

It was not the *only* alphabet used by the Aryan race in India: at the earliest date which could be assigned probably to any Lath inscription, there was another character which Mr. Bayley would call the Bactro-Pali, equally well established in Northern India, and employed to express what might be called identically the same language.

In Northern India, including Cabul, it might be said that this alphabet reigned supreme; south of the Jumna on the other hand was the region of the Lath character and its branches. Intermediately between say the Jumna and the Jhelum was a tract of debateable ground, in which however, at the early date above mentioned, the Bactro-Pali certainly predominated on one inscription; and many coins belonging to this tract are however certainly bi-literal, expressing absolutely the same words in both characters.

If it be supposed that a later emigration of the Aryan race, leaving its cradle after the invention of the Lath character, carried it with them to Central and Southern India, one or other of the following two several suppositions must necessarily be accepted; neither of which seemed at all probable in itself or supported by any evidence.

If, for example, it be supposed that the whole of the Indian Aryan branch quitted its original resting-place together, then it must be supposed that one portion abandoned its native alphabet and adopted

one that it found existing, or that, discarding its own alphabet, it arbitrarily invented one totally different, while the rest of the horde, pressing on southwards, retained and cherished their own.

If, on the other hand, the two branches be looked upon as two separate emigrations, one before and one after the supposed invention of the Aryan Alphabet, then we are to suppose that, passing through countries settled by their own race, speaking their own tongue but using an adopted alphabet, the southern branch of the Aryans yet carried to their own remoter settlement, and preserved there, their newly invented character. Improbable as this latter supposition was, it was rendered still more so by the fact that the two alphabets gave expression to identically the same language; and it was not likely that a second emigration, coming forth from its parent root after the lapse of time necessary to perfect the invention and use of an alphabet, and after the great social change effected by the conversion of a spoken into a written alphabet, should carry with it identically the same language as the earlier emigration.

There remained another possible supposition, which had not been noticed by Rajendra Lal, *viz.*, that one or both of the two alphabets were invented by the Aryan race after they reached India. But in the first place, it is impossible to believe that the same people setting about to invent an alphabet, should have invented two totally different, or that if one was borrowed from existing sources, they should set about to invent another while one was existent and ready to hand.

Lastly, as a matter of fact, the Bactro-Pali at least was pretty clearly borrowed: it was closely allied to,—in some forms and in its modes of numeration, almost identical with,—certain Semitic forms of writing of very great antiquity, which were once in use on the shores and in the islands of the Mediterranean.

Practically, therefore, there was located in India an Aryan race, using a language which is in fact common to all its tribes, a fact which may be accepted as showing that they entered India at dates not very remote, or under very different circumstances. Of this branch the Northern portion, when settled on the road which the rest of the tribes must have traversed on their way towards Central and Southern India, used a borrowed character; and the most probable inference seems to be that the character used by the other is

borrowed also: that, in fact, both adopted the indigenous character which was found already existing in that portion of India in which they settled.

This inference was further strengthened by the fact that both these alphabets, at the earliest date to which we can ascribe their use with any certainty, were not wholly fitted to express all the sounds of the Aryan language which they embodied, and that, in fact, at later dates, we find both characters modified into a more convenient form. Mr. Bayley meant to allude especially to the use of reduplicate and compound letters, which are sparingly and awkwardly combined in the earlier inscriptions, while in later inscriptions (and this is peculiarly the case with the Bactro-Pali) new compounds, nay, it may be said, almost wholly new symbols are gradually introduced. Although therefore the Society had not Mr. Thomas's evidence before it, it seemed at least probable that he was correct, to the extent of assuming that there is no evidence that the Aryan race ever invented an alphabet; but that on the other hand it is certain that they borrowed the alphabets of other nations on more than one occasion, and there is strong presumption that their Indian branch borrowed the Lath character.

But from whom did they borrow it? It was very unfortunate that there was not any portion of Mr. Thomas's case before the Society on this point, nor did the Society know upon what proofs he bases his presumption that the "Lath Alphabet was of Dravidian origin."

On the other hand, the Society are obliged to Baboo Rajendra for the, no doubt, very strong grounds which he had stated for believing that the Dravidian races had no alphabet; nor could Mr. Bayley, so far as his experience went, find any evidence in contradiction of it. Remains presumably belonging to pre-Aryan races were occasionally discovered, but so far as Mr. Bayley was aware, no sort of inscription existed among these. Again, in Southern India, Mr. Walter Elliot reported that, at a comparatively late date, one branch of the Dravidian race maintained itself in independence, and possessed a considerable share of importance, power and wealth. Coins even were attributed to this tribe, but apparently nothing written or inscribed had survived them. Nor, so far as Mr. Bayley was aware, did any purely indigenous Dravidian literature exist; any thing at least of a nature inconsistent with the idea of its being handed down by oral tradition.

So far therefore as the case stood before the Society—it seemed as if, while there was a strong presumption, at least, that the “Lath” character was borrowed by the Aryans and not invented, it seemed at least doubtful if it had a Dravidian origin, and its invention was still obscure.

Mr. Bayley would, however, venture on a guess at a source, from which there was some possibility perhaps that this character had been derived; but, in doing so, he did not venture either to put forth the suggestion with any confidence, nor was it one to the authorship of which he could lay claim. The subject had been touched upon both by the late Sir Henry Elliot and by General Cunningham, and the latter indeed had, he believed, investigated it to some extent, and might possibly give the result of his enquiries to the world.

The great Sanserit Epic spoke of a race of “Snakes” at enmity with the Aryan race, and indeed allusions to them occur repeatedly elsewhere both in the books and the traditions of the Hindus. Who these Snakes might be, was not the present question; it had been attempted to identify them as Scythian, and for present purposes Scythian was as good a name by which to indicate them, as any other.

Now it was curious that the most Archaic form of the Lath character (as had been pointed out by General Cunningham,) was found on certain coins which bore the emblems and the names known to have belonged to this Snake race. Taking this hint, Mr. Bayley would venture to throw out a few others. The Snake race was not confined to India alone: on the contrary, traces were found of it almost everywhere in the Western part of Asia and in Eastern Europe. The well-known story of Zohak had been supposed to indicate the conquest of Persia, of “Iran” proper, by this Snake race or some wave of it. The subject was a wide one and open to infinite inquiry and research. But the points which were more immediately of interest related to the presence of this race on the northern shores of the Euxine and in the upper parts of Greece. Herodotus, it might be remembered, spoke of the Cimmerians as displaced from mere pressure, on the upper part of the Euxine, by an irruption of Scyths, the offspring of Hercules and a woman half a snake. Again the *Neuroi*, a tribe allied to the Scythian, were, a generation before Darius, similarly driven away from their original site by Snakes, partly coming from the North, partly bred among themselves; and it was curious that Kadmus, the

traditionary inventor or introducer of the Greek alphabet, was also a slayer of the serpent, that is, was at least in hostile contact with the serpent race; and perhaps the singular legend of the sowing of the serpent's teeth may be explained as an example of a custom, probably of remote antiquity, but of which familiar modern instances were to be found in the institutions of the Janissaries and Mamelukes—the custom, that is, of forming military bodies of male children captured from the enemy in war.

There was on this occasion no time to follow out this subject, nor did Mr. Bayley consider himself justified in anticipating the results of General Cunningham's researches; but he believed that it was probable that these would show a strong similarity, not merely in names, but in customs and religion, as existing in these regions which the western Snakes appear to have trod, with the traces of the same nature which they have left behind in India. And as regarded the Grecian alphabet, without entering into the arguments which had been assigned in support of its Phœnician origin, Mr. Bayley would only remind the Society of the strong impression which the resemblance between the Greek and the Lath alphabet made on the minds of the first decipherer of the latter, the late James Prinsep; and at any rate it was curious that in Greece, as in India, the long vowels and especially the double letters seem to have been added to facilitate the proper expression of Aryan sounds, proving that it was, at least in its first stage, not fully adopted to the requirements of an Aryan language, and was therefore evidently not originally invented to meet these, but was probably borrowed.

Mr. Campbell said that he had supposed Mr. Bayley to speak of the Snake races as distinguished from the early Aryans, in a way which might lead to the supposition that those Snake races were not Aryans. Now the term was chiefly applicable to the Rajpoots and Jats and cognate tribes, and he thought no one could see these peoples and doubt for an instant that they are Aryans of the very highest type. At the same time, these people have not generally had very literary tendencies, and it might be questionable whether they invented an original alphabet. The whole question, however, of the first invention of the alphabet used in India, seemed to him to merge in a much better one, not yet solved, viz. what were the first religious civilizations

in India. If it were the fact, that the early Aryans, with their beliefs in gods descending from above, and in the firm existence of a golden age and a higher state from which man descended, were met by another faith already established in India, by a school holding the doctrine of the progression of races from below upwards, and from which both the Sivite and the Buddhist forms have sprung, then it may be that the earliest Phonetic alphabet was in the possession of this latter school. That the aboriginal Dravidian savages should have invented either the religion or the alphabet, seemed to him to be out of the question. They must have come from some foreign source. The question remained, what was that source?

Mr. Bayley explained that he had used the terms "Scythian" and "Aryan" merely as concise forms of expression, and without any intention of assigning an ethnologic character to the Snakes.

Bábu Rájendralála Mitra was glad to find that Mr. Bayley concurred in the main with what he had said in regard to that part of the question to which he had confined his attention. He was well aware of more than one alphabet having been current in different parts of India, in writing down one language, in the time of Ásoka and for some centuries after it, but it did not at all serve to throw any light on the question at issue, viz. the source whence the Arians first got their alphabet. The researches of the learned Dr. Goldstücker had clearly established that Páñini lived many centuries before the age of Ás'oka, and at his time the art of writing was well known. The root *likh* "to write" (*aksharavinyás'e*) in his *Dhátupátha* was conclusive on the subject, and the question therefore was, what was the alphabet that great grammarian and his predecessors used? was it the Bactrian, or the Pali, or any other which has been replaced by the latter? There were not data sufficient to give a positive answer to this; but he felt no hesitation in giving a negative one, as regards the Bactrian. All northern languages, or rather those of cold regions, are noted for gutturals, aspirates, troublesome combinations of consonants, and distinctions of long and short vowels, which Byron well describes as the

" ——— harsh, grunting guttural,

Which we have to hiss, spit and sputter all."

These, when transferred to hot countries, soon lose their sharpness and become soft and sweet. The history of the Sanskrit language

proves this most incontestably : the sharpness and harshness and the peculiar distinctions and combination of sounds of the Vedic dialect are nowhere to be met with in the Sanskrit of the time of Buddha, and the Sanskrit of Buddha's time was not what it became in the time of Kálidása. It underwent many changes, and most of those changes were dictated by a desire to rub off the asperities of the Vedic language for the sake of euphony.

Now, *a priori*, it would be expected that an alphabet designed for the earlier Sanskrit, or the language as current in the Arianian provinces, would be richer in letters than in one got up in the time of Buddha, for a great deal more stress was laid on minor distinctions of pronunciation in the pre-Vedic and the Vedic, than in later ages ; and when the first idea of alphabetic writing is once formed, no nation can be believed to be so slow as not to be able to design a sufficient number of letters to meet all their requirements. The Bactrian is avowedly not so full. Its vowels are few and imperfect, and consonants deficient ; and it could not therefore have been originally used for a language most remarkable for its long and short vowels, to which it attached so much importance.

Again, it was unknown in the history of language, that a nation, themselves conquerors, voluntarily gave up an alphabet with which their religion was most intimately associated for many centuries, and adopted an alphabet from a conquered people, because of "its superior fitness." No amount of superiority can have any influence in such cases. But he knew not what the superiority was in the case of the Pali. It was not one of easy writing, for the flowing Bactrian has, in that respect, great advantages over the angular Pali ; nor of fulness, for it is avowed that it had no aspirates at all, before the Brahmins adopted it. But were it otherwise, still he doubted if such adoption were possible, after a language had been associated with a particular form of writing for a long time. The English vocalic system was imperfect in many respects, and some of its letters were obliged to do duty for half a dozen sounds, and yet it was not to be for a moment supposed that it would ever be replaced by the most perfect system of writing that is current in the world, the Sanskrit. Besides the Sanskrit was a dead language in the time of Asoka, and had been replaced by the Pali which dropped the aspirates and some of

the sibilants, and rejected the distinctions of long and short vowels; and that, or a little before that, was not the time when the Brahmins would forsake their ancient alphabet for a foreign one, for the sake of its superior and more perfect system of vowels and aspirates.

Mr. Campbell read a letter from Col. Phayre, Chief Commissioner of British Burmah, inclosing a list of words of the Mon or Talain language of Pegu and Tenasserim, prepared by the very best scholar of that language, the Rev. Mr. Haswell, in accordance with the list of test words sent to Col. Phayre; also promising a similar specimen of the Andamanese language. Col. Phayre added, "The study of the tribes in the hills of Burmah is one of vast interest to the Philologist, to the Ethnologist, and to the Missionary; they may be said to be unknown, at least the majority of them."

Mr. Campbell then said that although he could not pretend to have critically studied the list of Mon words which he had only just received, he could not resist the earliest opportunity of stating that at the very first glance, the first few words in the list seemed at once to establish, he might say beyond the possibility of doubt, a radical connection between the Mon or Talain people and the Sontals and similar tribes to the west of Bengal, whom he had designated as Kolarians. He had recently published a short comparative list of aboriginal words, and Mr. Man had appended to his Sontalia and the Sontals the same model list of test words which had been translated by Mr. Haswell. On comparing these lists, the first four numerals and the first four simple nouns (put first as of the most radical test character) were found to be in fact plainly identical; the only difference, where there is a difference, being of a uniform character, viz. that the shorter vowels of the Sontal words are changed into a broader *o*, *oo*, *oa*, or *au*, thus—

	<i>Sontali.</i>	<i>Mon.</i>
One	mi or mia	mooä
Two	barea	bä
Three	pea or pia	pee or pi
Four	ponea	paun
Hand	ti or tihi	toa
Foot	jang	chang

	<i>Sontali.</i>	<i>Mon.</i>
Nose	mu	moo
Eye	me or met	mote
The next higher numerals are.		
Five	monayia	m'some
Six	turui	trow

Five might be doubtful ; the sixth seemed to be identical. Above six, the higher numerals seem to be all different. So, going on with the list of nouns, although a resemblance might be traced here and there, it was not easily seen ; and in fact most of the higher class words were different. He found a resemblance in the pronouns thus—

I	aing	oa
Thou.	amg	m'na
He	uni	nya

Indeed Mr. Logan in his valuable paper had already recognised a connection in the form of the pronouns.

At first sight it appeared as if the Mon had lost the refined grammatical forms of the Sontals, and had lapsed into a Chinese-like simplicity of grammar, but the whole subject required much study. He found that Col. Dalton also held the opinion that some of the darker tribes of the extreme East of India have probably an affinity to the aboriginal races of Central India. Altogether the study of the eastern tribes, and their connection with those of the West and again with those still farther to the south-east, seemed to open up an almost boundless field of most interesting inquiry.

A letter from Professor Piazzi Smyth, Astronomer Royal of Scotland, was read—

“ Herewith I have the pleasure of enclosing you a letter from Sir Walter Elliot, transmitted to me by my friend Colonel Walter Birch, 104th Fusiliers, and requesting your kind assistance in procuring for me a small block of stone, about the size of an ordinary British brick, or an octavo book,* of particular quality, and transmitting the same, if procurable, to Colonel Birch's agents in Calcutta, Messrs.

* In a letter of later date, Professor Piazzi Smyth expresses a desire to obtain a block 6 or 7 inches square and 3 or 4 inches thick, without flaw.—*Ed.*

Grindlay & Co., whom the Colonel kindly promises to advise of its expected arrival and have it sent to me here.

“The reason for going so far, for so small a matter is,—that the stones of this country are too soft, or too large-grained, or too fissured, or too permeable by water : and I hope, from what I have heard of some Indian minerals, to get something supereminent in hardness, fineness of grain, toughness, freedom from fissures and crystallization, and proof against the entrance of water.

“*Corundum* has been mentioned ; but that will not do, for though hard enough, it is crystallized, and a lump would probably be only a brittle congeries of small crystals.

“*Basalt* has been mentioned, and if India has basalts like *some* of those in Upper Egypt, viz. excessively fine-grained, tough, compact, and free from fissures and tendency to fissure, over lengths of 8 and 9 inches, —it might do well. The basalts of Scotland are far too coarse-grained and full of fissures.

“A *pudding stone* from Agra that I have seen, contains particles of *jasper*, which promise to be better still, if the original rock of it, the *jasper*, could be got at. Its colours are red, brown and black, the grain almost infinitely fine, the hardness far above steel ; being too, I presume, a sedimentary, argillaceous rock, altered by plutonic heat, I should expect more toughness, freedom from fissures, and more uniformity than in basalt.

“If too, you can get one example, which will stand all these tests,—I should much like to hear whether more examples perfectly similar could be afterwards procured, and at what price. The purpose is, to form small standard scales of 5 to 10 inches in length, and likely to last unaltered in length and quality for a much longer time than the metals hitherto used for that purpose. Something capable of going down to all posterity, without sensible change, during 5,000 or 10,000 years.”

In commenting on the above, the Secretary said he had brought the note before the meeting with a view of soliciting the aid of Members through the medium of the published Proceedings. He would especially note, as promising stones, the *jasper* of the Sone and Nerbudda valleys, and the *Jade*, large lumps of which are sometimes to be obtained in the bazaars.

The receipt of the following communications was announced—

1. From Dr. A. Bastian of Bremen, a translation of an inscription copied in the temple of Nakhon Vat, in the city of Monasteries, near the capital of ancient Kambodia.

2. From Baboo Gopee Nath Sen, Abstract of the hourly meteorological observations made at the Surveyor General's Office in October, 1866.

The following additions to the Library since the Meeting held in January, 1867, were announced.

Presentations.

*** * The names of Donors in Capitals.*

Annales Musæi Botanici Lugduno-Batavi by F. A. G. Miquel, Vol. II, Fasc. III, IV and V.—THE BATAVIAN SOCIETY.

Cours d' Hindustani. Discours d'Ouverture du 3 Décembre, 1866, par M. G. de Tassy.—THE AUTHOR.

Many and great Dangers with Safeguards. Twelve Sermons by G. U. Pope, D. D.—THE AUTHOR.

Tamil Poetical Anthology. by G. U. Pope, D. D.—THE AUTHOR.

Tamil Prose Reading-book, by G. U. Pope, D. D.—THE AUTHOR.

Tamil Grammar, by G. U. Pope, D. D.—THE AUTHOR.

Lord's Sermon on the Mount in English, Tamil, Malayâlam, Kanarese and Telugu, by G. U. Pope, D. D.—THE AUTHOR.

Report on the Police of the Town of Calcutta and its Suburbs for 1865-66.—THE BENGAL GOVERNMENT.

Report on the Survey operations for Season 1865-66.—THE SUPERINTENDENT OF THE REVENUE SURVEY.

Almanach der Kaiserlichen Akademie der Wissenschaften. Sechszehnter Jahrgang, 1866.—THE ACADEMY.

Proceedings of the Royal Geographical Society of London, Vol. X. No. VI.—THE SOCIETY.

Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften; Philosophisch-Historische Classe; Band 51, Hefte 2, 3; Band 52, Hefte 1, 2, 4: Mathematisch-Naturwissenschaftliche Classe, Jahrgang 1865: 1ste Abtheilung, Nos. 8, 9-10. 2te Abtheilung, Nos. 9, 10. Jahrgang 1866, 1ste Abtheilung, Nos. 1, 2, 3, 4, 5. 2te Abtheilung, Nos. 1, 2, 3, 4, 5.—THE ACADEMY.

Denkschriften der Kaiserlichen Akademie der Wissenschaften :
Mathematisch-Naturwissenschaftliche Classe. Band XXV.—THE
ACADEMY.

Archiv für Kunde Oesterreichischer Geschichts-Quellen. Band
XXXV. Heft 1, and Band XXXVI, Heft 1.

Register zu den Bänden I—XXXIII. des Archivs, and zu den
Bänden I—IX. Notizenblattes :—THE ACADEMY.

Fontes Rerum Austriacarum. Band VII. Abtheilung I.—THE
ACADEMY.

Register zu den Bänden I—XIV. der Denkschriften der Philoso-
phisch-Historischen Classe der K. A. der W. Band I—THE ACADEMY.

Chárûpât, Part I. of Akhaya Coomar, translated into Hindustani?—
THE TRANSLATORS.

Exchanges.

London, Edinburgh and Dublin Philosophical Magazine and Journal
of Science, Vol. XXXII. No. 218.

The Athenæum for November 1866.

Purchases.

Dictionnaire Turc-Arabe-Persan by Dr. J. T. Zenker, Heft 10.

Deutsches Wörterbuch by J. and W. Grimm, Part IV. Fasc. 11
and Part V. Fas. I.

Comptes Rendus de L'Académie des Sciences, Nos. 22 and 23, 1866.

Journal des Savants, November 1866.

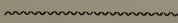
Revue et Magasin de Zoologie, No. 11 of 1866.

Revue des Deux Mondes, 1st December, 1866.

The Annals and Magazine of Natural History, No. 108, Vol. XVIII.

Reeve's Conchologia, parts 260 and 261 (Tellina and Unio).

The American Journal of Science and Arts, Vol. XLII. No. 126.



PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR MARCH, 1867.



The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday the 6th of March, 1867 at 9 P. M.

Dr. J. Fayrer, President, in the chair.

The minutes of the last meeting were read and confirmed.

The following presentation was announced.

From the Editor, the "Pandit," a Monthly Journal of the Benares College, devoted to Sanscrit literature, No. 10.

The Council reported that they had elected Baboo Debendra Mullick a member of their body, in place of Dr. D. Boyes Smith, who had resigned.

The following gentlemen, proposed as ordinary members at the last meeting, were balloted for and elected.

The Hon'ble W. Markby.

Baboo Peary Mohun Mookerjee, M. A.

Captain H. W. King.

F. Hill, Esq.,

Baboo Jogindra Mullick.

W. G. Willson, Esq., B. A.

G. E. Knox, Esq., B. C. S.

Captain S. G. Montgomery, whose withdrawal was announced in July 1865, (owing to a mistake of his Agent,) was reinstated in the list of Members.

The following gentlemen were named as candidates for ballot at the next meeting.

Lieutenant-Colonel B. Ford, Superintendent of Port Blair; proposed by Mr. H. F. Blanford, seconded by Mr. Grote.

Major G. Mainwaring; proposed by Mr. Grote, seconded by Mr. Blanford.

Dr. Mohindra Lal Sircar ; proposed by Baboo Rajendra Lala Mitra, seconded by Mr. Blanford.

The Hon'ble Nawab Sir Sherif-ul omrah Bahadour, K. C. S. I. Member of the Legislative Council of Madras ; proposed by Moulavi Abdool Luteef Khan Bahadour, seconded by Dr. Fayrer.

The receipt of the following communications was announced—

1. From D. Waldie, Esq., Experimental Investigations connected with the water supply to Calcutta, Part III.

2. From Dr. C. Macnamara, through Dr. Fayrer, on the intimate structure of muscular fibre.

3. From W. Scott, Esq., On the reproductive Functional Relations of several species and Varieties of *Verbascums*.

4. From Baboo Gopee Nath Sen, Abstract of the Hourly Meteorological Observations made at the Surveyor General's Office in November, 1866.

At the request of the President, Dr. Macnamara read his paper "On the intimate structure of muscular fibre," of which the following is an abstract.

"The muscular system, whether voluntary or involuntary, is composed of an homogeneous substance, the characteristic features of which are, that it contracts in obedience to the nervous force, direct, or reflex. The elements of the contractile tissue, under all circumstances, are arranged so as best to fulfil the mechanical purposes for which it is intended.

"In voluntary muscles there are no such elements as have been described as sarcois particles, but the contractile tissue consists of bundles of contractile fibres, each fibre being composed of two longitudinal bands running continuously from one end of the muscle to the other end, and connected throughout their length by spiral transverse bands, the whole being encased in a sheath of homogeneous tissue. A voluntary muscle therefore consists of a matrix of fibrous tissue, the interstices of which are filled up with contractile fibres such as I have just described ; the larger vessels and veins ramifying in the fibrous matrix, but giving off numerous branches which are brought into immediate contact with the contractile tissue.

"It is evident that bands of elastic tissue could not perform the functions required of a muscle : the increase in breadth of the muscles

of a limb in contracting would, under these circumstances, exercise an injurious amount of pressure on the nerves and vessels of surrounding parts. All such anomalies are obviated by the arrangement I have now described; for in contracting, the longitudinal bands must shorten on themselves, drawing the transverse bands into closer approximation, and these at the same time uncoil: each fibre therefore increases in breadth exactly to the same amount which it loses in length, the changes, as in a muscle, being accurately proportioned to one another. It is quite possible that as the longitudinal bands are attached to fixed points at either extremity, the tension or relaxation of the transverse bands would be sufficient of themselves, by acting on the longitudinal bands, to cause contraction or relaxation of the muscle; and I am disposed to favour this idea, because we can thus easily conceive the means by which the remarkably rapid action which muscles are capable of effecting is accomplished; being kept in a state of perpetual tension depending on the action of the spiral bands.

“If this be the minute anatomy of muscle, it displays a source from whence animal heat may be derived. Much of Liebig’s theory of the combustion of the hydro-carbons being the chief if not only source of animal heat, is falling to the ground; but in muscle or bone, there is evidence of the existence of forces as capable of engendering heat as combustion, viz. friction, compression, tension and expansion, all necessarily giving rise to molecular motion, and an equivalent amount of heat, quite capable of keeping up the temperature of the blood to a healthy standard.

“It appears also that we may equally well explain the presence of electricity in a muscle, by the play of the forces above enumerated: they must, in fact, when set in motion, induce electrical phenomena; and that independently of the nervous system.”

A discussion ensued on the subject of the above paper; after which, on the proposition of the Secretary, the special thanks of the meeting were unanimously voted to Dr. Macnamara for the important communication just read to the meeting.

The following are the additions made to the Library since the meeting held in February last.

Presentations.

* * * *The names of Donors in Capitals.*

Rahasya Sandarbha, Vol. III, Nos. 35 and 37.—THE CALCUTTA SCHOOL BOOK SOCIETY.

The Report of the British Association, Bath, 1864.—THE ASSOCIATION.

Sonthalia and the Sonthals.—THE GOVERNMENT OF BENGAL.

Selections from the Records of the Government of India, Foreign Department, No. 51, (Political Administration of Central India for 1865-66.)—THE GOVERNMENT OF INDIA.

Another Copy.—THE GOVERNMENT OF BENGAL.

A list of Waste Land Sales made in Cachar under the new Waste Land Rules, with a map.—THE GOVERNMENT OF BENGAL.

Report of the Committee of the Bengal Chamber of Commerce from May to October, 1866.—THE CHAMBER OF COMMERCE.

Proceedings of the Royal Society of London, Vol. XV, No. 87.—THE SOCIETY.

Zeitschrift der Deutschen Morgenländischen Gesellschaft, Zwanzigster Band, Heft IV.—THE EDITOR.

Descriptive Catalogue of Vernacular Books and pamphlets forwarded by the Government of India to the Paris Exhibition of 1867, by the Rev. J. Long.—THE AUTHOR.

Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften zu Wien,

Philos-histor. Classe ;

{ Band 49, Hefte I, II, III,
Band 50, Hefte I, II, III, IV,
Band 51, Heft I, and
Register zu den Bänden 41
bis 50.

Math-Naturw. Classe.

1ste Abth.

{ Band 51, Hefte III, IV, V,
Band 52, Hefte I, II,

2te Abth.

{ Band 51, Hefte III, IV, V,
Band 52, Hefte I, II, III,

and Register zu den Bänden 43 bis 50.—DIE AKADEMIE DER WISSENSCHAFTEN ZU WIEN.

Denkschriften der Kaiserl. Akademie der Wissenschaften ; *Philos. histor. Classe*, Band XIV., *Math. Naturw. Classe*, Band XXIV.—THE ACADEMY.

Archiv für Oesterreichische Geschichte—

Band XXXIII. Hefte 1, 2

XXXIV. Hefte 1, 2

XXXV. Heft 1.—THE ACADEMY.

Fontes Rerum Austriacarum, II Abth. Band XXIV.—THE ACADEMY.

Atlas der Hautkrankheiten, Lief. V.—THE ACADEMY OF SCIENCES OF VIENNA.

Almanach der Kaiserlichen Akademie der Wissenschaften für 1865.—THE ACADEMY.

Verhandlungen der K. K. Zoologisch-botanischen Gesellschaft in Wien, Band XV.—THE EDITOR.

Philosophical Transactions of the Royal Society of London, Vol. 155, pt II, Vol. 156, part I.—THE ROYAL SOCIETY.

Researches on Solar Physics by W. de la Rue, B. Stewart and B. Loewy, First Series.—THE AUTHORS.

Results of Meteorological and Magnetical Observations made at the Stonyhurst College Observatory.—THE COLLEGE.

Report on the Result of the Administration of the Salt Department, during the year 1865-66.—THE GOVERNMENT OF BENGAL.

Der Meteorsteinfall am 9 June, 1866, bei Knyahinya (Zweiter Bericht), von W. Ritter v. Haidinger.—THE AUTHOR.

Results of twenty-five years' Meteorological observations for Hobart Town, by F. Abbott F. R. A. S.—THE ROYAL SOCIETY OF TASMANIA.

Abhandlungen für die Kunde des Morgenlandes. Band IV. No. 5.—THE SOCIETY.

Proceedings of the Royal Society of London, Vol. XV. No. 88.—THE ROYAL SOCIETY.

Transactions of the Royal Society of Edinburgh, Vol. XXIV. Part II.—THE ROYAL SOCIETY OF EDINBURGH.

Journal of the Statistical Society of London, Vol. XXIX. Part IV.—THE STATISTICAL SOCIETY.

Proceedings of the Royal Society of Edinburgh, Vol. V. No. 68.—THE ROYAL SOCIETY OF EDINBURGH.

Report on the Operations of the Thuggee and Dacoity Department in Native States, by Lieutenant-Colonel C. Hervey, C. B.—THE FOREIGN DEPARTMENT TO THE GOVERNMENT OF INDIA.

A Narrative of the Russian Military Expedition to Khiva under

General Perofski in 1839.—THE FOREIGN DEPARTMENT TO THE GOVERNMENT OF INDIA.

The Pandit, a monthly Journal of the Benares College devoted to Sanskrit Literature, No. 10, Vol. I.—THE EDITOR.

Purchased.

Râs Mâlâ or Hindoo Annals of the Province of Goozerat, by A. K. Forbes, 2 Vols.

Ure's Dictionary of Arts, Manufactures and Mines; by R. Hunt, F. R. S., F. G. S., 3 Vols.

Catalogue of Colubrine Snakes in the Collection of the British Museum, by Dr. A. Günther.

History of the British Empire in India from 1844 to 1862, by L. J. Trotter, 2 Vols.

History of Herodotus translated into English, with copious notes, by G. Rawlinson, M. A., 4 Vols.

Comparative Anatomy and Physiology of Vertebrates, by R. Owen, F. R. S., 2 Vols.

A Dictionary of Science, Literature and Art; by W. S. Brande, D. C. L., F. R. S. L. and the Rev. G. W. Cox, M. A., 2 Vols.

The Chinese Classics by J. Legge, D. D., Vols. I. and II. and 2 Parts of Vol. III.

Ballhorn's Grammatography.

Travels in Central Asia, by A. Vâmbéry.

A History of Persia from the beginning of the nineteenth century to the year 1858; by R. G. Watson.

The Record of Zoological Literature; by A. C. L. G. Günther, M. A., M. D., Ph. F. D. R. S., Vol. I.

Icones Zootomicæ mit Originalbeiträgen; by J. V. Carus. Erste Hälfte oder Tafel I.—XXIII.

The Oriental Races and Tribes, Residents and Visitors of Bombay, 2 Vols.; by W. Johnson.

The Quarterly Journal of Science, Nos. I. to XI.

Introduction to the study of the Foraminifera; by W. B. Carpenter, M. D., F. R. S.

La Maha-Bharata by H. Fanche, Vol. VI.

Comptes Rendus de l'Académie des Sciences. Tome LXVII. Nos. 24 and 25.

Revue des Deux Mondes, 15th December, 1866.

The Calcutta Review, No. LXXXVIII. February, 1867.

Histoire Naturelle des Annelides marins et d'eau douce, by M. A. De Quatrefages, Tomes I, II, Parts 1 and 2, with plates.

Catalogue of the Acanthopterygian Fishes in the collection of the British Museum ; by Dr. A. Günther, 2 Vols.

The Architecture of Dharwar and Mysore, by Col. M. Taylor.

The Architecture of Beejapoor, by Col. M. Taylor.

The Kamil of El-Mubarrad : by W. Wright, Part III.

Jacdut's Geographisches Wörterbuch : Erste and Zweite Hälfte. Bog 61-118.

Revue des Deux Mondes, 1st January, 1867.

The Numismatic Chronicle and Journal of the Numismatic Society, 1866, Part IV.

The Quarterly Journal of Science, No. XIII.

The Journal of Sacred Literature and Biblical record, No. XX. N. S.

Comptes Rendus des Séances de l'Académie des Sciences, Nos. 26 and 27, 1866.

Tables des Comptes Rendus, Premier Semestre, 1866.

Journal des Savants, December, 1866.

The Westminster Review, No. LXI. January, 1867.

The Annals and Magazine of Natural History No. CIX. January 1867.

Exchange.

The Athenæum, December, 1866.



PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR APRIL, 1867.



A meeting of the Asiatic Society of Bengal was held on Wednesday the 3rd April, at 9 p. m.

Dr. J. Fayrer, President, in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced :—

1. From A. Grote, Esq. a specimen of *Tragulus Javanicus*.
2. From Dr. J. E. T. Aitchison, a specimen of *Larus Ichthyaetus*, a Sea Gull, shot at Umritsar in the Punjab in May last.
3. From Lieutenant J. Waterhouse, a box of specimens of plum-bago from the Sonah mines near Delhi.
4. From Baboo Gour Doss Bysack, a few bricks and a carved Koran stand from the Sat-Gombouj of Bagharhaut.
5. From the Rev. C. H. Dall, 3 photographs of the hairy family at Ava.
6. From Captain J. Anderson, a fragment of stone from the old tomb of Mrs. Mary Hastings at Berhampore with a copy of the epitaph.
7. Mr. Blanford exhibited, on part of Mr. Grote, a few specimens of a curious sponge ("Ragaderos") from the Philippine islands.
8. The Council reported that they have elected H. Blochmann, Esq. a member of the Library Committee.
9. The following gentlemen, proposed at the last meeting, were balloted for and elected as ordinary members :—Major G. Mainwaring ; Lieutenant-Colonel B. Ford ; the Hon'ble Nawab Sir Sherif ul Omrah Bahadur, K. C. S. I. ; Dr. Mohindra Lala Sirkar.

10. The following gentlemen are candidates for ballot as ordinary members at the next meeting :—

Lieutenant E. J. Steel, R. A. of the Revenue Survey, Debroogur, Assam, proposed by Captain H. H. G. Austen, and seconded by Mr. H. F. Blanford.

The Hon'ble F. Glover, proposed by Mr. E. C. Bayley, and seconded by Mr. H. F. Blanford.

Dr. B. N. Hyatt, Civil Surgeon, Ranchee, proposed by Lieutenant-Colonel E. T. Dalton, and seconded by Dr. J. Anderson.

Dr. E. Bonavia, Assistant Surgeon, Lucknow, proposed by Dr. J. Anderson, and seconded by Mr. H. F. Blanford.

Dr. S. C. Mackenzie, proposed by Dr. Ewart, seconded by Dr. Colles.

J. A. B. Nelson, Esq. proposed by Mr. A. Grote, and seconded by Mr. H. F. Blanford.

11. Letters were read from E. W. Clementson, Esq. and Captain W. G. Murray, intimating their desire to withdraw from the Society.

12. The receipt of the following communications was announced :—

1. From Babu Gopee Nath Sen, Abstract of Hourly Meteorological observations made at the Surveyor General's Office in December last.

2. From Captain H. H. Godwin Austen, F. R. G. S. Notes on the geological features of the country over the foot of the hills in the Western Bhotan Dooars.

3. From Dr. E. Bonavia, Affinity between the adjutant and the domestic turkey.

4. From Babu Gour Doss Bysack, "Antiquities of Bagharhaut."

13. At the request of the President, Mr. D. Waldie read the following abstract of his experimental investigations connected with the water supply to Calcutta, Part III.

"The object of this communication is to correct a few errors and deficiencies in the former papers, and supply additional information, so as to render the inquiry more complete. It will also direct attention to some points of importance calling for special consideration.

"The general constitution of the Hooghly water, as regards its mineral constituents, is exhibited by two tables, one giving the proportions of these in a way favourable for comparing its variations at different seasons, and another shewing its hardness. Though the water is rather hard during the dry season, the hardness is reduced to a very

small amount by boiling. It is superior in this respect to what can usually be obtained for the supply of towns. The influence of the tides during the hot season was considered in the first communication: the tidal water increases the amount of common salt, but does not very greatly increase the hardness.

“As regards organic matter, numerous observations have been made since the last communication was laid before the Society, partly to meet objections raised against the former results, which objections however may now be considered as withdrawn.

“Further examination of the various waters by oxidation by permanganate of potash has not increased the author's opinion of its value, and two tables are given which it is believed will justify this unfavourable opinion. The first exhibited the very rapid change which takes place in the deoxidating power of many waters both river and tank, this power diminishing within two days to one half, one third, or even less, of its original amount. This is not noticed in the London Reports, probably because the samples having been taken from the street mains, the water is at least two or three days old, after which it changes much more slowly. The oxidation test appears to indicate only certain kinds of impurities,—probably products of fermentation or putrefaction, or even of living vegetable organisms, and it is doubtful if it gives much important information of the quality of these, as the second table shews that General's Tank water (considered the best for drinking in Calcutta) equals in deoxidating power the water of the salt marsh to the east of the town; and that the water of the Circular canal, which receives the greater part of the sewerage of Calcutta, requires no more oxygen than that of the best tanks.

“The determination of organic matter by weight is the most trustworthy. Care has been taken in all the recent analyses to proceed to the evaporation without delay, but continued observation has also shewn that the results formerly given cannot have been far wrong. The quantity of organic matter in the river water for the months of January and November has in no case exceeded 15 grains per 100,000 grains, or 1.05 grains per gallon. A table is given of the results at all seasons, which distinctly shews the influence of the tides, the quantity of organic matter during flood tide being from one and half to two and half times greater than during ebb tide. Yet the highest

obtained was 2.7 grains per 100,000 grains, or rather less than 2 grains per gallon.

“Another table exhibits the amount of organic matter in the water of the Salt Water Lake and Circular canal. On the 18th February the water of the marsh contained only 6.5 grains per 100,000 grains or 4.55 grains per gallon. A calculation made on data supplied by Mr. Leonard (reduced to one half on account of uncertainty) or 5000 ft. per second of water flowing in the river at the minimum, shew that though Mr. Clark’s supply of 6,000,000 gallons of water per day flowed into the river in as concentrated a state of impurity as the filthiest ditches of Calcutta during the hot season, it would add of organic matter to the river water only to the extent of 5 or 6 hundredths of a grain per gallon. The allowance is extravagant, yet the addition is but small.

“Trials for Ammonia, exhibited in tables, shew that the water during the cold season is at its purest, and other observations on the organic matter are confirmatory of those previously made.

“Further observations on the tank waters confirm the conclusions formerly drawn. Additional samples have been examined in the northern part of the town, with reference to a tank proposed to be excavated there by the Municipality. All the tank waters examined, except those of the Maidan tanks and Dalhousie Square Tank, contained much more saline matter and were much harder both before and after boiling than the river water at its worst (except as regards salt during flood tide in May and June,) and contained much more organic matter,—two, three, or four times as much. The water of the street aqueduct (from the river) was greatly superior in every respect. Water obtained from temporary wells dug for the purpose was carefully analysed and found to be simply sewage water, deprived of the greater part of its bad smell by passing through the earth; indicating that the soil is more or less penetrated by sewage water all over the town.

“Further consideration had been given to the nature of the organic matter, confirmatory of former observations. The organic matter in the river water during the rainy season was analagous to that of tank water, and contained a larger proportion of vegetable matter than that of the dry season. But it by no means followed that it was less

objectionable. When partially separated from saline matter, its general properties more resembled those of animal excrementitious matter, while those of the dry season water more resembled urinous secretions. The rainy season water also seemed to contain much more living germs.

“As to the question of taking water from Cossipore, it may be said that it would scarcely be advisable to do so, as there can be no doubt of the influence of the tide rendering the water impure: whether a point nearer than Pultah would be suitable, could only be determined by observations during the hot season. But there is a point of greater importance to consider, namely the state of the river water during the rains, especially during the early part of the season. The water then contained the sewerage of thousands of square miles of country, and was much more putrid and offensive than even the flood tide water of the hot season; and besides contained a large quantity of mud in a very fine state of division, very difficult to get rid of either by subsidence or filtration; and this water cannot be avoided by taking it from Pultah. The greater impurity of river waters during floods is a fact well recognized in England, and here we have all the floods of the year concentrated into one great flood. The Engineer to the Municipality had taken into account the unusual quantity of mud in the water at this season, and had made arrangements intended to obviate the difficulty: but there is great reason to fear that these measures will be very inadequate for the purpose, and that the large covered reservoirs will, during the early months of the rains, supply water of a very offensive character, and perhaps taint it for a considerable time afterwards. There is no evidence in the Engineer's Report that the extent of the difficulty has been appreciated or even properly understood, or that the efficiency of the means to remedy it has been satisfactorily ascertained.”

LIBRARY.

The following additions were made to the Library since the meeting held in March:—

*** *The names of Donors in Capitals.*

Presentations.

Jahrbuch der Kaiserlich Königlichen Geologischen Reichsanstalt.
—Vol. XV, XVI.—THE K. K. GEOL. REICHSANSTALT.

The History of India in Urdu, No. 9.—THE SCIENTIFIC SOCIETY OF ALLYGURH.

Professional papers on Indian Engineering, No. 14, Vol. IV.—THE EDITOR.

Annual Report of the Trustees of the Museum of Comparative Zoology at Harvard College 1865.—THE TRUSTEES OF THE MUSEUM.

Report of the Superintendent of the Coast Survey of the U. S. 1859 and 1860.—THE UNITED STATES OF AMERICA.

Proceedings of the Boston Society of Natural History for 1864.—THE BOSTON NATURAL HISTORY SOCIETY.

Conditions and Doings of the Boston N. H. Society for 1864.—THE BOSTON NATURAL HISTORY SOCIETY.

Documents of the United States Sanitary Commission, 3 Vols.—THE U. S. SANITARY COMMISSION.

Annual Report of the Board of Regents of the Smithsonian Institution for 1864.—THE INSTITUTION.

Memoirs of the Geological Survey of India, Vol. V. pt. 3.—THE GOVT. OF BENGAL.

Catalogue of the Organic Remains belonging to the Cephalopoda in the Museum, Geological Survey of India, Calcutta.—THE GOVT. OF BENGAL.

Catalogue of the Meteorites in the Museum, Geological Survey of India, Calcutta.—THE GOVT. OF BENGAL.

A Narrative of the Russian Military Expedition to Khiva under General Perofski in 1839.—THE GOVT. OF BENGAL.

Notes on the Geographical, Statistical and General condition of Purgunna Palamow, by Major G. H. Thompson.—THE GOVT. OF BENGAL.

Report on the Registration of Ozone in the Bombay Presidency for 1864-65.—THE GOVT. OF BENGAL.

Ueber ein Fragment der Bhagavati, 1st part, by Prof. A. Weber.—THE AUTHOR.

Selections from the Records of the Bombay Government, No. CI. New Series (Extract of the Proceedings of the International Sanitary Conference of 1866.)—THE GOVT. OF BOMBAY.

Annual Report of the Administration of the Madras Presidency for 1865-66.—THE GOVT. OF BENGAL.

General Report on the Administration of the Bombay Presidency for 1865-66.—THE GOVT. OF BENGAL.

Report on the Administration of the N. W. Provinces for 1865-66.

—THE GOVT. OF BENGAL.

Annual Report on the Operations of the Post Office of India for 1865-66.—THE GOVT. OF BENGAL.

Report on the Administration of the Central Provinces for 1865-66.

—THE GOVT. OF BENGAL.

Annual Report of the Administration of Coorg for 1865-66.—THE GOVT. OF BENGAL.

General Report on the Administration of the Punjab Territories for 1865-66.—THE GOVT. OF BENGAL.

Annual Report on the Administration of Mysore for 1865-66.—THE GOVT. OF BENGAL.

Report on the Administration of the Penal Settlement of Port Blair and Andaman Islands for 1865-66.—THE GOVT. OF BENGAL.

Annual Report on the Administration of the Straits Settlement for 1865-66.—THE GOVT. OF BENGAL.

Six Copies of Papers relating to the Aboriginal tribes of the Central Provinces left in MSS. by the late Rev. S. Hislop, edited by R. Temple, C. S. I.—THE EDITOR.

Six Copies of the Gazetteer of the Central Provinces, part 1.—THE CHIEF COMMISSIONER OF THE CENTRAL PROVINCES.

Proceedings of the Royal Institution of Great Britain, Vol. IV, parts VII and VIII.—THE ROYAL INSTITUTION.

The journal of the Royal Asiatic Society of Great Britain and Ireland, New Series, Vol. II, pt. II.—THE ROYAL ASIATIC SOCIETY.

Sitzungsberichte der Königl. Bayer. Akademie der Wissenschaften zu München, 1865, II, Hefte III and IV; 1866, I, Hefte I, II, III, IV, and II Heft I.—THE ACADEMY OF SCIENCES, MUNICH.

Abhandlungen der Philos. Philologischen Classe der Königlich Bayerischen Akademie der Wissenschaften, Vol. X, Abth. 3, Vol. XI, Abth. 1. Historische Classe, Vol. X, Abth. 2.—THE ACADEMY OF SCIENCES, MUNICH.

Proceedings of the Royal Society of London, Vol. XV, No. 89.—THE ROYAL SOCIETY.

Journal Asiatique, 6th Series, Vol. VIII, Nos. 29, 30, 31.—THE ASIATIC SOCIETY OF PARIS.

General Report of the Administration of the Bombay Presidency for 1864-65.—THE GOVT. OF BENGAL.

Annual Report of the Geological Survey of India for 1865-66.—THE GOVT. OF BENGAL.

Annual Report of the Administration of the Province of Oudh for 1865-66.—THE GOVT. OF BENGAL.

Discours d'ouverture du 4 Décembre 1865, by M. G. de Tassy.—THE AUTHOR.

The policy of the Future in India. A letter to the Right Hon'ble Lord Cranborne, by W. Knighton, LL. D.—THE EDITOR.

Entwicklung der Ideen in der Naturwissenschaft. Rede in der öffentlichen Sitzung der k. Akademie der Wissenschaften am 25 Juli 1866. By Justus, F. von Liebig.—THE AUTHOR.

Die Bedeutung moderner Gradmessungen. Vortrag in der öffentlichen Sitzung der k. Akademie der Wissenschaften am 25 Juli, 1866. By Dr. C. M. Bauernfeind.—THE AUTHOR.

Die Gottesurtheile der Indier. Rede gehalten in der öffentlichen Sitzung der königl. Akademie der Wissenschaften, am 28 März, 1866. By Emil Schlagintweit.—THE AUTHOR.

Report of the Administration of the Province of British Birma for 1865-66.—THE GOVT. OF BENGAL.

Report of the Administration of the Hyderabad assigned Districts for 1865-66.—THE GOVT. OF BENGAL.

Report of the Proceedings of the Government of India in the P. W. Department for 1864-65.—THE GOVT. OF BENGAL.

Narrative of the course of Legislation during the year 1865-66.—THE GOVT. OF BENGAL.

Exchange.

The Athenæum, January 1867.

Purchase.

The Edinburgh Review, January 1867.

Revue des Deux Mondes, 15th January, 1867, and 1st February, 1867.

Revue et Magasin de Zoologie 1866, No. 12.

Comptes Rendus de l'Académie des Sciences, Vol. LXIV. Nos. 1, 2, 3, 4 and 5.

Hewitson's Exotic Butterflies, part 61.

Grimm's Deutsches Wörterbuch, Band V, Liefc. V.

The Annals and Magazine of Natural History, No. 110, Feby. 1867.

Journal des Savants, January 1867.

The Quarterly Journal of the Geological Society, No. 89.

Notices et Extraits des Manuscrits de la Bibliothèque Impériale
et autres Bibliothèques, Vol. XX, Nos. 1 and 2 and XXI, No. 2.

Abhandlungen für die Kunde des Morgenlandes, herausgegeben von
der Deutschen Morgenländischen Gesellschaft, Band IV. No. 5.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR MAY, 1867.



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

Dr. J. Fayerer, President, in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced—

1. From the Chief Commissioner of the Central Provinces :—

Six copies of a set of papers on the Central Provinces, left in manuscript by the late Rev. S. Hislop.

2. From Mr. Temple, six copies of the Central Provinces Gazetteer, P. I.

The following gentlemen, proposed and seconded at the last meeting, were balloted for and elected as ordinary members :—

Lieut. E. J. Steel.

The Hon'ble F. Glover.

Dr. B. N. Hyatt.

Dr. E. Bonavia.

Dr. S. C. Mackenzie, and

J. A. B. Nelson, Esq.

The following gentlemen are candidates for ballot as ordinary members at the next meeting :—

Lieutenant J. Gregory, Deputy Commissioner, Naga Hills, proposed by Lieutenant J. Williamson, seconded by Dr. J. Anderson.

The Right Rev. Dr. Milman, Lord Bishop of Calcutta, proposed by the Ven'ble Archdeacon J. H. Pratt, seconded by the Hon'ble C. B. Trevor.

William Duthoits, Esq. C. S., proposed by the Hon'ble G. Campbell, seconded by R. Spankie, Esq.

John Middleton Scott, Esq., A.B., C.E., &c., Assistant Professor of Engineering, Presidency College, proposed by V. Ball, Esq., seconded by M. H. Ormsby, Esq., for re-election.

Bábu Obhoy Churn Mullick, Roy Bahadur, Deputy Collector, proposed by Bábu Gour Doss Bysack, seconded by the President.

The following gentlemen have intimated their desire to withdraw their names from the Society :—

- W. H. Stevens, Esq.
- H. Leeds, Esq., and
- J. H. Mathews, Esq.

3. Read the following letter from Coowar Mohendra Narain Deb.

“ Sobhabazar, Rajbaree, 23rd April, 1867.

“ To the Secretary to the Asiatic Society.

“DEAR SIR,—With feelings of the deepest sorrow, I beg to announce to you the melancholy intelligence of the death of my father Rájá Sir Rádhákánta Báhadur, K. C. S. I. A telegram from Brindábana *viá* Muthra, dated the 20th instant, has brought the heart-rending news that the Rájá breathed his last at noon on the 19th instant. The information I have as yet received regarding his last illness is imperfect.”

In moving the following resolution on part of the Council, the President said—

“GENTLEMEN,—Since our last meeting we have received the melancholy intelligence of the death of one of our most distinguished members. On the 19th of last month, Rájá Sir Rádhákánta Deva Báhadur, a Knight of the Star of India, an oriental scholar of the highest attainments, and a leader of all that was enlightened and distinguished in native society in Bengal, died at the advanced age of 85 years, at the ancient city of Brindábana where (as I am informed) he had retired, to pass some portion of the close of his long and useful life in repose and meditation. The loss of this distinguished man, who was so highly revered throughout Bengal, is lamented not only by his relatives and countrymen generally, but by this Society and by many European friends, who had learned not

only to admire the erudition of the great oriental scholar, but to respect the perfect character of the Bengali gentleman.

“I feel quite incompetent to do justice to the many virtues of one who was so universally respected, never having had the advantage of his personal acquaintance; but it is not the less incumbent on me, representing for the occasion the Asiatic Society of Bengal, to bear its testimony to the exalted merits of the great and good man whose loss, as an honorary member, we have now to deplore. I therefore beg to propose the following resolution on the part of the Council of the Asiatic Society:—

“That this meeting desires to record an expression of its deep and sincere regret at the death of the Rájá, Sir Rádhákánta Deva Báhádur, K. C. S. I., an accomplished and distinguished scholar, whose eminent services to the cause of oriental literature during half a century, were, in March 1855, especially acknowledged by his election as an honorary member of the Society.”

Bábu Rájendralála Mitra, in seconding the resolution, said, “It is a source of great satisfaction to me to find that the Council has recommended to the favourable notice of the Society the resolution which you have moved, to commemorate the services of a countryman of mine, and one whom I had the privilege to call a friend for the last five and twenty years. It is in every way worthy of this, the oldest Asiatic Society, which was the first to lay open the storehouse of the Oriental classics to the scholars of Europe, and it is worthy of the great man to whose memory it is devoted. Rájá Rádhákánta is no more; he is gone to an unknown region of spirits, where human praise can be of no avail to him; but we do well to express our respect for scholars who, like him, have laboured long and successfully in the field of Indian literature. It is a premium on merit which is sure to promote the object of this Society.

“The literary life of Rájá Rádhákánta extends over a period of sixty years. He was born in the year 1784, and early evinced a strong love of reading and of knowledge, and care was taken by his worthy father to provide for him an education befitting his high rank and social position. According to the custom of the time, his first attention was drawn to the Persian and Arabic languages; but he subsequently studied most thoroughly the Sanskrit, the English and the

vernaculars,—Hindi, Urdu, and Bengali. His ancestors were noted for their devotion to the British nation under which they had lived and thrived; and, following their footsteps, he attached himself to some of the leading Englishmen of his time, whose example exercised the most salutary influence on his whole life. Among them were Colebrooke, Wilson and David Hare, who had formed a Society for the extension of school education in this country, and he was appointed its Honorary Secretary. In this capacity he felt the want of good school books, and at once set himself to supply the desideratum. The Primers and Readers which he then compiled were the first of the kind in our language, and they have been the model upon which all others have subsequently been formed. The want of education for our females also attracted his notice at this time; and in the language of the late Hon'ble Mr. Bethune, to him 'belongs the credit of being the first native of India, who, in modern times, has pointed out the folly and wickedness of allowing women to grow up in utter ignorance.' A number of schools, both for boys and girls, were established under his care, and the little pupils used annually to assemble in his palatial residence at Shobhábázár to pass examinations and receive prizes. Indeed, what he did in those days in Bengal for female education, has never been attempted since. He was also instrumental, in conjunction with the late Sir Edward Hyde East, in the establishment of the Hindu College, which has done so much for the social, moral and intellectual advancement of the people of this country. He was appointed one of the governors of the Institution, and in that capacity took a deep interest in its welfare for near forty years. Although not born a Kulin, and therefore not of the aristocracy of the country according to Indian notions, his alliance by marriage, and the office which his grandfather held in the time of Lord Clive, as the head of the *Játimálá Káchári* or the Court for the settlement of disputes regarding caste, gave him great influence among his countrymen, and for thirty years he held the leadership of the Hindus of Bengal. Gentle, frank and affable by nature, and possessed of excellent address, he won the good will and admiration of all who came in contact with him, and never created an enemy. Sir Lawrence Peel, Chief Justice of the late Supreme Court, used to say of him that 'he was a pattern of gentlemanliness which we would all do well to imitate.'

“He was a Hindu, and lived and died in firm faith in his Maker as taught in the religion of his forefathers. This may have made him appear as an obstructive in the way of those of his countrymen who yearned for speedy reformation in matters relating to religion and caste ; but he never opposed any measure with the bigotry of a partizan, and if sincerity be a virtue, he had it to perfection.

“It is, however, not by reference to his social and moral qualities that I wish to support his claim to our respect. It is as the author of the great Sanskrit Encyclopædia, the *Sabdakalpadruma*, that he distinguished himself most, and claims our regard. In bulk that work extends to eight folio volumes of about a thousand pages each, and it took up the best portion of the Rájá’s life for its completion. When Ferdusi completed his *Sháhnámah*, he said : *Basi sál burdam basar nám ranj*, ‘for thirty years have I borne labours innumerable to complete my work.’ But Ferdusi was born in poverty, and depended on his song for his bread ; Rájá Rádhákánta was the son of one of the richest men in the town, and was surrounded by wealth and luxury on every side. He had, therefore, to overcome the influence which great wealth, high position, and want of official occupation exercise on young men just entering life in this country. But he possessed a strength of mind not unequal to the task he had set before him, and he devoted near forty years of his life in compiling his great work. In Europe where all works of reference are easily procured and in print, and every assistance is at hand, such a lexicon as the *Sabdakalpadruma* would have secured the highest honours to its author. In India fifty years ago no such advantages were available ; the Rájá had to collect his materials from the most inaccessible sources ; he had to pore over musty manuscripts and illegible scribblings on palm leaves, which alone contained his text, and he had to become his own type-founder, printer, and press-reader, before he could send forth a single page of his work to the public. The labour he had to undergo in these occupations was immense, and that it bore good fruit is evident from the manner in which it was received by scholars in Europe, and the honours which were showered on him by princes and learned bodies to mark their high sense of its value. The Czar of Russia and the King of Denmark sent him medals, and the Imperial Academy of St. Petersburg, the Royal Academy of

Berlin, the Kaiserliche Academie of Vienna, the Royal Asiatic Society of Great Britain and Ireland, the Société Asiatique of Paris, the Oriental Societies of Germany and North America, and the Royal Society of Northern Antiquaries sent him their diplomas, and elected him their honorary or corresponding member; and last, though not least, our own Gracious Sovereign bestowed on him the Star of India in recognition of his exalted merits. The Rájá is now dead, but, to quote an American orator, "Death has not surprised us by an unseasonable blow. It has cast its shroud only over mature years, over long protracted literary service, and over life when the ends of living had been accomplished." But the great work of the Rájá remains, and as long as a taste for Sanskrit literature shall endure, so long we may confidently say, *monumenta manebunt.*"

5. The Council reported that they have adopted the following report of the Philological Committee recommending to introduce the Jonesian System of transliteration in spelling oriental names in the Society's Journal and Proceedings :—

"The Philological Committee of the Asiatic Society, having taken into consideration a proposition of Bábu Rájendralála Mitra, referred to them by the Council, for the adoption of a uniform system for the romanising of oriental words in the Journal, beg to report that it is highly desirable that the system recommended—that of Sir William Jones as modified by Professor H. H. Wilson—should be adopted.

"They are of opinion, however, that before enforcing it as regards contributions to the Journal, it would be well to print a Key to the system, and to circulate it for the information and use of contributors.

"As regards the linguistic vocabularies, the Committee recommend that those that have been already received, should be returned to their authors with a copy of the Key to have them revised and put into one uniform system of spelling; and all future contributions of the kind should be treated in the same way.

"Copies of the Key should also be sent to Government, with a request that they may circulate them among those who have been called upon to co-operate in carrying out the proposed ethnological congress.

“Further, with a view to get the system generally adopted, the Council should place itself in communication with the Punjab and the Nagpur branches of the Society, as also with the Bombay and the Madras Branches of the Royal Asiatic Society of Great Britain and Ireland, and ask their opinion and co-operation.

“By order of the Committee,

“RÁJENDRALÁLA MITRA,

“*Secy. Phil. Comtee. Asiatic Society.*”

ASIATIC SOCIETY'S ROOMS,

27th March, 1867.

The Council recommended the election of H. B. Medlicott, Esq., F. G. S., in place of Colonel J. E. Gastrell, as member of the Council and Honorary Treasurer of the Society;—of M. H. Ormsby, Esq., LL. B. : C. E., in place of H. F. Blanford, Esq., as a member and Honorary Secretary;—and of Mr. Justice Phear and Coowar Harendra Krishna, in place of the Hon'ble G. Campbell and Dr. T. Oldham, as members of their body.

The receipt of the following communication was announced :—

From F. Hill, Esq. C. E. on the newly invented steam engine of Mr. R. W. Thompson.

At the request of the President, Bábu Gour Doss Bysack read his paper on the antiquities of Bagarhat of which the following is an abstract :—

The village of Bágárhát is situated 30 miles to the N. E. of Khulneah in Jessore. Four hundred and fifty years ago it was the seat of a collectorate or tehsildári, at the head of which was one Khán Jehán a Pathán nobleman of distinction. He greatly improved the place and erected many stately edifices, of which only two now remain, a tomb and a mosque. The former is a brick building 48 feet square and surmounted by a magnificent dome. The floor of the chamber is inlaid with encaustic tiles, and the gravestone—a large slab of Jeypur marble—bears date A. D. 1458. Close by it is a small grave which holds the mortal remains of one Pír Álly, a convert to Mahomedanism, who out-casted certain brahmins whose descendants are to this day known by the name of Pírállis. Close by this tomb there is a large tank, containing a number of tame crocodiles, whose blessings are sought by thousands

of sick and childless people every year. Three miles to the south of the tomb, stands a large mosque called the *Sátgumbaj* or "the mosque of 60 domes." It is an oblong building, 144 feet by 96 feet, having sixty pillars of brick and stone and 77 domes on the roof. The floor is paved with encaustic tiles. At the end of the paper there is short account of a curious physical phenomenon, being a series of sounds as of distant guns which are heard at Bágárhát and all along the mouth of the Gangetic delta to Bakergunge. After storms and during calms the sounds are said to be the loudest. Some suppose it to be the result of the surf breaking with force on a low beach, but the Bábu believes it to proceed from some subterranean cause.

At the request of the President Mr. Hill read his paper.

Proposed by Dr. Partridge and unanimously carried, that the thanks of the Society be given to Bábu Gour Doss Bysack and Mr. F. Hill.

LIBRARY.

The following additions were made to the Library since the meeting held in May :—

Presentations.

*** The names of Donors in Capitals.*

Durjana Kari Panchánana by Rangáchári Swámi.—BÁBU RÁJENDRA LÁLA MITRA.

Report of the Government Charitable Dispensaries of Bengal for the year 1865.—THE GOVT. OF BENGAL.

Selections from the records of the Government of the N. W. P. New Series Vol. III.—THE GOVT. OF THE N. W. P.

The Rahasya Sandarbha, Vol. IV. No. 38.—THE CALCUTTA SCHOOL BOOK SOCIETY.

Social Science for India, a paper read before the Oudh Scientific Association, by Syud Shurfooddeen.—THE OUDH SCIENTIFIC ASSOCIATION.

Bulletin de la Société de Géographie of Paris, for February 1867.—THE SOCIETY.

Memoirs of the Geological Survey of India, Palæontologia Indica, Vol. V. parts 1-4.—THE SUPT. OF THE GEOL. SURVEY.

Purchases.

The Indian Medical Gazette, Vol. II. Nos. 1, 2, 3, 4.

- Comptes Rendus, Vol. LXIV. Nos. 6 and 7.
- Revue et Magasin De Zoologie, 1867, No. 1.
- The Annals and Magazine of Natural History, Vol. XIX. No 3.
- The Ibis, Vol. III. No 9, New Series.
- Revue des Deux Mondes, 15th February, 1867.
- Reise der Oesterreichischen Fregatte Novara um die Erde, in den Jahren 1857, 1858, 1859, unter den Befehlen des Commodore B. von Wüllerstorff-Urbair.
- ZOOLOGISCHER THEIL : *Fische*, 1 and 2 Abtheilung, by Dr. Rudolf Kner.
- Amphibien*, by Dr. Franz Steindachner, 1 Band.
- Vögel*, by Dr. August von Pelzeln, 1 Band.
- Formicidae*, by Dr. Gustav L. Mayr.
- Hemipteren*, by Dr. Gustav L. Mayr.
- Neuropteren*, by F. Brauer.
- Lepidopteren*, by Dr. C. Felder and R. Felder.
- GEOLOGISCHER THEIL, by Dr. F. Hochstetter and Dr. M. Hornes, Vol. I. Parts 1 and 2.
- STATISTISCH-COMMERCIELLER THEIL, by Dr. K. Scherzer, 2 Vols.
- MEDIZINISCHER THEIL, by Dr. E. Schwarz, Vol. I.
- Les Polynésiens et leurs Migrations, by M. De Quatrefages.
- Dei Molluschi Raccolti dalla Missione Italiana in Persia.
- Catalogue Général de la Librairie Française pendant 25 Ans. (1840—1865) By O. Lorenz. Liv I, II, III.
- Die Persischen Handschriften der K. Hof-und Staatsbibliothek in München, by J. Aumer.
- Die Arabischen Handschriften der K. Hof-und Staatsbibliothek in München by J. Aumer.
- Die Preussische Expedition nach Ost-Asien. Nach Amtlichen Quellen. Zweiter Band.
- Révolutions et Migrations des Peuples de la Haute Asie, by A. Jardot.
- Das Münz-, Mass-, und Gewichtswesen in Vorderasien bis auf Alexander den Grossen, von J. Brandis.
- Captain Beddome's Ferns of British India, Part XV.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR JUNE, 1867.



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

Dr. J. Ewart, in the chair:

The minutes of the last meeting were read and confirmed.

Presentations were announced—

1. From the Editor, the first Volume of the "Pandit."
2. From the Königlich Preussischen Akademie der Wissenschaften, I. Abhandlungen, 1865.
3. From the Government of Bombay, through Dr. R. L. Playfair, a copy of the "Fishes of Zanzibar."
4. From Lieutenant-Colonel B. Ford, Superintendent, Port Blair, specimens of a *Fulgoria candelaria* and a *Phyllium Siccifflia*, and the Skull of a Dugong.

5. The following gentlemen, proposed and duly seconded at the last meeting, were balloted for and elected as ordinary members.

The Right Rev. Dr. Milman, Lord Bishop of Calcutta.

Lieutenant J. Gregory.

W. Duthoits, Esq., C. S.

J. M. Scott, Esq., C. E.

Bábu Obhoy Churn Mullick.

6. The following gentlemen were candidates for election at the July meeting.

C. A. Hackett, Esq., A. R. S. M., Geological Survey of India, proposed by Mr. Ball, and seconded by Mr. Ormsby.

Dr. C. Macnamara, proposed by the President, and seconded by Mr. Ormsby.

N. A. Belletty, Esq., Civil Assistant, Topographical Survey of India, proposed by Captain H. H. G. Austen, and seconded by Mr. Grote.

Dr. J. J. Wood, officiating Garrison Assistant Surgeon, Fort William, proposed by Dr. Ewart, and seconded by Dr. Partridge.

The Council reported that they have elected the following gentlemen to fill up vacancies in the several Committees.

In the Library Committee,—H. B. Medlicott, Esq., and Cumár Harendra Krishṇa Deva.

In the Natural History Committee,—H. B. Medlicott, Esq., V. Ball, Esq., Dr. J. Ewart, and, Mr. Justice Norman.

In the Statistical Committee,—Mr. Justice Phear.

In the Linguistic Section of the Ethnological Committee,—Mr. Justice Markby.

A letter was read from Lieutenant-Colonel H. Raban, intimating his desire to withdraw his name from the Society.

Letters were read—

7. From the Director of Public Instruction, forwarding a copy of Mr. Cowell's Report on the Toles of Nuddea.

No. 1547.

*From the Director of Public Instruction,
To the Secretary of the Asiatic Society.*

Dated Fort William, 9th April, 1867.

SIR,—I have the honor to forward herewith, for the information of the Asiatic Society, a copy of a report on the Sanskrit Toles of Nuddea by Mr. E. B. Cowell, late Principal of the Sanskrit College.

I have the honor to be,

Sir,

Your most obedient Servant,

W. S. ATKINSON,

Director of Public Instruction.

*From E. B. COWELL, Esq., late Principal, Sanskrit College, Calcutta,
to W. S. ATKINSON, Esq., Director of Public Instruction,—(dated
the 19th January, 1867.)*

SIR,—I have the honor to forward you my Nuddea Report. As I have added at the end some remarks on its necessary defects and the causes of my long delay in sending it, I need not repeat them here.

I may add that the report would have been finished before I left India, if my time had not been occupied by some communications about the Madrassah, which took off my thoughts from the report.

I hope the report will be of some use, as it is. I wish I could return for a month to Nuddea, to make it better.

From E. B. COWELL, *Esq.*, late Principal of the Sanskrit College, to W. S. ATKINSON, *Esq.*, Director of Public Instruction,—dated the 17th January, 1867.

SIR,—I have the honor to forward to you the following report of my visit, in 1864, to the Toles of Nuddea :—

In accordance with your instructions I proceeded thither with Mr. Woodrow, and we were accompanied by Pandit Mahesa Chandra Nyáyaratna, one of the Professors of the Sanskrit College, with whom I have for some years studied Nyáya, and to whose wide attainments in Hindu philosophy, as well as general ability and learning, I can testify from personal knowledge in the highest degree. We left Calcutta on Monday the 29th of February, and made Krishnagur our head quarters, whence we made daily excursions to Nuddea, which is about ten miles distant. I must not omit to mention that we received much attention from the Mahárájá of Nuddea, who held a *quasi* durbar of Pañdits, which enabled us to make the acquaintance of many who did not reside in Nuddea itself. I returned to Calcutta on the 8th of March.

The word Tole (টোল) is a Bengali word of uncertain derivation ; but there are at least two Sanskrit words for the thing itself, *chatúsh-páthi*, *i. e.*, a place where the four vedas are studied, and *maṭha*. The former does not seem to be an ancient word, as I do not find any authority for it in the St. Petersburg Sanskrit Dictionary, except the Sabda Kalpa Drúma of Rájáh Rádhá Kánta Deva ; but *maṭha* is an old word and occurs at least as far back as the Amara Kosha.

The institution is curious and interesting, as being undoubtedly a remnant of old times. It represents, in fact, the same state of feeling in ancient India as that which we find in ancient Greece, and which so continually comes up in Plato's controversies with the Sophists or paid Professors of his day, *viz.*, the popular prejudice against receiving mercenary reward for the communication of knowledge. The Pañdit of a tole should properly not only instruct his pupils gratuitously,

but he should also provide them with food, clothing and lodging, during their stay under his teaching. He himself is to be remunerated indirectly by the invitations and presents which celebrity as a teacher would ensure his receiving at the religious ceremonies of the neighbouring zemindars. Thus my own visit was delayed some weeks in consequence of all the principal Pandits of Nuddea being absent, as they had gone to attend the çraddha of the late Rájáh of Cooch Behar. The tole system of Nuddea has, however, degenerated in this as in other respects. The Pandits of most toles in other districts still lodge and feed their pupils; but those of Nuddea, with very few exceptions, have been able to break through this custom. They now only supply their pupils with lodging, the reputation of Nuddea no doubt enabling them to attract students from other toles in spite of the greater inducements which the latter offer.

The chief studies of Nuddea are Smṛiti and Nyáya. It is the latter, especially, for which its name is celebrated all over India. Other provinces have their own peculiar schools of law, and Nuddea, therefore, can generally only attract students of Bengal to its Smṛiti toles; but in logic it has an unrivalled reputation. Chaitanya, the celebrated reviver of the mystic worship of Kriṣṇa at the close of the 15th century, was a native of this place; and it has produced a succession of great Naiyāyika teachers, whose names are household words in every Pandit family in India. In fact the name of Nuddea is associated with the latest development of the Nyáya philosophy.

The ancient Sutras or Aphorisms of Gotama do not represent the modern logic of India; and although the recent school may have added little or nothing to the real discoveries of the Hindu Aristotle, they have undoubtedly elaborated a most refined system of logomachy, far surpassing in subtilty and ingenuity all the scholastic disputations of mediæval Europe.

One of the most celebrated mediæval logicians was Gangeça Upádhyaýa of Mithilá, who wrote a large treatise, called the *Chintámáni*, in four sections on the four Naiyāyika *pramānas* or sources of knowledge, *i. e.*, perception, inference, comparison, and testimony. It is this work which has furnished the text to the modern Nuddea school. Its most renowned members are the following.

1. Raghunátha Çiromaṇi, who wrote a commentary on the first two sections of the *Chintámáni*. This is called the *Didhiti*.

2. Mathurá Nátha Tarkaváḡiḡa, who wrote a gloss on the *Didhiti* and also an original comment on *Gangeḡa*.

3. Jagadiḡa Tarkálankára, who also wrote a commentary on part of the *Didhiti* as well as many other works, especially a very celebrated treatise on logic and grammar, called the *ḡabda-ḡakti-prakáḡiká*.

4. Gadádharma Bhattáchárya, who wrote a commentary on the *Didhiti* and a series of works, such as the *Vishayatá-vádártha*, &c., on the abstrusest mysteries of the modern logic.

5. ḡankara Tarkaváḡiḡa, who wrote a commentary called *Patriká*, on the harder passages of Mathurá Nátha, Jagadiḡa, and Gadádharma. He seems to have flourished about sixty or seventy years ago: and it is he who is said to have brought to its height the present vicious system of disputatious logomachy which prevails in *Nuddea*.

A *tole* is generally a mere collection of mud hovels round a quadrangle, in which the students live in the most primitive manner possible. The *Paṇḡit* does not reside with them, but comes to teach them on the lawful days. Each student has his own hut, with his brass waterpot and mat, and few have any other furniture. Most make their own copies of the books they use, and a large part of the year is vacation, during which they wander over the surrounding country on begging expeditions; but during the reading months much hard mental labour is undoubtedly gone through. On one side of the quadrangle there is a "lecture hall," usually on a raised platform, some three feet from the ground; it is open on one side, and just sheltered on the other three from the rain and wind. In some *toles* it is only a thatched shed; in others it is a little more elaborate. Only one *tole* in *Nuddea* can boast of any external adornment. This is the *tole* of *Paṇḡit Prasanna Chandra Tarkaratna*. It was built for him by a *Bábú* of Lucknow, and is really an elegant building, occupying about a beegah and a half of land. The quadrangle inside is about thirty yards square and contains thirty rooms for the students. The rooms are generally about nine feet long and eight wide, with a window and door; the corner rooms are rather larger. More than half of one side is given up to a lecture hall or *dálán*. This stands on a platform raised some five feet from the ground; it has two apartments, each about thirty-three feet in length, the outer is ten, the inner twelve feet wide; and the front is supported by six pillars

which produce a very good effect. The other toles have no architectural display whatever. Everything is of a more than Spartan simplicity; and one cannot help honouring the zeal for knowledge, however misdirected the zeal or useless the knowledge, which leads so many students, generation after generation, to devote themselves to such monastic privations and hardships. The love of fame is, no doubt, the motive with many. The fact of having studied at Nabadwipa and gained an *upādhi* there, will ensure respect for a Pandit in every part of India, from Lahore to Travancore. But there are some who are led by less worldly motives. These come to study Nyáya, as students came to the University of Paris in the middle ages, and one can hardly fail to be reminded of Chaucer's lines about—

“The clerk of Oxenforde also
That unto logik hadde long ygo;
As lene was his horse as is a rake,
And he was not right fat, I undertake.
And able that he was a philosophre,
Yet hadde he but litel gold in cofre.”

I could not help looking at those unpretending lecture halls with a deep interest, as I thought of the Pandits lecturing there to generation after generation of eager inquisitive minds. Seated on the floor with his ‘corona’ of listening pupils round him, the teacher expatiates on those refinements of infinitesimal logic which make a European's brain dizzy to think of, but whose labyrinth a trained Nuddea student will thread with unfaltering precision. I noticed during my visit middle-aged and even grayhaired men among the students of the celebrated toles, and some of these had come from such widely different homes as Lahore, Pooree, and the Tamil country.

I visited every tole in Nuddea, and examined every one with my Pandit more or less thoroughly. The following is a list; but the number of the students is probably not wholly accurate, as of course no register of attendance is kept, and it was not easy to decide whether absent students were really to be counted on the rolls or not. Professor Wilson found from 500 to 600 pupils at the time of his visit in 1829, the number is now less than 150. Part of the decrease may no doubt be attributed to the prevalence of the epidemic which has driven many away, and prevented others from

coming; but there are other and permanent causes at work for the overthrow of the scholastic glory of Nuddea.

Smṛiti.

1. The tole of *Brajanáth Vidyáratna*. Here there were seventeen students, four from the districts round Nuddea (*deçíya*,) and thirteen from other parts of Bengal (*bideçí*.) Those from Bengal came from Dacca, Rungpore, Dinajpore, Jessore, Rajshahi, and Pubna.

2. That of *Rámnáth Tarkasiddhánta*. Here there were ten *bideçí* and five *deçíya* students. The former came from Jessore, Khunla near Dacca, Dacca, Tripur, and Burisal.

3. That of *Madhusudan Nyáyaratna*, the brother of Hara Mohan Chudámani. Here there were three *deçíya* and seven *bideçí* students, the latter from Jessore and Burisal.

4. That of *Haridása Çiromaṇi*. Here there were four students, two from the neighbouring district and two from Dacca.

5. That of *Çib Náth Bidyábáchaspati*. Here there were four students, two of whom came from Midnapore and one from Jessore; the fourth was a native of the Nuddea District.

6. That of *Prasanna Cúmár Vidyáratna*, brother of the deceased Çri Rám Tarkaratna. Here there were fourteen students, twelve of whom were *bideçí*, *i. e.*, as coming from Burisal, Dacca, and Chittagong.*

Nyáya.

1. That of the two brothers, *Hara Mohan Chudámani* and *Bhuvanmohan Vidyáratna*, and their uncle, *Raghúmani Vidyábhushan*. Here there were twenty-one students, four *deçíya* and seventeen *bideçí*,—the latter from Furreedpore, Burisal, Dacca, Midnapore, Jessore, Mithilá, and one even from Nepal.

2. That of *Prasanna Chandra Tarkaratna*. Here there were eighteen students, fourteen of whom were *bideçí*, *i. e.*, six from Mithilá, five from Delhi and Lahore, two from Pooree and one from the Tamil country.

3. That of *Mád hava Chandra Tarkasiddhánta*. Here there were sixteen students, eight of whom were *bideçí*, *i. e.*, four from Bakla near Comilla, two from Dinajpore, and two from Jessore.

* His pupils were quite middle-aged and some greyheaded. They wished to read with him, though a young man of twenty-five, as he belonged to a family long renowned as *Smarta Paṇdits*.

4. That of *Hari Náth Tárkasiddhánta*. Here there were thirteen students, ten of whom were *bideçí*, i. e., five from Midnapore, four from Mithilá, and one from Nepal.

5. That of *Krishna Kánta Çiroratna*. Here there were two students, both from Jessore.

6. That of *Brahmaçrama Swámi*, a dandi Goswami.

He had lately had seven students, but only one was with him at the time of my visit. His former house was destroyed by an inundation of the river. Before him it had been occupied by a very celebrated *dandi* named Swayam Prakáça; and tradition reports that it was at that house that the once projected College of Nuddea was to have been established.

Thus at the time of my visit I found only twelve toles. Professor Wilson in 1829 appears to have found twenty-five!

Besides these regular toles, there is also an *udásin* or ascetic recluse from Pooree, named Káçi Náth Çástri, who teaches Vedánta to the students of other toles:—

The following are some of the celebrated pandits in Nuddea without toles.

1. Lál Mohan Vidyábhushan.
2. Nanda Kumár Vidyábhushan. These two are very learned in Smṛiti.

The following are profounlly versed in Nyáya:—

3. Umácharan Tarkaratna.
4. Rájnaráyana Nyáyabhushan.
5. Nilmani Sárvaabhauma.
6. Surya Kánta Vidyálankár.
7. Raghumañi Tarkapanchánan.
8. Umá Kánta Nyáyaratna.
9. Purushottam Nyáyaratna.

Of course there are also many toles in the villages round Nuddea, these I did not visit; but I particularly heard of that of Lakshmi Kánta Nyáyabhushan, the purohit or family priest of the Mahárájáh. He teaches Smṛiti at Barigachhi, about ten miles to the north of Nuddea. I also heard a good deal of the Nyáya tole of Prasanna Chandra Nyáyaratna at Belpokhar, three kroses north of Nuddea. This Pandit was one of the six who signed the petition to the

Lieutenant-Governor, the other five being, I believe, Nuddea Pandits. He told me that he had twenty-two students, eleven *deçiya* and eleven *bideçí* from Mithilá, Burdwan and Delhi.

The Smṛiti students are said generally to study at a tole for eight years, the Nyáya for ten years.* All toles are closed for ten days in each month, *i. e.*, on the 1st (*pratipada*), the 8th (*ashtami*), 13th (*trayodaçi*) 14th (*chaturdaçi*) and 15th (*paurnamasi*) of each paksha or fortnight, beside two weeks for the Saraswatee pooja and occasionally for other parvas. In Nyáya toles they close from *Ratha* to *Rása*, *i. e.*, from *Ásháðha* to *Kártika* (five months). In Smṛiti toles they close for three months, from *Bhádra* to *Kártika*. But of course the studies are liable to irregular interruptions when the Pandits receive invitations from the zemindars. During the vacations the students go on begging expeditions (much as Hindoo and Buddhist ascetics have been famed for doing from immemorial times), or they return to their homes.

The studies at the Nuddea toles are chiefly confined to the following works, or parts of works, on logic and law :—

The chief works read in Nyáya or Logic are, besides the well known standard works, the *Bháshá-parichchheda* and its commentary the *Siddhánta Muktaáli*.

1. For *Vyápti* or the doctrine of the syllogism (comprising also the endless subtleties on *pakshatá*, or the conditions and rules relating to the minor term in its connection with the major term and the middle), the commentaries on the *Didhiti* by *Mathuránátha*, *Jagadiça* and *Gadádharma*.

2. For *hetvabhasa* or the fallacies, the commentaries of *Jagadiça* and *Gadádharma*.

3. For *Sámányalakshana jñána* (one of the most abstruse discussions of Hindu logic, referring to the transcendental perception, by which the mind, as it were, seizes the class in the individual, or, more properly, sees all the individuals under the one now present to the eye), the commentary of *Jagadiça*.

4. The *Kusumánjali*, or the celebrated attempt of *Udayana*

* Of course but for the continued interruptions the course of study could be finished in half the time.

Acharya to establish on Naiyáyik arguments the existence of the Supreme Being.*

5. The Çabda çakti prakáçiká of Jagadîça.

The chief works on Law or Smriti are—

1. Parts of Raghunandana's Ashtávinçati Tattwa.
2. Dáyabhága.
3. The Çráddha viveka.
4. The Práyaçchitta viveka.

The peculiarities of the Nuddea scholastic training may be summed up at once by a reference to that part of Bacon's *Novum Organon* which describes the system of scholastic logic still current in his day. In the 29th Aphorism of the first book he says that those sciences which are founded on opinions and arbitrary dogmas have a natural affinity to anticipation rather than to interpretation, and to the scholastic logic rather than to his proposed induction, for their object was to subdue assent, not things; to win victory in a disputation over an antagonist, not to extend man's dominion over nature. We have here an exact account of Nuddea logic, and the class of men whom it tends to educate,—its sole end is *vichára*, to win victory at a festival by clever arguments which silence the opponent for the time being. Many Pandits devote most of their attention to the *purvapakshas*, *i. e.*, those parts of the popular treatises which give at great length the arguments of the opposite side to the author,—it being the established rule in Hindu dialectics that every writer must present at full his opponents' views and exhaust all that can be adduced in their favour, before he proceeds to overthrow all that has been brought forward and to establish his own opinion.† These Pandits are thus enabled to stock themselves with a store of plausible arguments to oppose a popularly received opinion, and thus to win the credit of ably supporting an apparently hopeless cause. The very form of Hindu logic necessitates

* This has been edited with an English translation by the author of this Report.

† The writer has heard Pundit Iswar Chunder Vidyasagar relate how he first conceived his disgust at the native Nyáyá, when as a student he once spent a week of hard labour to master some abstruse opinion, which day after day was elucidated and at length made clear by the teacher. When the class met the next day, the first thing they heard was, "now this view is only the *purvapaksha*, we must now proceed to shew that it is incorrect."

error,—it is so fatally bound up with technical terms, that it inevitably degenerates into a mere playing with words; and this tendency, which is to some extent an inherent fault in European, as well as Hindu, mediæval logic, becomes exaggerated to its height in the modern Nuddea school.

In three of the toles we had the students exercise themselves in a discussion; and it was very curious to watch the intense eagerness of the disputants, as well as the earnest sympathy of the surrounding students and Pandits. A successful sophism elicited a smile of approbation from all.

The subject of one of these disputations was *Sádhyábháva* or the absence of the major term. I could not follow the intricacies of the argument, but its summary was as follows.—

All accept that *Sádhyábháva* means the absolute absence of fire, as, *e. g.*, in a lake of water. But how is this to be understood?

a.—In the sentence the lake has the total absence of fire or is totally destitute of fire; it cannot be merely meant that *all* fire collectively is absent, because this equally applies to a volcano, as that has indeed fire, but it is only mountainous fire and not kitchen fire. The sentence would, in fact, be useless, as it would be as true of any thing in the world as of your lake,—nothing can have *all* fire in it. *b.*—Again, as the volcano has the absence of fire and a jar, *i. e.*, has not fire and a jar both together, this is another way in which we might say that the same description would apply (if unlimited) to a volcano and a lake. *c.*—If you say the lake has *Kebala-vahni-abháva*, *i. e.*, has the absence of fire alone, this gives rise to a quibble on the meaning of ‘alone.’ This is met by defining it, as “it is not the absence of anything besides fire but only the absence of fire,” (বহীতরের অভাব নহে কিন্তু বহ্নির অভাব), this stops the apparent fault (or fallacy) of *Ubhayapaksha*. Then comes the question, “what is the meaning of the absence of all fire?” It is explained by কোন বহ্নি না থাক, there not being any fire there,—now in the mountain there is *some* (কোন) fire, and it is the absence of *any* (কোন) that distinguishes the lake. Then comes the question, what is meant by ‘anything besides fire?’ Does fire mean here mountain-fire or any kind of fire, and so on, for ever? For the series of endlessly emerging quibbles is never stopped by the exhaustion of the subject, but only of the disputants or the audience.

At the present time all *vichāras* are of this kind,—not to elucidate the real meaning (for this is accepted on the authority of the writer), but to endeavour to establish or overthrow some verbal quibble which seeks to impugn the perfect accuracy of the definition.

In the teaching of the Pandits everything is directed to one end, *ad bene disputandum*. The primeval fault of the Hindu intellect has always been an excessive tendency to note the differences of things;* and of course such teaching in logic and law only fosters this defect to the highest possible degree.

As a specimen, I would subjoin a disquisition on the nature of prohibition given by Pandit Brajanāth Vidyāratna, the leading teacher of Smṛiti.

A student was selected during my visit to his tole to read and explain a portion of one of Raghunandana's *Tattvas*. The passage brought up the question of prohibition or *Nishedha*, and this led to the Pandit's giving a lecture on its nature and object.

I must here premise that in Hindu logic there are three kinds of *abhāva*, *i. e.*, non-existence or absence.† These are respectively called "antecedent" (*prāgabhāva*), "emergent" (*dhwansābhāva*) and "absolute" (*atyantābhāva*). The first is the non-existence of a jar before it is made, which lasts from eternity down to the moment of its production and then ceases. The second is the non-existence of a jar when it is broken, which begins from the moment of its fracture and goes on to eternity forward. The third or absolute non-existence is seen in such sentences, as "there is no jar on this spot;" even if you move the jar thereto, there will be no jar in its former spot. The non-existence is always seen necessarily *somewhere*, else the jar would be omnipresent.

Now the Pandit maintained that the object of "command" (or *vidhi*) was to produce action or activity (*pravṛitti*); and similarly the object

* This tendency was at once the strength and weakness of the self-developed Hindu mind. Compare *Novum Organon*, i. iv. "Maximum et velut radicale discrimen ingeniorum, quoad philosophiam et scientias, illud est; quod alia ingenia sunt potiora et aptiora ad notandas rerum differentias, alia ad notandas rerum similitudines. Utrumque ingenium facile labitur in excessum, prensando aut gradus rerum aut umbras."

† Properly there are four, but the fourth (mutual or inter-exclusive non-existence) does not come in here. This is in fact our 'difference;' thus a jar and a chair mutually exclude one another, *i. e.*, they are different things.

of *nishedha* or "prohibition" was to produce the absence (or non-existence) of activity, *i. e.* *pravritter abháva*. Now the question arises to which of the three kinds of *abháva* does this belong?

He first shewed that it could not be the third or "absolute" *abháva*, as this would imply that the absence *must* always exist somewhere, whether the prohibition be given or not. Neither could it be the "emergent," as this would imply that the actions prohibited *must* necessarily have been previously done, before the prohibition could exist,—as if there could be no such thing as prevention but only cure! He therefore, concluded by exhaustion that the non-existence of action which a prohibition produced in its hearers was "antecedent" or *prágabháva*. In other words, until the prohibition is promulgated, the actions which it is to prohibit are of course not prohibited; they are not, therefore, *so long* the objects of its injunction; they only become so from the moment of its being issued. From the moment of its issue, these actions are forbidden, *i. e.*, the hearer of the law will thenceforth not do them. There will therefore, in his case, be an absence of such prohibited actions, which will continue until he violates the law; and this absence will of course reach back to eternity, as until the prohibition came, he never could have committed them as prohibited. In other words, the non-existence of prohibited actions ceases only when, *after the prohibition*, some such action is performed.*

This I think, is a fair and perhaps favourable specimen of the niceties of what Dr. Hall has well called "the arcana of Hindu dialectics."†

One of the things which most interested and surprised me in my visit to Nuddea was the great desire which I found everywhere existing for English education. Of course amongst the *bideçi* students this did not exist; the grown up and elderly men who come to Nuddea to complete a purely Pandit education, only care for studies which will gain them reputation at home; but it is very different with the *deçiya* students. I was continually receiving applications from the students for a free

* The Pundit's reasoning is perhaps illustrated by Gibbon's remark on the injustice of a retro-active enactment, "which punishes offences which *did not exist* at the time they were committed." (*Autobiography*, p. 80.)

† A contribution towards an index to the Bibliography of the Indian Philosophical systems, p. 32.

education in the Sanskrit College; everywhere the desire was expressed for a good Anglo-Sanskrit School. Such a school would effect more than anything else to abolish prejudice and to let light into a district which has long been a home of superstition and bigotry. The Church Missionary Society have long had a grant-in-aid school there. During the time of the Reverend S. Hasel, Sanskrit used to be taught there to a certain extent; but what is wanted is a thoroughly good school, educating up to the Entrance Examination, and at the same time giving a sound training in Sanskrit Grammar and Poetry. Perhaps the existing school could be adapted to this purpose, if the Church Missionary Society were disposed heartily to enter into it. Anyway the establishment of such a school, either by the Church Missionary Society or by Government, appears to me to be a pressing want, and I should indeed rejoice if my visit resulted in such a measure. Compared to this, the question of improving the toles is a measure of very secondary importance.

This leads me to notice a very interesting feature in Nuddea, which I was much surprised to find, and which seems to me a very remarkable proof, how a public demand is beginning to make itself felt for a better education than that given by the toles, even among the orthodox Hindu population. I refer to the *Akhaḍás* (আখড়া). These are schools kept by pupils of the Smṛiti or Nyáya toles, who here become in their turn teachers of grammar. I visited two of these schools, one held in the house of Pandit Rám Náth Tarkasiddhánta, and taught by Çri Náráyan Bhattáchárjya and Çri Mádhav Bhattáchárjya. Here there were twelve students. The second was held in the house of Pandit Rádhaballabha Bhattácháryya and was taught by Kumuda Nátha Çiromani and several other tole students. Here there were twenty-five scholars. In this *Akhaḍá* three students had finished the native grammar *Mugdhobodha*, and began to read Kálidása's poem, the *Kumára Sâmbhava*. I was interested to learn that two of the lads studying there were descendants in the seventh generation from the celebrated Pandit Jagadiça. In the first 'Akhaḍa' a little English was also taught, and the first book of reading was in use. This last fact seems to me most significant, that even in Nuddea, the centre of Hindoo exclusiveness, in a school entirely under the management of tole

students, a provision was made, however imperfect, for teaching some little smattering of the language and learning of the West.

The toles of Nuddea receive at present an annual pension from Government of Rupees 1,200. The history of this grant appears to be as follows:—

The Committee of Revenue found in 1784 that the Rájáh of Nuddea used to grant an allowance to the Paḍooás (পাড়ুয়া) or Sanskrit students of the toles, and in September 1784 they appear, to a certain extent, to have sanctioned an annual grant of Rupees 1,200 to this object. It was paid from the Treasury of Nuddea, and distributed to the students by a person on the part of the zemindars.*

On the 18th May, 1787 (further enquiry having been instituted) the Board of Revenue directed the Collector to continue the payment of the pension for the present, and to charge the same under the head of 'Pension.' On the strength of this order it was regularly paid to the students at the rate of Rupees 100 per mensem. In 1829, at the request of the Collector of Nuddea, the Civil Auditor (April 6th) made a reference enquiring as to the authority on which the pension was granted. The Board on the 6th June quoted their letter of the 18th May, 1787, and at the same time stated thus—"There is no mention whatever of this allowance on the accounts or correspondence relating to the decennial settlement; and if the payment has been continued without enquiring on the authority, it ought to be immediately suspended and a full explanation of the irregularity furnished by the Collector." The allowance was in consequence discontinued, but a remonstrance from the Nuddea students was received with the recommendations of the Moorshedábád Commissioners, dated 22nd January, 1830, and was submitted to Government on the 12th February.

Meanwhile the late Professor H. H. Wilson (then Junior Member and Secretary to the General Committee of Public Instruction) had visited the toles and reported on their state; and in a letter dated 3rd August, 1830, Government sanctioned the

* Professor Wilson in his Report describes this distribution as it existed in his time, 1829. It was given to the bidesi students, *i. e.*, those who came from places more than three days' journey from Nuddea, and it allowed them from twelve annas to one rupee per mensem.

continuance of the pension with arrears, and the payment has continued to the present time.

Professor Wilson remarks in his Report—"Although the value of the learning acquired at Nuddea may not be very highly estimated by Europeans, yet it is in great repute with the natives, and its encouragement even by the trifling sum awarded is a gracious and popular measure :” of course, with the spread of English education in Lower Bengal the native estimate of the value of “infinitesimal logic” and the toles which teach it, is gradually altering, and I have heard many of the most able English scholars among the natives speak somewhat strongly against the system. As it is at present conducted, there can be no doubt that the Nyáya toles of Nuddea teach very little that is of any worth, either for practical life or even the history of the human mind; but this partly arises, not from the barren nature of Hindu logic, but the barrenness of the special part of it, to which they exclusively confine their attention. It is, as if in Oxford we neglected the Organon of Aristotle, and exclusively studied “the Farrago of the Parva Logicalia.”* But if the really great writers on Hindu logic were systematically taught in the toles of Nuddea, I should hardly be inclined to condemn as worthless all that the students would learn there. As it is, they learn only a part even of Nyáya, and I found that very few could read any portion of the Kusumánjali, or knew much beyond the endless intricacies of *Vyápti* and *pakshatá*. Here of course they were completely at home,—it was a marvel to see how completely.

I am hardly prepared to suggest a definite plan for the improvement of the Nuddea toles, because I think that this would require a practical acquaintance with Mofussil education, which I do not possess. But there are two suggestions which I would venture to make :—

1. It would be a great improvement, if some superintendence could be exercised over the Sanskrit studies, and if rewards could be offered for *thorough* proficiency in the studies of the place. At present the certain effects of neglect and the absence of all encouragement are plainly seen in the toles,—they do not teach well what they profess to teach, every thing is chilled by the want of উৎসাহ from those in authority. Now regular examinations (with many rewards) in

* Mansel's *Aldrich*, Pref.

certain text books, held under the superintendence of the Inspector by such a Pandit of the Sanskrit College as Maheça Chandra Nyáyaratna, would give the needed stimulus. Examinations should also be held in the Mugdhabodha or Sanskrit grammar.

2. It seems to me very needful, that, as the *condition* of a liberal help for the Sanskrit studies, Government should insist on some amount of useful learning being also taught. Some arithmetic and perhaps geography and history, and (still better if it were but possible) some little Western Logic and Moral Philosophy would be an invaluable auxiliary and corrective to the peculiar training of a tole. Of course this must all be given in Bengali, and I have no doubt that a sound knowledge of Bengali itself is very rare at Nuddea, even among great Sanskrit scholars. In this way we should break into the narrow circle of prejudice and exclusiveness which hedges round so closely the students of Nuddea, and we should fit them for exercising a beneficial influence on their countrymen. At present they necessarily belong to the past, and are utterly unable to sympathise with or understand the mighty movements round them. A Nuddea student is an exact counterpart to Gibbon's description of the sophist Libanius, "a recluse student, whose mind, regardless of his contemporaries, was incessantly fixed on the Trojan War and the Athenian Commonwealth." Still, after all, their position and training unavoidably give them great influence among their countrymen, especially away from the towns. This influence is, no doubt, at present used everywhere against the progress of education and social improvement; but surely it would be an object well worth striving for, if we could improve, not abolish, the time-honoured tole, and if we could change the character of the students whom its system tends to form, into sound Sanskrit scholars instead of disputatious pedants, and into the friends, instead of the enemies, of native education.

I beg to forward you the above Report, and I must express my deep regret that I have so long delayed sending it. Much of it was written in India before I left, and I had hoped to send it completed soon after my arrival in England, but ill-health and prostration of energy precluded it, and subsequently I found it very difficult to collect the scattered fragments of my notes into a narrative. As it is, I feel it is very imperfect, and had I my Pandit Maheça Chandra by my side, I could easily increase its value tenfold.

As you have expressed a desire to have my Report, such as it is, I have resolutely gone over all my notes and memoranda and re-written the whole, and I send it with all its shortcomings and defects. It is not easy to write a Report on Nuddea in England. Little details have escaped me which I overlooked at the time, and which I now cannot supply; but I feel sure that the general impression I derived from my visit to the toles is still as vivid as it ever was.

8. From the Secretary to the Government of India in the Home Department, forwarding copies of a report on the manufacture of China grass by Mr. McClintock, American Vice-Consul at Bradford.

Revenue.

India Office, London, 7th March, 1867.

No. 12.

To His Excellency the Right Honorable the GOVERNOR-GENERAL of India in Council.

SIR,—I transmit to your Excellency in Council thirty copies of a Memorandum, by Mr. McClintock, American Vice-Consul at Bradford, respecting the manufacture of China Grass, and the price which can be obtained for it in this country, which I have received from Her Majesty's Secretary of State for Foreign Affairs.

2. Lord Stanley, in transmitting this paper, informs me that he has ascertained, through the Bradford Chamber of Commerce, that the importance attached by the writer of the Report to this article is not exaggerated, and that nothing but its high price stands in the way of its being largely consumed.

3. Under these circumstances, I agree with the Secretary of State for Foreign Affairs that it will be useful to forward copies of the Report to any of the Officers of your Presidency who reside in places which may be favorable to the cultivation and export of this grass.

I have, &c.,

No. 4159.

CRANBORNE.

Copy of this Despatch, together with three copies of the Report referred to, forwarded to the Secretary, Asiatic Society, Bengal, for information.

By Order,

(Sd.) A. P. HOWELL,

Under Secy. to the Govt. of India.

Fort William, Home Department;

the 22nd April, 1867.

Report by Mr McClintock, American Vice-Consul at Bradford, respecting the Manufacture of "China Grass."

*Consulate of the United States, Bradford,
December 15th, 1865.*

The Chinese have for centuries made, by hand labour, various descriptions of "grass cloth," well known in America and Europe, and often of great strength and beauty, from the fibre of the *Boehameria cordata* or *Urtica nivea*, known in commerce as Chinese grass.

Large quantities of the grass have at various times been brought over to England, and probably also to the United States, in the hope of finding a market among the dry goods manufacturers who are always on the look-out for new materials; but it has hitherto been, and it is even now, found impossible to produce a true "grass cloth" by machinery. The fibre is rather brittle, though very strong, and it is found that the China grass cloth of commerce is only to be woven by hand labour, in which, of course, the Chinese themselves are beyond the reach of competition. Large quantities of the grass have, therefore, been in store in London and elsewhere for years. Some enterprising manufacturer would occasionally purchase a few tons with which to make experiments; but the only result for a long time was, that he who experimented the most, lost the most. Thousands and even tens of thousands of pounds were sunk by one and another, who each fancied for a time that he had discovered the true method of working up this intractable substance. Whether it was tried in the United States or not, I do not know; but the concurrent testimony of my American friends in the trade is, that no one is now successfully working it at home. Within two or three years past, however, several firms in this neighbourhood have succeeded, by chemical means, in bringing the fibre into a state most closely resembling the best mohair or other bright worsted, and have worked up great quantities of the refined material as a substitute for worsted in many kinds of stuff goods, always, however, in combination with cotton (the warp being of cotton and the weft of the China grass), as they have not yet been able to work it properly alone.

The manufacture of worsted goods—that is, of goods made of long-staple wool, as distinguished from short-staple or ordinary wool—

has become an immense trade, of which Bradford has at present almost a monopoly, although the manufacture has lately been extending in many parts of New England. Four-fifths of these goods are of mixed material—that is, are made with cotton warps. And for many articles of the kind, especially for those requiring a stiff, strong, and cool texture, combined with a glossy, silky appearance, it is found that the prepared China grass makes the very best material.

Of course, the grass manufacture is yet in very few hands, but its development already, even within the last few months, has been signally rapid. The market value of the raw material has for some years past maintained itself at the very high rate of about 80*l.* per ton, which price it is supposed cannot be much lessened for many years to come. Two things are certain in this respect: one, that there is now, and will be here, a practically limitless market for all raw “grass” that can be imported at from 70*l.* to 80*l.* per ton; the other, that under any fluctuations of the market the material is intrinsically so valuable that it will always in the future command a price as high as that of cotton, and nearly or quite as high as that of worsted itself, if not even higher.

Here, then, is a great and rapidly increasing market for a certain vegetable production at a very high price. In America we have, on the other hand, vast tracts of country which, being in the same latitude and with very much the same climate as those districts of China of which the grass is native, should be able to grow this production to great advantage. Why not, then, introduce its culture?

It seems certain that the manufacture of the grass fibre will be established in our country at no distant day; but in the meantime there is a market in England for all that we can conveniently grow. It is, for our planters, simply a question of experiment with the seed, having in view the market price of the raw produce. Successful experiments have been made very recently in Java and in India, proving that the grass will grow in any climate warm enough for the culture of cotton and sugar, provided the ground chosen be sufficiently moist.

I venture to suggest that further information, as well as quantities of the seed, &c., can doubtless be furnished by our Consular Officers in China, especially, perhaps, by the Consul at Hankow,

that place being the chief market for the grass, which is brought thither from the interior, and often from a great distance.

The receipt of the following communications was announced.

9. From C. F. Amery, Esq., "On the origin of races."

10. From Bábu Pratáp Chandra Ghoshe, B. A. "On the Adjustment of the Hindu Calendar."

11. From Dr. J. B. Davies, the Ethnology of India.

At the request of the President, Bábu Pratáp Chandra read his paper, of which the following is an abstract.

The Hindu Civil year is a practical modification of the Hindu astronomical year. The astronomical year is determined by the period between two consecutive conjunctions of the sun with Aḥwini (β Arietis) the first asterism of the Constellation Aries. In determining the civil year we have only to reject the fractions of a day: thus, if the sun enter the first point of Aries at or after midnight of the 12th April, a day is to be added to the expiring year; or, if the sun enter on the morning of the 12th, we reject the day from the year.

The Hindu calendars placing the conjunction of the sun on the 13th April of the current year begin the year on that day. By a reference to European Tables and the solution of a few simple spherical triangles it is shown that the ecliptic conjunction of the sun with β Arietis happens in the present day between the 21st and 22nd April. The initial moment of the year was placed in former times on the vernal equinox, when the sign and the constellation Aries coincided. Owing to the retrograde motion of the equinoxes and to the neglect of Hindu astronomers in correcting the time of the first moment of the year, it has slowly advanced from the equinox at the rate of one day in 72 years.

The first moment of the Hindu year retains in its name the idea of its coincidence with the vernal equinox and the first moment of the ecliptic conjunction of the sun with the first point of Aries, a phenomenon that does not exist.

The vernal equinox is removed from the first of Vaiśákha by a period of about 22 days, and the moment of ecliptic conjunction of the sun with β Arietis is about 7 days in advance of the date. The paper is an attempt towards so adjusting the Hindu Calendar as will

make its indications agree with reality. To make the year begin with the ecliptic conjunction of the sun in the vernal equinox is an impossibility. To retain then the full idea which the name *mahá vishuva mesha sañkránti* conveys, is out of the question. The year must then be commenced at either of the two dates, the 10th of March, or the 22nd of April. The latter is preferred on account of the advantages the new method will confer on calculations.

A translation of the principal points of a circular issued in Sanscrit is appended. This quotes the most authoritative passages, showing that a change of the beginning of the year on account of the precession of the equinoxes is not contrary to the Çastras, with a Hindu the authority of the Çastra being the only argument.

Some doubts as to the propriety of performing the *Ghatotsarga* ceremony on the 31st of Chaitra having arisen, Professor Bápu Deva of Benares was addressed on the subject. The Çástrí replied favourably. His reply, with the original query, is appended to the circular. The circular quotes passages from the *Súrya Siddhánta*, the *Soma Siddhánta* and other astronomical works, to show that the Hindu authors admit of and give rules for determining the motion of equinoctial points.

Read a letter from Major C. H. Strutt, enclosing the following description of a coin of *Sophytus*.



Obverse. Head with helmet and cheek plates, a crown of laurel wreath over the helmet ; no inscription.

Reverse. A cock in splendid preservation with a Greek inscription perfectly plain, ΣΩΦΥΤΟΥ “of *Sophytus*.” Monogram S the Caduceus or Mercury’s Rod.

Purchased somewhere in the Peshawur district, from a zemindar, together with several coins of the Bactrian series, a gold Diodotus, two Alexander the Great’s coins, and one of the *Bucephalus* coins. All of these coins are in perfect preservation.

LIBRARY.

The Librarian submitted a list of books added to the Library since the last meeting.

Purchase.

Reise der Oesterreichischen Fregatte Novara. Zoologischer Theil. Lepidoptera. By Dr. C. Felder.

Dictionnaire Turc-Arabe-Persan. By Dr. J. T. Zenker. Heft XI.

Sanscrit Wörterbuch. By Otto Böhtlingk and R. Roth. *Bogen* 31-40.

Revue et Magasin de Zoologie, 1867, No. 2.

Revue des deux Mondes. 1st and 15th Mars, 1867.

Ibn-el-Atheri, Vol. I.

Comptes Rendus, Tom. LXIV. Nos 8 to 12, 1867.

The Indian Medical Gazette, Vol. II. Nos. 5, 6.

Hewitson's Exotic Butterflies, No. 62.

The Journal of sacred Literature, April, 1867.

The Quarterly Journal of Science, April, 1867.

Journal des Savants, March, 1867.

The Annals and Magazine of Natural History, April, 1867.

Catalogue de Livres Anciens et Modernes, Supplement.

The Westminster Review, April, 1867.

The Calcutta Review, May, 1867.

Exchange.

The Athenæum for Feb. 1867.

Presentations.

Transactions of the Royal Irish Academy:—Science, Vol. XXIV. Parts VII. VIII.—THE ROYAL IRISH ACADEMY.

Proceedings of the Royal Irish Academy, Vol. IX. Part IV.—THE ROYAL IRISH ACADEMY.

Proceedings of the Royal Geographical Society, Vol. XI. No. 1.—THE ROYAL GEOGRAPHICAL SOCIETY.

Memoirs of the Geological Survey of India, Palæontologia Indica Vol. V. Parts 1-4.—THE GOVERNMENT of India.

Jahrbücher der K. K. Geologischen Reichsanstalt. Band XV. 1865, No. Jänner, Febr. Merz:—The K. K. Reichsanstalt.

Alt-arabische Gedichte über die Volkssage von Jemen, als Textbelege zur Abhandlung "Ueber die süd-arabische Sage," by A. von Kremer.—THE AUTHOR.

The History of India by the Hon'ble M. Elphinstone, translated into Urdu, No. 9.—THE SCIENTIFIC SOCIETY OF ALLIGURH.

Bulletin de la Société de Géographie, Mars, 1867.—THE SOCIETY.

Abhandlungen der Königl. Preuss. Akademie der Wissenschaften zu Berlin, 1865.—KÖNIGL. PREUSS. AKADEMIE DER WISSENSCHAFTEN.

Proceedings of the Royal Society of London, Vol. XV. Nos. 90, 91.—THE ROYAL SOCIETY.

Journal Asiatique; VI. Series, No. 32.—THE SOCIÉTÉ ASIATIQUE.

Selections from the records of the Bombay Government, No. CII. New Series.—THE GOVERNMENT OF BOMBAY.

Palæontologia Indica, V. 1-4. The Gasteropoda of the Cretaceous Rocks of S. India, by Dr. F. Stoliczka.—THE GOVERNMENT OF BENGAL.

Cours d'Hindustani à l'École Impériale et spéciale des langues orientales vivantes près la Bibliothèque Impériale. Discours d'Ouverture du 3e Décembre, 1866.—THE AUTHOR.

The Fishes of Zanzibar.—BY LIEUTENANT-COLONEL R. LAMBERT PLAYFAIR AND A. C. L. G. GUNTHER :—THE GOVERNMENT OF BOMBAY.

Annual Report of the Geological Survey of India and of the Museum of Geology, Calcutta, 1866-67.—THE SUPERINTENDENT OF THE GEOLOGICAL SURVEY OF INDIA.

Proceedings of the Society for the Diffusion of Useful Knowledge in the Panjáb, Nos. XI. to XV.—THE SOCIETY.

The Pundit, Vol. I.—THE EDITOR.

Professional papers on Indian Engineering, Vol. IV. No. 15.—THE EDITOR.

Journal of the Agricultural and Horticultural Society of India, Vol. XIV. Part IV.—THE SOCIETY.

The Journal of the Statistical Society of London, March, 1867.—THE SOCIETY.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR JULY, 1867.



The Monthly General Meeting of the Asiatic Society was held on Wednesday the 3rd July, at 9 p. m.

Dr. J. Fayerer, President, in the chair.

The Proceedings of the last meeting were read and confirmed.

Presentations were announced—

1. From L. Jackson, Esq., a specimen of texture woven by insects, found near Gowas, in Zillah Moorshedabad.

2. From Dr. Hildebrand of Honolulu, through Dr. J. Anderson, a copy of the Grammar of the Hawaiian Language by L. Andrews, and a copy of a Dictionary of the Hawaiian Language by L. Andrews.

3. From Sir D. Macleod a photograph of a *Zungámi*.

The following gentlemen, duly proposed at the last meeting, were balloted and elected as ordinary members.

Dr. C. Macnamara.

N. A. Belletty, Esq.

Dr. J. J. Wood.

C. A. Hacket, Esq.

The following were candidates for ballot at the August meeting :—
C. F. Amery, Esq. Superintendent Arboriculture, Lahore, proposed by P. H. Egerton, Esq., seconded by Dr. J. L. Stewart.

Theodore H. Hughes, Esq., F. G. S., proposed by Mr. Mallett, seconded by Mr. Ormsby.

W. L. Granville, Esq., Civil Architect, proposed by Dr. J. Anderson, seconded by Mr. M. H. Ormsby.

R. H. Curran, Esq., L. R. C. S. I. and L. K. & Q. C. P. I. Indian Medical Staff, proposed by Mr. V. Ball, seconded by Mr. M. H. Ormsby.

F. Wilcox, Esq., Bengal Police, Purulia, proposed by Mr. V. Westmacott, seconded by Dr. J. Anderson.

A. Oldham, Esq., C. E., E. B. Railway, proposed by J. M. Scott, Esq., C. E., seconded by J. P. Collis, Esq., M. D.

The receipt of the following communications was announced.

4. From Lieutenant A. Pullan,—Remarks on some ancient ruins in the Gurhowl Bhatnr.

5. From C. Horne, Esq.,—Notes on Mynpuri Villages, Asowle.

6. From W. T. Blanford, Esq., A. R. S. M., F. G. S.,—Zoological Notes.

At the request of the President, the following paper was read by the Author.

On the Jungle products used as articles of food by the inhabitants of the districts of Manbhoom and Hazaribagh (Chota-Nagpore.)—By V. BALL, Esq. B. A., Geological Survey of India.

In introduction, Mr. Ball said.—“Last year I read before the Society a short paper which was written from such material as I happened to have by me. It was intended merely to convey an idea of the means of support on which large numbers of the natives had to rely during the famine; the subject being one of particular interest at that time. During the past working season I have made systematic enquiries, and am now enabled to lay before the Society an approximately complete list of all the Jungle products used as articles of food.”

The products are divided, in the list appended to the paper, under six headings, *viz.* fruits and seeds, flowers, leaves, stems, roots and fungi. These headings embrace upwards of 70 distinct species of plants, all of which yield more or less nutritious food. In most cases the Bengali and Hindustani names are given in addition to the Latin synonyms.

A full account of the particular uses, manner of preparation and value of the more important products formed the principal subject of the paper. According to the Author the various species are by no

means of equal value. While some furnish, so to speak, staple articles of food, others can only be regarded as edible, and in a few cases are even injurious, if eaten in large quantities.

The paper was illustrated by a collection of dried specimens which was inspected by the members.

The author, in answer to a question from the President as to whether he had understood him to say that a number of the people lived for a portion of every year on these products, replied that some of the aboriginal tribes, such as the Sonthals and Coles, as well as the poorer classes of Hindoos, depend solely upon the jungle to furnish them with the means of subsistence for from two to three months of every year.

Several members asked questions in reference to the Mhowa and other plants, specimens of which were exhibited.

The Secretary then read Mr. Amery's paper on the origin of races, of which the following is an abstract.

Mr. Amery, in the earlier portion of his paper, enters at some length into the known facts of the distribution of animals and plants over the surface of the world in distant provinces, the relation of these provinces to climate, the representation of species in similar climate, the influence which altitude in ascending mountains has upon the fauna and flora, and the resemblance of the results to those observed upon the earth's surface in passing from the equator to the poles. It is also shewn that distinct forms occur in widely separated countries, of which the climate is similar, as in tropical Asia and tropical America, and that this is not due to the unfitness of each region for the support of foreign forms of life, since, in many cases, they thrive if introduced. In other instances, the same forms are found existing in widely separated regions, as in the case of the floras of Northern Europe, and that of the Western (?) slopes of the Himalayas. Hence it is inferred that neither soil, climate nor any existing conditions have influenced the distribution of the fauna and flora of the globe.

Some illustrations of the replacement of animals by distinct forms in other regions are then given. The author considers that there is a relation between the animals and plants, also between them and man of each region. Mankind, he considers as constituting a genus, comprising several well marked species, some of the peculiar characters

of which are illustrated in the physical and mental characters of the Australian, American-Indian, Negro, Mongol and Caucasian.

The aboriginal Australian has never learned to work in metals nor to till the land, nor does he learn in contact with the European. He is a hunter by nature, but his highest weapon is stone or bone tipped. He has not advanced to the fabrication of the bow and arrow. Had he come in contact with large carnivorous animals, the race would have been annihilated.

The Red man of America is a slight advance on him ; he uses the bow and arrow, tills the soil, and makes himself formidable to such animals as he comes in contact with. The African is a further advance. The Mongolian takes us over a vast moral and intellectual gulf. And lastly comes the Caucasian, the highest existant type, mentally and physically. The Author considers that every argument which has been advanced in support of the unity of the race will be found, if tested critically—a vain effort to reconcile facts with a preconceived theory. The colour of each race is shewn to be quite independent of climate to which it has been attributed ; the black Negro, red Indian and yellow Mongol maintaining closely the same complexion in tropical and temperate and even in some cases in Arctic climates ; while other physical peculiarities, such as the thick lips of the Negro and the facial peculiarities of the Mongol, are shewn to be equally persistent. The mental faculties of different races are equally marked and appear to have always been so. The child of a Yorkshire peasant can by education be made the equal of the most learned in the land, while the child of an Australian is only capable of learning up to a certain point. The writer of the book of Job, the oldest Caucasian record, was the equal in mental calibre of the great men of the present day. Hence, barbarian tribes belonging to a civilized race like the Caucasians, are capable of civilization, while races like the red Indian and the Tasmanian are not.

The geological record shews that in past times, changes in the relative position of land and sea took place, and that the fauna and flora of each region have been entirely changed several times. The author considers that “ each distinct region of the dry land of the globe belongs to a distinct geologic era, that its fauna and flora represent the prevailing types of that era over all the land then above water,

and that remnants of every creation or nearly every creation, from the Permian era down, are left to shew what the earth was." New Zealand and Norfolk Island are especially cited as being a surviving remnant of the carboniferous epoch, or of a time immediately succeeding it. This is shewn by their monocotyledonous plants, palms, cycadeæ, and tree ferns, by the absence of quadrupeds, by the birds, the highest representatives of animal life, and by the fish in no way differing from the fossil representatives of the carboniferous age.

Australia appears to be the next oldest region; it has a fauna and flora distinct from that of New Zealand, and representatives of them are found in the European tertiary rocks. It contains no rocks of secondary age. The author considers that the causes of the differences from the fauna and flora of New Zealand are not explicable by the Darwinian theory, but that they must have been a new creation, which is now dying out before the animals and plants introduced by the white man. A similar distinction may be traced in America, Africa, the Malay land and Mongolia. Lastly comes the country of the Caucasian, resting upon the nummulitic rocks. Its upheaval wasted the previously divided Malay land, Africa and Mongolia, but it contains a fauna and flora distinct from those countries. The author states that the place of the nummulitic formation is not precisely determined, but that he is inclined to consider it a coast formation, contemporaneous with the chalk, a deep sea deposit.

The several types of man each occupy an area, corresponding to the different geological and botanical provinces, and the author thinks it improbable that he is not part of the same original creation. He points out, as a remarkable coincidence, that the race peopling every geologically newer region, is higher in the scale than the race of the next older region. The New Zealander is an exception, as the country appears to have been peopled by a Malay colony.

Mr. Ormsby said that he thought most of the facts brought forward by Mr. Amery had been known for a very considerable time. The idea of the organic remains in certain geologic formations in one part of the world being represented by the living flora and fauna of another is by no means new. Professor Owen, in his "Palæontology," (Ed. 1860, p. 307) compares the English oölite with Australia of the present day. He concludes his arguments by saying that the

animals and plants which now flourish in the Australian continent appear to complete a picture of the ancient condition of the earth's surface, which has been superseded in one hemisphere by other strata and a higher type of mammalian organization. Mr. Amery states as an evidence of the low condition of the aboriginal Australian that "his highest instruments are stone or bone tipped," and from this fact, in connection with others, appears to come to the conclusion, that the Australian man is an *animal* inferior to the Caucasian. Further, our author "would as readily believe in the Lamarckian or Darwinian theory of progressive development as in the descent of the Germanic and Australian races from one pair of parents." So far as this conclusion is derived from any arguments based upon the fact of the Australian savage using stone and bone tipped weapons, it is clearly untenable. Flint implements are found in abundance all over the surface of the globe, resembling in many respects those now used in Australia. This fact evidently does not prove that our ancestors who used these primitive instruments belonged to a lower species of men than we ourselves do. Mr. Amery surely can never have intended such a conclusion to be drawn from his interesting paper.

Dr. Colles said—"I do not think that any argument in favour of the former existence in Europe or elsewhere of a race similar to the modern Australians can be derived from the similarity between the flint weapons dug up in Europe and those used by the Australians at this day. In Argos and Etruria, in the earliest Irish churches, and in the ancient American buildings, we find precisely the same architectural style used, because in all these cases buildings were erected by men who found large stones ready to their hand, and had no occasion to make use of the arch—yet none but the wildest enthusiasts assert that the Peruvians and the Pelasgi are one race. Similarly, mankind in any country would be at first obliged to make their cutting instruments of stone, and, working with that material, would in every place turn out weapons much resembling each other. So men of the most different race have all, at one time or other of their history, been obliged to produce fire by rubbing sticks together, or to use the bow in hunting or warfare, for want of better expedients. The fact that bows are now used by the red men of America, and were used in England four hundred years ago, is no proof that England was inhabited by red men in the 15th century."

Mr. Waddie remarked that Dr. Colles's argument scarcely seemed complete. Mr. Amery would probably say that the higher types of man could make opportunities and create circumstances; the lower could advance only a certain length, he could carry improvements no further.

Mr. Justice Phear observed that the writer of the paper, would have greatly strengthened his illustration of the "Yorkshire Boy," if he had pointed to a living example of one in the position which he described, and could have shown that it justified his remark. So long as the instance adduced remained purely a matter of speculation, Mr. Phear was disposed very greatly to doubt, whether the boy, whose ancestors had in a continuous chain from the days of Canute to the present time invariably been peasants, and unable without exception to raise themselves out of the lowest social grade, would exhibit the comparatively superior intellectual capacity which Mr. Amery expected of him. And with reference to the colour of the skin used as an argument for diversity of origin, although it might be conceded that it is not a function of latitude or temperature, and not referable to exposure as a cause, still this did not leave it to be treated as unqualified evidence, without any reference whatever to its association with language. The fact that the darkest races of Asia and the fairest of Europe, exhibit a common bond of union in their language, introduces a difficulty in the way of solving Mr. Amery's problem, which that gentleman seems to have passed by unheeded. The paper everywhere appeared to disclose traces of hasty composition, and it would probably not be incorrect to conclude that it was written without opportunity for thoughtful reflection. It would hardly be fair to the author that it should be published in its present form.

Mr. Blandford said that Mr. Amery's paper had probably been written under the disadvantage of a want of any books of reference, even the most elementary. It was only possible in this way to account for the numerous errors it contained in matters of fact, such as the assertion that cervine animals abounded in Africa, or that the age of the nummulitics was unknown. The principal theory insisted upon, that of the affinity between the fauna and flora of certain geological periods, and those of existing geographical provinces was not new, and it was easy to shew that it was merely apparent. The speaker proceeded to examine the case of New Zealand especially quoted by Mr. Amery. The only similarity between the carboniferous flora and

that of New Zealand is not, as asserted in the paper, the presence of monocotyledonous plants or cycads, the first of which are very rare and the latter barely represented in the coal flora, but in the very large percentage of ferns and conifers in each case; and this is merely a case of external resemblance, for the ferns and conifers are not the same, and those of New Zealand are no more closely allied to the genera and species of the coal than the conifers and ferns of other countries are. Turning from the flora to the fauna, the resemblance vanishes. It is not the fact, as stated by Mr. Amery, that no quadrupeds were found in New Zealand at the time of its discovery. A rat was met with, and if, by quadrupeds, mammalia were implied, it should not be forgotten that bats, including forms peculiar to New Zealand, are common, and that cetacea occur around the coast. The gigantic birds are as completely unrepresented in the carboniferous epoch as are the mammals, and the fish and mollusca inhabiting New Zealand at the present day are closely allied to those inhabiting other parts of the globe, and have no connexion with those found in carboniferous rocks; while the reptiles, fish and mollusca of the carboniferous epoch are in many instances, the two first especially, better represented in other parts of the world at the present day than in New Zealand. As regards man, Mr. Amery's idea of the Malay origin of the New Zealander would probably be a novelty to the members of the Society who had studied Ethnology. Indeed the whole of Mr. Amery's argument was based upon imperfect data. At the same time Mr. Blanford was quite willing to admit that the different races of mankind differed quite as much from each other as races of lower animals which have been universally considered distinct species, and that the idea of mankind being a genus comprising several different species was perfectly tenable, but he thought no evidence whatever had been brought forward to shew any connexion between these races and geographical or geological provinces. Some races of men, as the Mongolians, inhabited two or more regions, each possessing a distinct fauna and flora. In conclusion, Mr. Blanford believed that Mr. Darwin, in the chapters on geographic distribution in the "Origin of Species," had satisfactorily explained most of the phenomena alluded to in Mr. Amery's paper, despite Mr. Amery's somewhat contemptuous allusion to the "Darwinian theory."

Mr. Blanford then read a few extracts from his paper:—"Zoological Notes."

LIBRARY.

The following additions were made to the Library since the Meeting held in June last :—

Presentations.

Selections from the Records of the Madras Government.—THE GOVERNMENT OF MADRAS.

Bulletin de la Société de Géographie.—THE PARIS GEOGRAPHICAL SOCIETY:

Schriften der Naturforschenden Gesellschaft in Danzig ; Neue Folge. Band I. Heft II. Beobachtungen der Magnetischen Declination in Danzig und Bemerkungen dazu, by E. Kayser.—NATURFORSCHENDE GESELLSCHAFT IN DANZIG.

Report on the Land Revenue Administration of the Lower Provinces for 1865-66.—THE GOVERNMENT OF BENGAL.

The Annals of Indian Administrations, Vol. X pt. IV.—THE GOVERNMENT OF BENGAL.

Natuurkundig Tijdschrift voor Nederlandsch Indie, uitgegeven door de Koninklijke Natuurkundige vereeniging in Nederlandsch Indie. Deel XXIX Afl. 2-4, 5-6.—THE BATAVIAN SOCIETY.

The Journal of the Bombay Branch of the Royal Asiatic Society, Vol. VIII. No. XIII. for 1863-64-65.—THE SOCIETY.

The Journal of the Chemical Society, Oct., November, and December, 1866, January, February and March, 1867.—THE SOCIETY.

Ten copies of a Review of "An Introduction to Kachchayana's Grammar of Pali Language, by J. D. Alwis Colon, 1863," by Professor A. Weber.—THE EDITOR.

Actes de la Société d'Ethnographie, Tome I. Liv. 8.—THE SOCIETY.

The Report of the British Association for the advancement of Science, Birmingham, 1865.—THE BRITISH ASSOCIATION.

Architecture at Bejapoor.—THE GOVERNMENT OF INDIA.

Architecture at Dharwar.—THE GOVERNMENT OF INDIA.

Architecture at Ahmedanagar.—THE GOVERNMENT OF INDIA.

Report of the Committee of the Bengal Chamber of Commerce, from 1st November, 1866, to 30th April, 1867.—THE BENGAL CHAMBER OF COMMERCE.

Magnetical and Meteorological Observations made at the Government Observatory, Bombay in 1864.—THE GOVERNMENT OF BOMBAY.

Lecture on Military Gossip, by Captain T. C. Anderson.—THE AUTHOR.

The Quarterly Journal of the Geological Society, No. 90, May, 1867.—THE GEOLOGICAL SOCIETY OF LONDON.

Proceedings of the Royal Society of London, No. 92.—THE ROYAL SOCIETY.

Natuurkundige Verhandelingen van de Hollandsche Maatschappij der Wetenschappen te Haarlem; on the Peculiar Crania of the Inhabitants of certain Groups of Islands in the Western Pacific, by Dr. J. B. Davis.—THE AUTHOR.

Purchases.

Revue des Deux Mondes, 1st and 15th April, 1st May, 1867.

Revue et Magasin de Zoologie, No. 3, 4, 1867.

The Annals and Magazine of Natural History, Vol. 19, No. 113.

The Edinburgh Review, No. 256.

Journal des Savants, February, April, 1867.

Comptes Rendus, Tome LXIV Nos. 13, 14, 15, 16, 17.

Reise der Oesterreichischen Fregatte Novara um die Erde in den Jahren, 1857, 1858, 1859, unter den Befehlen des Commodore B. von Wüllerstorff-Urbair; Linguistischer Theil, by Dr. F. Müller.

Ditto, Zoologischer Theil, Band I, Fische, Dritte Abtheilung, by Dr. R. Kner.

Reptilien, by Dr. F. Steindachner.

Conchologia Iconica, by L. Reeve, pts. 262 and 263.

Gould's Birds of Asia, pt. XIX.

The Ibis, Vol. III No. 10 (new series).

The Numismatic Chronicle and Journal of the Numismatic Society, pt. I., 1867.

Wolf's Zoological Sketches, 2nd series, parts, XI and XII.

Exchange.

The Athenæum, April, 1867.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,

FOR AUGUST, 1867.



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

Dr. J. Fayerer, President, in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced—

1. From Lieutenant-Colonel B. Ford: Imperfect skeletons of an adult and of a foetal Dugong.
2. From Bábu Shib Chunder Shome: a copy of History of Orissa in Bengali.
3. From Colonel H. L. Thuillier: six copies of Major Tennant's paper on the Eclipse of August, 1868.

Three copies of Professor Airy's Notes on the Eclipse of August, 1868.

From Monsieur Le Chevalier Cristoforo di Negri, through Dr. C. F. Tonnerre, a copy of *La Storia Politica Dell' Antichita paragonata alla moderna*, 3 Vols.

4. From the Government of Bengal, four copies of extracts from the Proceedings of the Bombáy Government.

Letters were read—

1. From the Government of Bengal in the Public Works Department, enclosing a copy of a report on an Earthquake felt in Sylhet at 1 P. M. on the 2nd of February, 1867.
2. From the Secretary to the Government of the North Western Provinces forwarding a copy of a report on the tribes of Jhansie or Scherias of Lulletpore.

The following gentlemen, proposed and duly seconded at the last meeting, were balloted for and elected as ordinary members.

C. F. Amery, Esq.

T. H. Hughes, Esq., A. R. S. M., F. G. S.

W. L. Granville, Esq.

R. H. Curran, Esq.

F. Wilcox, Esq.

A. Oldham, Esq., C. E.

The following gentlemen are candidates for ballot at the September meeting.

1. The Rev. W. Fyfe, Superintendent of the Free Church Institution, Calcutta, proposed by Mr. W. S. Atkinson, seconded by Mr. M. H. Ormsby.

2. Captain V. Gauvain, Messageries Impériales, steamship Meinam, proposed by Mr. Grote, seconded by Colonel C. S. Guthrie.

3. A. J. Hughes, Esq. C. E., proposed by Mr. J. M. Scott, seconded by Mr. M. H. Ormsby.

4. Lieutenant Butler, Assistant Commissioner, Gowhatty, Assam, proposed by Mr. Locke, seconded by Mr. W. T. Blanford.

5. M. Place, Consul General of France, proposed by Mr. A. Grote, seconded by Mr. M. H. Ormsby.

Dr. A. C. Macrae, whose retirement was announced in May, 1866, owing to a mistake, was reinstated in the list of members, from May last, the date of his arrival from England.

The following gentlemen have intimated their desire to withdraw from the Society.

Lieutenant W. Ramsden.

Captain M. Lloyd.

Lieutenant-Colonel H. Ballard, C. B.

The receipt of the following communications was announced—

3. From Lieutenant W. J. Williamson: "A Garrow Vocabulary."

4. From F. S. Growse, Esq., M. A. Oxon. B. C. S., "A translation into Latin Elegiacs of a Hindu Poem in the Sabhá Vilása."

The President then announced that Bábu Jádava Krishna Singha, a member of the Philological Committee, died of apoplexy on the 23rd of July, at the early age of 35 years.

He joined the Society in 1851, and was soon after elected a mem-

ber of the Council, and was for more than three years a Vice-President. He was an amiable man of retired habits. He was a good Sanskrit scholar, and his loss is much to be lamented by the members of the Society.

The Secretary then read a paper on the Ethnology of India, by J. B. Davis, Esq. M. D., of which the following is an abstract.

Our author begins his paper by saying that the Ethnology of India is no new subject, but is of great interest, and is at the present time attracting considerable attention. The study of it may be said to date from the earliest advent of western science to the shores of the Ganges; and it is considered to have made great progress, for, upon the foundation then laid, a comprehensive hypothesis has been built, and is now all but universally received, which is almost as vast as the old world, and probably embraces nearly as many races of man as the ancients were acquainted with.

Sir William Jones, in his third discourse, said: "The Sanscrit language, whatever be its antiquity, is of a wonderful structure; more perfect than the Greek, more copious than the Latin, and more exquisitely refined than either; yet bearing to both of them a stronger affinity both in the roots of verbs and in the forms of grammar, than could possibly have been produced by accident; so strong indeed, that no philologer could examine all three, without believing them to have sprung from some common source, which, perhaps, no longer exists."—*Ariana Antiqua*, p. 122 &c.

Our author thinks it difficult to conceive of the argument respecting the Arian hypothesis as other than a suppositional and unstable foundation for the Indo-European hypothesis, the affinity of words being the strongest and surest material that enters into the composition. A competent philological authority has already said respecting one great branch of it:—"If the current views concerning what is called the eastern origin of the so-called Indo-Europeans are correct, they are so by accident; for they rest upon an amount of assumption far greater than that which the nature of the question either requires or allows."—Dr. R. G. Latham. *Prickard's eastern origin of the Celtic Nations*. Preface, p. vii.

However, assuming this foundation to be substantially true, an immense amount of learning has been expended in investigating

the different subjects of comparative philology, in order to show the descent of a great number of words of various languages from a Sanscritic source—from which it is inferred that the very varied races of people who spoke or still speak them are all of Arian origin. So that at length, the Indo-European hypothesis embraces as of one family the races of Europe and of India, *i. e.* the Brahmans, Kshatriyas and Vaisyas, with many intervening links. With recipients of this hypothesis all contradictory facts are at once silenced by the very position we have already quoted from Sir William Jones, that the languages “cannot be examined without believing them to have sprung from some common source.” The conclusion alluded to is arrived at by transposing the argument from the subject of language to human races; if the languages had a common source, the people who have spoken, or who now speak them, are all intimately allied. The fact of the connection of or affinity in the languages is to a certain extent undeniable, but probably it admits of a rational and consistent explanation very different from the received one.

We do not venture to go into the question of the truth of so universally admitted a hypothesis as that of the Indo-European, for we are fully aware that great numbers of able and learned men in India are engaged in working out its details, and are daily discovering what are considered firm proofs of its validity. We shall limit ourselves to the suggestion, whether we can look with so much confidence upon the truth of this grand hypothesis, if there be good reason to conclude that the human race, instead of having had its cradle in Armenia, in any portion of Central Asia or elsewhere, and being left to its own inadequate struggles to diffuse itself all over the habitable globe, is, in the main, an aggregate of families formed by the hand of the Creator, in every different locality in which it is found, and each constituted by that wise Providence for the climate and productions with which it is surrounded.

A very distinguished physiologist, the favourite disciple of Blumenbach, Professor K. A. Rudolphi, long since pointed out that “a single human pair was certainly not fitted to people the whole earth. A wild animal or a disease equally might have defeated the object. This is not the way in which nature goes to work. In so important an affair as the peopling of the earth by men, she could not possibly

have risked all to so hazardous a chance.”—*Beyträge zur Anthropologie* S. 147.

And the celebrated zoologist, Professor Louis Agassiz, has said : “We maintained, that, like all other organized beings, mankind cannot have originated in single individuals, but must have been created in that numeric harmony which is characteristic of each species ; men must have originated in nations, as the bees have originated in swarms, and as the different social plants have at first covered the extensive tracts over which they naturally spread.”—*The Diversity of origin of the Human Races*, p. 128.

Our author then proceeds to quote Sir Samuel Baker’s paper on the races of the Nile basin. *Trans. Ethnological Soc.* V. p. 237.

He gives a detailed account of the low mental and moral state of the inhabitants of the district, and concludes by enquiring whether we can venture to date from one common origin, and claim this degraded creature as “*a man and a brother.*”

The question of colour next occupies our attention. Although the languages of the Indian and European races may be traceable to a Sanscrit source, yet one great race is black of various shades, and the other white of different shades, and they differ to an equal extent in their capabilities of intellectual development. To this it has been boldly replied that “no physiologist will insist upon difference of colour as an argument against the common origin of the European and Asiatic races.” In proof of this, many instances of fair and handsome families of Asiatics are cited. Reference is then made to the Scriptural testimony enunciated in the words, “Can the Ethiopian change his skin or the leopard his spots?” In support of this view, our author mentions the facts that the descendants of the Dutch colonists in South Africa are as fair as ever, while the descendants of the negroes who settled 80 years ago in Nova Scotia are still the same negroes that they were at first ; unfortunately with all the same intellectual and moral defects.

Our author then proceeds to state it to be his opinion that craniology affords a much more firm basis for ethnology than philology possibly can. If Europeans and Hindoos be of the same family, why cannot the former migrate to and live in India ? How is it that the people of India are celebrated for the smallness of their heads,

while the inhabitants of Europe have large heads? The magnitude of the brain among Europeans is too well known to need any proof. How are these facts to be reconciled, if both these people are the direct descendants of one and the same remote ancestry? They could only be reconciled by unwarrantable suppositions which are contrary to knowledge; for, in truth, they are totally irreconcilable. Since the days of Campen and Blumenbach, the craniology of the human race has taken the first position in anthropology, man being preëminent among all other animals in the preponderant development of his cerebral system which gives him his place in nature, and is the centre of all his peculiarities; it is, therefore, the best interpreter of those essential differences that reign between the several races of men. The collection of the materials for the study of the craniology of India may be said to have yet to be commenced, although great numbers of educated men have abundant opportunities for such collection. In all other regions of the globe, craniology has been made the proper basis for anthropological researches. An able writer in the "Calcutta Review" for June 1856, pointed out that this great branch of the subject is still open for inquiry, and said that "a circle of Medical officers, say at Ootacamund, Ahmedabad (in Guzerat), Cuttack, Manbhoom, Beerbhoom, Hazareebagh, Bhagulpore, Darjeeling, Nipal, Mymensing, Assam, Sylhet, Cachar, Tipperah and Chittagong, acting in concert, might unravel the inquiry of the skulls in a twelvemonth." It is to be hoped that the circular printed in the last number of the "Annals," No. XXI. p. 394, will excite attention to this most important matter, and that the reproach will not much longer remain, of an entire want of craniological material for the anthropology of India. The author has already offered aid in carrying out such a project, and hopes that it will be eminently successful.

It is trusted that the cultivators of Indian philology will hail with satisfaction the conjunction of the efforts of those who pursue physical researches with their own, as there is much diversity of opinion upon some primary points of their inquiry which may be dissipated by the latter. It is hitherto an unsettled question whether the Tamulian tribes of Peninsular India ought to be regarded as aboriginal; some of the most learned and most diligent investigators consider them as such, and ally them closely with the Scythic or

Turanian tribes of the north. It is not at all too much to say that this question, with a number of others, may be satisfactorily illustrated by an adequate examination of their craniology, whenever the means for such shall be procured. Whether this hope may be realized is after all doubtful, when we look to another line of philological inquiry. It is an admitted fact among philologists that the division of mankind designated by them "Syro-Arabian" is physically identical with the Aryan section; still the two cannot be allied, because the languages of the two families utterly sunder them. This proves the false position that has come to be assigned to philological affinities and diversities; they are erroneously assumed to be of higher import than sameness or discrepancy of organization. So that if Indian Ethnologists are not prepared to allow the position here assumed for craniological researches, still it must be admitted that, regarding them merely as auxiliary to those based upon languages, they are of the utmost value and utility.

Mr. W. Blanford said:—

It appears to me that Mr. Davis falls into precisely the error against which he inveighs. He objects to the affinities of the European and Hindu races being decided by the question of language alone, yet he attempts to decide it by the size of their skulls. At least one half of the errors which exist in natural history classifications, are due to the vicious system, a system which cannot be too strongly reprehended, of depending upon some one peculiarity or some one organ alone, without regard to others. I believe questions of race are not to be decided by crania alone, and if so decided, the decisions will, I believe, be of but small value.

Mr. Davies does not appear to me either to have answered the strong arguments which exist in favour of the unity of races, nor to have brought forward any but old and well-worn arguments on the other side. Some of the latter I am surprised to listen to. The fact that negroes have bred truly for 80 years in Nova Scotia, simply shews that three generations of children may resemble their parents. On the other hand, the assertion that no change ever takes place in the intellectual faculties of a race, appears opposed to the history of some of the races now inhabiting Western Europe, which 3000 years ago were savages, little, if at all superior to the tribes of Central Africa at the present day.

Dr. J. Anderson said, leaving out of consideration the opinions which Dr. Davis had expressed on the much disputed theory of the origin of the so-called Arian races of India, he believed, that the chief object of the paper, now before the Society, was to direct the attention of Ethnologists in India to the importance of physical characters as a means of determining the affinities of race. Dr. Davis, from the whole tenor of his communication, is apparently impressed with the idea that, in India, philology has been studied to the exclusion nearly of the physical aspect of the enquiry, and the aim of his paper evidently is, to try and excite in the minds of Indian philologists an interest in the physical facts of ethnology. To this extent I agree with Dr. Davis, as there cannot be a doubt that physical ethnology has been much neglected in this country. Under the circumstances, I think we are indebted to Dr. Davis for calling our attention to the subject, and I have therefore much pleasure in proposing that we should award him a vote of thanks.

With regard to the facts which Dr. Davis has adduced in support of the importance of physical ethnology, and the stress which he seemingly places on the mere capacity of the cranium as a rare character, I think that many more telling facts might have been selected, and that Dr. Davis, in placing the capacity of the cranium so prominently forward, to the exclusion of any mention of its general form and relative proportions, has much understated the question at issue,—the comparative importance of philology and craniology in Ethnological enquiries.

What physical ethnology aims at, in making the cranium the subject of its enquiries, is to attain, by the accurate measurements of a large series of the crania of a race, an accurate conception of the general form and relative proportions and capacity of the skull, and having satisfactorily determined these points in a number of races, to proceed to classify them according to the similarities of their crania. However, I am certain Dr. Davis is quite as impressed with the importance of researches of this kind as we are, and I only regret that he did not state the question more strongly. I have much pleasure in proposing the vote of thanks.

Dr. Partridge seconded the proposition.

The Secretary then read the following paper.

Notes in reference to the question of the origin of the Aboriginal tribes of India.—By Emil Schlagintweit, corresponding member to the Asiatic Society of Bengal, &c.

The Hon'ble G. Campbell, in his so highly valuable motion respecting the aboriginal tribes of India, argues the fact that, though some resemblance is existing between the languages of the broken aboriginal tribes of India and the Tibetan* races, yet both groups are widely differing from each other in bodily appearance. It cannot be denied, that there exist many an expression in the aboriginal languages as well as in the Dravidian group which are very akin to Tibetan; more important it would be to be able to point out some striking analogies in the grammatical structure; for such comparisons, however, the measures recommended by Hon'ble G. Campbell, must supply us with the necessary materials in future. Greater analogies still can be pointed out between Tibetan and the languages of some of the tribes of the Indo-Chinese Peninsula; also here, however, the difference in the general aspect rather seems to intimate, that from mutual contact elements, finally foreign, have crept into languages, the bearers of which stand but in a very loose ethnological connection with the race from whom they have borrowed.† When looking out for similarities in manners, we find the Kakhyen tribe of northern Bêrma wearing the sword in the same strange way, by means of a wooden ring to which the sheath is fastened with ropes, as it is the custom amongst the Lingphos in Assam. The Kakhyens, moreover, have hereditary chiefs, and the high dignity of a ruler may even be held by a child, should it happen the government devolves upon him in time of in-

* I have adopted the spelling of "Tibetan" instead of "Thibetan" in conformity with Csoma Korasi, Foucaux, Hodgson, Jäeschke, Schiefner, Schmidt, &c. The word Tibet has resulted from the combination of the two Tibetan words *Thub* and *Phod* both meaning "to be able." A king of the 7th century is said to have at the first made use of this name; at present, however Bhodqul, "territory of the Bhod," is the only name given by the inhabitants to the country. For further names see my "Kings of Tibet," Munich, Royal Bavarian Academy Index, s. v.

† This becomes evident by the interesting papers of Capt. T. R. Logan, "Ethnology of the Indian Pacific Islands," Journal of the Indian Archipelago, 1857, where numerous vocabularies are to be found; the coincidence is most remarkable in many instances; and Capt. Logan by the detailed analysis of these vast materials has to a great degree contributed to a better valuation of the variations. See also Schiefner *Tibetische Studien, Mélanges Asiatiques*, vol I; St. Petersburg, 1851, and my "Kings of Tibet," p. 6.

fancy; this practice reminds us of the system of incarnate priests in Tibet, where the seat of the Dalai Lama is taken, as a rule, by a mere child. It must be remarked, however, that the Tibetans distinguish the Kakhyens as a peculiar race, differing in language from that of the Shans and Bêrmese.*

But as regards definite conclusion, the comparison of the bodily appearance was duly pointed out as being of special importance. For the races in consideration here, this is the more unavoidable, since the linguistic affinity can be reduced in some degree to the influence of intermixture. Tibetans may have settled, by way of victory,† in parts of the Indo-Chinese Peninsula. But either they were few in number, or their reign was of short duration, as they have not left traces in the bodily proportions of these tribes.

In reference to general physical appearance, I wish to draw the attention to some striking differences shown by the face of a Tibetan when compared with an aboriginal of India; these differences have become evident to me by the analysis of the casts‡ taken from living individuals by my brothers during their travels. If we take a Tibetan, Nos. 197—228 of the Catalogue, or a Gorkha of Nepal, as *e. g.* No. 25, and look at his profile, we find as a rule that the depression of the nose is so great that the curve of the eye is more prominent than the saddle, the upper beginning of the nose. Amongst the aboriginal tribes of Central India, such as the Gonds and Bhils, this depression is not met with, though the orbits are very prominent; the lower end of the nose is very flat and broad (see Nos. 117—182 of the Catalogue). In this respect the aborigines are not very greatly distinguished from the Aryan race, which the eyes always lower than the nose-line, but there is another peculiarity which I consider very typical for the race of the aborigines. Take a cast of an aboriginal, *e. g.* No. 133 (Gond), No. 139 (Bhil), No. 138 (Kol), and unite by lines;—

* See Dr. Williams's papers on the question of British trade with China viâ Burma, in the Asiatic Society's Journal, 1864.

† Such is the opinion of Logan; I must, however, add that in my studies of Tibetan historical books I have not found any written record relating to conquests so far south-east.

‡ A complete set of these casts, comprising 275 heads, 30 hands and 7 feet, has been put up also in your rich Museum by the liberality of the Government.

- 1st. The orbits at their most prominent part.
- 2nd. The outer corners of the eyes.
- 3d. The wings of the nose.
- 4th. The corners of the mouth.

These lines will be found far from being parallel; the angles are in some cases even very sharp. I suppose that the ugliness of these races is particularly due to the great deviation of these lines from parallelism; for with the Brahmans, *e. g.* No. 1, and the Europeans in general, we find a regularity very great, just for these lines. Also the face of a Tibetan is far from being as irregular as that of an aboriginal, but one is greatly reminded of an aboriginal, if the same experiment is made with the facial cast of a Negro, *e. g.* No. 173.*

I here limit myself to these few remarks which I shall be happy to see carried on to a larger scale, in the volume on the Ethnography of India, which forms part 8th of the "Results of a scientific mission to India and High Asia." Outlines of the entire series of casts, both in full and in profile, shall be given, as well as of the skulls and skeletons (83 in number), together with the numerous bodily measurements.†

As to facial expression of race, my experience has shown me that plastic casts offer a wider field of inquiry than mere photographs.

The process by which the casts are taken is a most simple one;‡ only plaster of Paris, about 5-7 lbs. for each face, is wanted. The individual in question lies down on the ground, a writhed handkerchief is bound behind the ears to prevent the plaster from running down to the ground. Two paper-cornets, moist at the ends, for preventing irritation and sneezing, are put into the nose for allowing free breathing. Before the plaster is laid over the

* When skulls are compared in all their directions, analogous instances become evident and even more apparent still.

† Some of these measurements, which exceed the sum of 400, have been given in my "Buddhism in Tibet," Chapter XIV. For an analysis of the skulls brought home by my brothers, see Professor Velker's "Chronologische Mittheilungen, No. 7 of the Memoirs published by the German Anthropological Society, founded 1865. This series contains specimens of the following Indian castes and tribes: Rajputs, Lepchas, Ganges-Mussalmans, Thakurs, Sikhs, Bhots of Tibet, Kashmiris, Bhils, Gonds, Kols, Nagas, Khassias, Singalese, Gorkhas, Himalaya Bhots, Brahmans, Bais, Sudras.

‡ This series comprises 27 individuals; viz. Herbes, Rifs, Maures, Sus, Zuariks, Negros, African Jews. The heads as well as the facial casts have been as usually reproduced in metal, and are supplied by John Amb. Barth at Leipzig, at the price of £6 for an entire head (face and occiput).

face, which is done by means of a spoon, the face is to be carefully smeared over with oil or clarified butter, in order not to draw up with the plaster the hairs from the head; the beard, particularly, is to be preserved by stiff pomade of some kind. Our brother Edward, a Bavarian officer lately killed in the battle of Kissingen, succeeded, when in Morocco, in making casts of the back of the head also. For this purpose he found it of great use to cover the hair with thin oiled muslin. The back of the head was made first, then the borders were flattened with a knife, and all duly oiled; the head was placed again in this part of the mould for making the face and part of the breast; thus he obtained a true copy of the head. About 15 pounds of plaster are wanted for an entire head and part of the breast.

Dr. Anderson said that he felt quite uncertain as to what was attempted to be proved in the paper just read. If the object was to detect a similarity of race by the comparison of characters derived solely from the external face, he dissented entirely from the adoption of any such system in Ethnological research. The facial characters, when taken by themselves, as M. Schlagintweit has done from casts, which give not the slightest inkling of the form of the cranium, can lead to no very sound generalization in Ethnology, and indeed the more we restrict ourselves to one character as our guide, in proportion will be our liability to increase in error.

Believing that much weight cannot be attached to facial casts as an aid to Ethnological study, I commenced three years ago the formation of a series of life busts, to illustrate in the Indian Museum the external characters of the head and face of the various Indian races. The busts were taken from life, and the plan I adopted, appears to differ little from that which Mr. Schlagintweit has lately followed. It is this:—I make the subject lie down on a charpoy, and support his shoulder and head with a couple of pillows, over which a loose cloth is laid and tucked in round the head, neck and shoulders, to prevent the plaster spreading too much when it is poured on. Before making the subject lie down, I first thoroughly anoint his face, neck and shoulders and chest with oil; and his beard, moustache, eyelids, eyebrows and the hair of his head with butter, which should be laid on unsparingly on these parts, to prevent their adhering to the plaster. When the anointing has been

completed, I place a tube on to each nostril, to allow of respiration when the face is covered with plaster, and I plug the ears. He is then made to recline on the charpoy in the manner I have indicated, and a well oiled cord is laid along the neck from the shoulder in front of the ears and over the top of the forehead to the shoulder on the other side, the ends are allowed to hang down the shoulders a little way. The eyes being gently but firmly closed and the quills in the nostrils, the plaster is poured over the face, neck and as much of the head as can be reached without interfering in the least with the position of the patient; when the plaster is beginning to set, the ends of the string which passes from shoulder to shoulder are laid hold of by the two ends and pulled towards each other, thus separating the head and facial portions of the cast from one another; when the latter has hardened it is carefully removed and the man can then open his eyes and breathe naturally. With the former portion still remaining on the head and part of the shoulders, he is made to sit up, and the back of the head and neck; is well smeared with butter, and another well oiled string is placed along the posterior margin of the still adherent portion of the cast. The plaster is then poured on to the back of the head and neck; and when it has commenced to harden, it is separated from the remaining portion of the first cast by pulling the ends of the string towards each other. These two pieces are then removed, and the three are found to fit to each other in the most perfect manner. The process is thus completed; I have found it attended with little or no difficulty, and as I have manipulated on a number of hill tribes who are generally difficult people to manage, I fully expect to be able, through time, to have life busts of all the accessible Indian races.

These busts will prove of considerable value when crania cannot be obtained, and there is no country in the world in which the craniologist finds greater difficulty in obtaining materials for study than India, where the inhabitants either burn their dead or regard their remains with superstitious awe.

Dr. Partridge, as Secretary to the Falconer Memorial Committee, presented a marble bust of the late Dr. H. Falconer to the Asiatic Society. He stated that 44 members of the Society had subscribed Rs. 20 each for the purchase of the bust, and two subscriptions have yet to be realized, but even then a balance of Rs. 110 would be still due

to meet the excess of expenditure over receipts. He therefore appealed to the members for additional subscriptions which he hoped would suffice, not only to meet the balance due, but also enable the Society to purchase a suitable pedestal.

LIBRARY.

The following additions were made to the Library since the Meeting held in July last :—

PRESENTATIONS.

Annales Musei Botanici Lugduno-Batavi, by F. A. Guil. Miquel. Tome II. Fasc VI. to X.—THE AUTHOR.

Actes De La Société D'Ethnographie, 5th Avril, 1867.—THE SOCIÉTÉ D'ETHNOGRAPHIE.

Three copies of Memoranda on the Solar Eclipse of 18th July, 1860, and Data to aid in the observation of the Solar Eclipse of 17th August, 1868.—THE SURVEYOR GENERAL OF INDIA.

Annual Report on the condition and management of the jails in the North-Western Provinces for 1866.—THE GOVERNMENT OF THE NORTH-WESTERN PROVINCES.

Mémoire de la Société Impériale des Sciences Naturelles de Cherbourg, Vols. XI. and XII.—THE SOCIÉTÉ'.

Six copies of Memoranda on the Eclipse of August, 1868, by Major F. Tenant :—THE AUTHOR.

Two copies of Catalogue of the Mollusca in the collection of the Government Central Museum, Madras.—CAPTAIN J. MITCHELL.

Report of the Revenue survey operations of the Lower Provinces for 1865-66.—THE GOVERNMENT OF BENGAL.

Memoirs of the Geological Survey of India, Vol. VI. pt. I. Mr. Blanford's Geology of Cutch.—THE GOVERNMENT. OF INDIA.

Bulletin de la Société de Géographie, Mai, 1867.—THE GEOGRAPHICAL SOCIETY OF PARIS.

Four copies of Extract from the Proceedings of the Government of Bombay in the General Department, dated 27th June, 1867.—THE GOVERNMENT OF BENGAL.

Vividha Jnán Vistára, No. I.—THE EDITOR.

The Coal resources and Productions of India, by Dr. T. Oldham.—THE GOVERNMENT OF INDIA.

A History of Orissa in Bengali, by Shib Chunder Shome.—THE AUTHOR.

The Journal of the Chemical Society, April, May, and June, 1867.—THE CHEMICAL SOCIETY OF LONDON.

Reise der Oesterreichischen Fregatte Novara um die Erde in den Jahren 1857, 1858, 1859. Linguistischer Theil, by Dr. F. Muller :—K. K. MINISTERIUM DES INNERN ZU WIEN.

Proceedings of the Royal Geographical Society of London, Vol. XI. No. II.—THE ROYAL GEOGRAPHICAL SOCIETY OF LONDON.

Proceedings of the Academy of Natural Sciences of Philadelphia. January to December, 1866.—THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA.

Journal of the Academy of Natural Sciences of Philadelphia, Vol. VI. pt. I.—THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA.

Brief sketch of the gold, silver and copper coinage of Mysore by Lieut. H. P. Hawkes.—COLONEL C. S. GUTHRIE.

Annals of Indian Administration, pts. I. and II. Vol. XI.—THE GOVERNMENT OF BENGAL.

Annual report upon Vaccination in the North-Western Provinces.—THE GOVERNMENT OF THE NORTH-WESTERN PROVINCES.

ডুপ্লিসিৰ অৰ্থ কি? translated by Nandalala Dhol.—THE TRANSLATOR.

PURCHASE.

The Indian Medical Gazette, Vol. II. No. 8.

The Annals of Indian Medical Science. No. XXII.

The Annals and Magazine of Natural History, June, 1867.

Revue des Deux Mondes, May, and 1st June, 1867.

Comptes Rendus, Nos. 18, 19, 20 and 21.

Le Livre de L'Agriculture D'Ibn-Al-Awam by J. J. Clement Mullet, Vol. II. pts. 1 and 2.

Catalogue Général de la Librairie Française, Livr. 4.

Journal des Savants, Mai 1867.

EXCHANGE.

The Athenæum, May 1867.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR SEPTEMBER, 1867.



A monthly General Meeting of the Society was held on Wednesday the 4th September, at 9 P. M.

H. B. Medlicott, Esq., in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced—

1. From W. J. Herschel, Esq., Midnapore, through Mr. Grote, a human skull, wanting the lower jaw, with the sutures totally obliterated.

2. From Colonel J. T. Walker, a copy of survey of the western extremity of the Karatau Mountain, by Captain Meyer, translated by R. Michell, Esq., F. R. G. S.

3. From Sir A. Grant, Director of Public Instruction, Bombay, a copy of Catalogue of Native Publications in the Bombay Presidency.

The following gentlemen, duly proposed and seconded at the last meeting, were balloted for and elected as ordinary members.

The Rev. W. C. Fyfe.

Captain V. Gauvain.

A. J. Hughes, Esq., C. E.

Lieutenant J. Butler.

M. Victor Place.

The following gentleman is a candidate for ballot as ordinary member at the next meeting.

M. Eugene Petit, proposed by the Hon'bl Mr. Hobhouse, seconded by Mr. Grote.

Letters from Babu Bunkimchunder Chatterjee, Captain G. C. De-
pre, and Babu Haridása Dutt, intimating their desire to withdraw
from the Society, were read.

The Council reported that they have elected the Hon'ble J. P.
Norman a member of their body, in place of H. Beverley, Esq.,
resigned.

The Secretary then reported that 68 non-resident members have
voted for the changing of Bye-law 100, and replies from the remaining
were daily expected.

The receipt of the following communication was announced.

The Hill tribes of the Northern frontiers of Assam by the Rev.
C. H. Hesselmeire.

In giving notice of a motion, Mr. Medlicott said—

“ A case having recently occurred in which,—with strict adherence,
as I believe, to the Bye-laws 62, 63, 64 regarding Special General Meet-
ings—it has been possible, within the period of 6 days (as far as re-
sident members are concerned) to pass a measure altering a Bye-law of
the Society. Although the object of this measure is not questioned by
any one, the example has raised an alarm, that in a similar manner—at
variance, it is conceived with the spirit of Bye-law 43 regarding the
treatment of questions of importance—serious changes might be
carried, against the general feeling of the members: 1st, the alleged
danger lies in the absence of limitation, in rule 62, to what should be
considered as ‘ matter relating to the business of the Society;’ 2nd, I
am strongly of opinion that every precaution should be taken against
such an adventure; 3rd, anything might be brought under that
expression. It may, however, be safely assumed that the alteration of
a Bye-law can never be a matter of such urgence: more especially
as, by rule 75, the Council has considerable powers to provide
temporarily for emergent cases. I would therefore propose that the
latter portion of rule 62 be altered to read as follows: ‘ for the pur-
pose of taking into consideration special matters relating to the
business of the Society, but not intending to the alteration of
a bye-law.’ ”

At the request of the chairman, Mr. W. T. Blanford read the follow-
ing account of stone implements found in Central India.

“ At the October meeting of last year, I was enabled, through the

kindness of Mr. Rivett Carnac, to exhibit to the Society a very interesting collection of agate flakes and cores found by the late Lieutenant Swiney at Jubbulpoor. A selection from this collection has now been lithographed, for publication in the Society's proceedings. Since last year I have had some slight opportunities of adding to our knowledge of the distribution of these agate implements throughout the country, and I can also state a little from personal observation as to their mode of occurrence.

"I first met with them at Jubbulpoor. Major Oakes, of the Revenue Survey, and Major Ryder very kindly pointed out to me some of the localities in which Lieutenant Swiney's specimens were found. They appear to abound upon almost every rising ground. I found them here and there near Seoni, and abundantly at several places around Nagpoor. I also met with a few west of Chanda, and, lastly, with two or three small specimens on the trap outlier close to Rajamandry.

"They appear thus to occur in abundance along the edge of the trap country, which furnishes the stone of which they are composed. They are chiefly found on gentle rises, rarely scattered over alluvial plains. They are frequently to be met with a few miles outside the trap boundary. Whether they occur in equally large numbers throughout the trap area, it is difficult to say; they have certainly not been found in any quantity as yet. So far the theory which appears best to suit their mode of occurrence is, that men living outside the trap boundary travelled to its edge, in order to obtain the material for their flakes, made what they required on the spot, and threw away the useless cores and the badly shaped flakes. The spots I have indicated, rises near and upon the trap boundary, are precisely those where agates and jasper derived from the traps would first be met with. The numbers of the chipped agates, in some places, are astonishing. Lieutenant Swiney must have collected several thousand specimens near Jubbulpoor, and he only took the more perfectly shaped cores, throwing away at least 19 out of 20. The collection I exhibited last year, was only a very small portion indeed of his collection, of which Major Ryder possesses the bulk. I myself obtained several hundreds of flakes and cores from a small hill about 6 miles north of Nagpoor. The majority were not worth taking, as there were only a few faces on them from which flakes had been split, but taken in

connection with other specimens, the marks of their having been subjected to the same treatment was unmistakable.

“I have been unable to trace the flakes in connection with the extinct fauna of the Nerbudda and Godavery waters any further than I mentioned last year. As a rule, the cores and flakes only occur on the surface, or immediately beneath it, on the surface soil. This is precisely the case with flakes and cores of similar form in Europe.

“The enormous number of cores which occur, and their widely spread distribution, point either to a very large population using them, or, which is the same thing, to a very long period of time during which they were used. The former is unlikely, the latter extremely probable. The race which used them was probably one of hunters and fishers, scattered sparsely over the country.

“At the October meeting, I mentioned that I had seen specimens of cores, similar to those of Central India, brought from Sind. Specimens from the bed of the Indus have since been figured in the Geological Magazine, and I learn from Sir Bartle Frere, to whom I sent some specimens of the Nagpoor cores, that similar chipped siliceous fragments occur *in bushels* on the surface of the limestone at Roree. The Sind cores are of chert, doubtless derived from the nummulitic limestone, and they appear even to excel, in regularity of form, the specimens from Central India. I stated in October that I had seen no figures in European works of any of the sub-conical forms of cores. After the meeting, copies of the first number of Messrs. Christy and Lartet's *Reliquiæ Aquitanicæ* reached India, and in one of the plates there are some specimens figured, precisely similar to those of India, except in being much larger.

“I have nothing to add as to the relative ages of the Madras form of implements, the so-called axes, (not axes at all as I believe) scrapers, &c., and of the agate and jasper cores and flakes. I have, however, found specimens of the quartzite axe shaped implements about half way between Nagpoor and Chanda; again at Edlahad in the Pempunga valley, west of Chanda; and a very beautiful specimen at Maledi, W. N. W. of Sironcha. One or two specimens of the same form, but composed of agate, were found by Mr. Fedden, in the Pempunga valley in S. E. Berar, but their form is not sufficiently good to render their artificial origin quite certain.”

“ Mr. King said :—In April 1865, I found frequent specimens of chipped stone implements of the different types already met with by Mr. Foote, of the Government Survey, and myself in the neighbourhood of Madras, lying scattered over the surface of the eastern side of the Khoondair or central valley of the Kuddapah and Kurnool districts of that Presidency. They were principally found in that part of the valley which lies in the Kurnool district, and were generally of the flat oval form, that is, an oval, either long or short, having one end longer and more pointed than the other, and with—what I take to be a very distinctive mark of an artificially worked or chipped stone—a more or less regular and wavy sharp edge all round the larger periphery of the stone and in the same plane. The other form, not so commonly found, viz., a supposed axe-head, with one straight edge at the longer end, met by lateral edges from the short end, were also met with. All these were lying about irregularly, sometimes out on the open plains and on the rising grounds; or, as was more frequently the case, in the beds of the little lateral valleys of the streams. In the latter cases, the implements appeared to have been washed out of the layer or layers of gravel and shingle which occasionally show in the banks of these lateral valleys.

“ The principal localities about which these implements were found are the villages of Roodrar and Madaypoor, and the country between and south and north of them. In the beginning of last year, I was induced to look more particularly over the ground around these places, and was successful in finding some good specimens of implements *in situ*. These occurred in deposits which I have called the ‘ Implement gravels :’ and which are only seen to any extent in this part of the country along the eastern side of the Khoondair valley. Here these gravels show up all the streams flowing from the Nullamullays, which mountains border this side of the Khoond depression, and they are exposed in nearly every well that has been sunk within four to six miles of the bases of the mountains. The deposit generally consists of a pale yellow and greyish coarse clay, more or less filled with coarse sandy particles, fine gravel, or shingle. The gravel and shingle occur in irregular layers which are sometimes totally separate, but generally run into one another until they form often a thick bed at the bottom of the formation. I have never seen the whole deposit over

20 feet in thickness, but there is every evidence of its being thicker in places. The implement gravels are generally in the stream sections, over-laid unconformably by a finer sandy deposit, with fine gravel, which has been found on the worn surface of the older accumulations. The same coarse lower gravels extend southwards to the Kuddapah basin presenting like fractures; and thence we find them at intervals all the way down to the Madras area, where they contain the stone implements of the Trivellore taluq and other localities examined by Mr. Foote and myself nine years ago. The gravel and shingle is all of quartzite on altered sandstone: generally well rounded and quite smooth. For the most part, the clay is calcareous, the contained debris being coated with *kunkur*; but often it is ferruginous and mottled with red spots and patches of ferruginous matter, occasionally presenting a lateritoid character.

“ While working up the Madaypoor stream, I examined the vertical banks as closely as possible, and at last recognized the apparently rounded and edged end of an implement just sticking out from the shingle bed in the bank. This turned out to be a good specimen of a pointed oval: it lay in one of the layers of pebbles and rectangular fragments of quartzites which occur in a thick bed of ferruginous and lateritic sandy clay; at seven feet below the present upper surface of the bank. Nearly immediately above this layer, at about four feet from the surface, I picked out a second implement of a ruder shape: still a pointed oval, but rather thick than flat, as the ovals generally are. This was from another layer of coarse gravel which appeared to be the bottom of a newer set of gravels than that containing the first specimen: but I found afterwards that these apparently separate deposits run into each other by lenticular tailings. At the bottom of this bank and section, there is a very coarse gravel and breccia in a kunkury matrix, which partly forms a little talus or foot at the base: and from the surface of this, cemented with the rest of the shingle, I extracted another rude implement. It is broken at its longer end, and was flatter and not so pointed at this extremity as either of the others. It may possibly have fallen out of the bank above, and become cemented with the debris at the base.

“ Again, some seventeen miles further south, I found two implements *in situ* in the banks of the Ullamoor stream. They were associated

with the gravels much the same as was the case with those already described: the one in the face of the bank, at 4 feet from the surface: the other on the sloping edge of a cemented gravel bank in the bed of the ruins. They are both flat ovals, but without pointed ends: though slightly longer at one extremity than the other. They were not at all easily extracted from the surrounding gravel: neither were the three from the Madaypoor stream.

“So far, except in one instance when the rather doubtful specimen consisted of *trap*, our chipped implements of the Madras Presidency have hitherto been all of quartzite; but I was rather struck with the occurrence at certain points, along the banks of these streams, of scattered fragments of light and dark coloured *chert*, some of which looked like small ‘flakes.’ These fragments were likewise, in places, much crowded together, as though they had been broken off and left there, for instance by modern workers as substitutes for flints, or other uses to which chert might be put, or even that they might have been collected and broken for amusement by the shepherds and their children. There is, besides, a tribe of very uncultivated people, called Chensulahs, inhabiting the jungle skirting the Nullamullays; and they might have taken to stone for arrow-heads, &c. I could, however, learn nothing confirmatory of my suspicions; and the Chensulah people use iron arrow tips, or the simple hardened and pointed wood, while they do not remember that stone was never used by their ancestors for such purposes. Nevertheless, I did pick up a chipped fragment of chert, which looks remarkably like as if it had been manufactured: it is of a rude shield shaped oval form, short and blunt at one end, with a sharp edge all round in the same plane, and is about $2\frac{1}{2}$ inches long by 2 inches broad. The general elevation of that part of the Khoondair referred to, is from six to nine hundred feet above the sea. This is not, however, the greatest elevation at which implements have been found in the Madras Presidency: for I have picked them up in the Kuddapah Sub-division, a little south of Raichotee, at about 1,400 feet.”

Mr. King then showed three specimens which he had found on the surface in another series of valleys on the eastern side of the Nullamullays. The first was a very flat oval, with an extremely acute and sharp edge all round: which he supposed to have been a “skin-scaper.” In one of the other specimens, a large axe-headed form,

there is still apparent, on the largest flaked surface, the peculiar conical area of fracture called by archaeologists, the "core of percussion."

The third specimen was a very rude one, and is probably not an implement. It was very coarsely weathered and fractured, and does not possess a continuous plane edge all round its larger periphery. It was interesting at the time of its being found, from its being the only approach to a stone weapon which Mr. King had seen in the hilly country of the Kurnool district.

In the absence of the author, Mr. Blanford read the following note by Mr. Wilson of the Geological Survey.

"The chipped stones I send, form a portion of a large collection I made last season. I found them scattered generally widely over the trap area, forming the southern boundary of the district of Saugor, and the northern to the Nerbudda valley,—the highest ground of the scarp being covered with trap. They always occur in the surface soil, mostly black clay, called cotton soil; but in all cases the underlying trap rocks protruded in lumpy masses here and there through the soil, in which the chipped specimens were found. The only other fragments I ever found associated with them, were those of intertrappean rocks, and once a large fragment rolled of jasper.

"On the trap forming a large flat, and the summit of the scarp, two miles east of where the new road from Nursingpoor to Saugor crosses it, several specimens were found scattered about. This flat overlooks the sandstone area to the north-east, 10 miles westwards on the same plateau on the trap. Several more were picked up 11 miles north, again near Moar village, south of Deoree. Several more again on trap along the edge of the main ranges of trap hills, close to and north of Deoree. Some three dozen specimens were found along the north side of the Sookcher nullah, north and westwards of Deoree; and in the centre of the trap area four specimens were picked up, in surface soil, on traps.

"The Duhar nullah which crosses the Saugor and Deoree road, midway between the two, is bounded on the east by a high plateau of trap, on which several specimens were found. Sandstone shows in patches in the nullah bed, some 50 feet below. In the Singrampoor valley, between Jubbulpoor and Dumoh, I found 7 or 8 specimens

on the surface of the ground. On the plateau south, on which Killoomer hill is situated, some 600 feet above the valley, six or seven were found."

Mr. Ball then read the following note :—

"I have to record a single addition to the scanty collection of stone implements which have been found in Bengal. The specimen I now exhibit was found on the surface, at an elevation of about 700 feet, near the village of Gopeenathpoor, which lies 11 miles S. S. W. of Beherinath hill in the district of Manbhoom. Though of the same material (quartzite) it is much better shaped and more symmetrical than any of the specimens which I described in the communication I made to the Society in 1865.* This superiority of workmanship makes it approximate much more closely to the character of the implements from Madras than do any of the others. The chief interest attaching to this discovery is, that the locality is the most eastern in India, in which any trace of the ancient races who manufactured these implements has been found; no sign of anything of the kind has been met with in the alluvium which stretches for over a hundred miles further to the west. In Burmah and Assam, it is true, implements have been found, but they are of a very different type, and probably of a much more recent age. I do not feel that this discovery of a single specimen justifies me in making any further remarks; and I must content myself for the present with the hope, that, in the examination of the lower portions of Manbhoom, of Singbhoom and Dhalbhoom districts, formerly known as the jungle mehals, and at present inhabited in parts by rude and almost savage races, I may be sufficiently fortunate to make some discovery, which will throw more light on this very interesting and important subject."

Dr. Anderson then exhibited some specimens of agate flakes which were found in an old Andaman encampment, and which were forwarded to the Society's Museum by Col. Haughton in Nov. 1861.†

Mr. Ormsby, the general Secretary, directed the attention of the meeting to some celts from the Indian Museum which had been presented to the Society, in February, 1861, by H. P. LeMesurier, Esq., Chief Engineer, Jubblepore Line, E. I. R.

These implements were of a much more finished description than

* Vide P. A. S. 1865, p. 27.

† Vide P. A. S. 1863, p. 306.

any of the others exhibited, and were evidently much more modern. A full account of them is given in the Proceedings for February, 1861.

Mr. Ormsby then remarked that he thought one of the best proofs of the antiquity of the ruder forms of stone implements, and of the fact of their being manufactured by man, can be seen in the case of a weapon being found stuck in the scapula of a *Megaceros Hibernicus*, an animal now extinct.

Mr. W. T. Blanford said—

“I am much disposed to believe that we have evidence in India of the existence of man at a much earlier period than in Europe. I pointed this out last year, but the subject has not attracted the attention it deserved; and I may therefore briefly rekapitulate the peculiar circumstances which render the flake found by Mr. Wynne, in situ in the Godavery gravels near Pyton, so peculiarly interesting. As I then stated, although the flake is so well shaped, that I entertain very little doubts of its being of human manufacture, still it is extremely desirable that further evidence should be obtained; and it is only right to add that, although both Mr. Fedden and I searched carefully this year, in several places upon the tributaries of the Godavery (the Wurda and Pem or Pyne Gunga), where fossil leaves are met with, no more flakes were found. But, accepting Mr. Wynne’s flake as of human origin, we have evidence of the co-existence of man with the animals, the bones of which occur in the Godavery gravels, and which are identical with those found in the Nerbudda gravels. The fauna thus indicated differs much more widely from the existing Indian fauna than the pleistocene animals of Europe do from those now existing in that country. The change which has taken place in the Indian fauna since the period of the Nerbudda gravels, consists in a substitution of animals with Malay affinities for animals with European or African affinities. I cannot now enter into this subject at full length, but I will point out the most remarkable instance. The great bovine of the Nerbudda gravels, an animal, the remains of which are peculiarly abundant, was a true Taurine, so closely allied to the great *Bos primigeuius* of Europe (or, as innovators in scientific nomenclature prefer to call it, *Bos Urus*,) that the differences are scarcely more than sufficient to constitute geographical races. But, as is well known, the only indigenous race of wild bovines (exclusive of the buffalo) in the Indian peninsula, the Gaur, is a flat horned

Taurine, belonging to the subgenus *Gauæus* or *Bibos*, widely different in structure from the true round horned Taurines; and both the Gaur and other species of the same subgenus are unknown north and west of India, in the countries inhabited by the modified (domestic) descendants of *Bos primigenius*, but abound throughout the Malay peninsula, and in several of the islands of the Malay Archipelago. A more complete case of the substitution of one animal by another with distinct affinities could scarcely be imagined; now I know of no such case of substitution having taken place in Europe since the pleistocene period; species have died out, just as the Hexaprotodont and Tetraprotodont Hippopotami of the Nerbudda have become extinct in India, but that is all; and I cannot help thinking that the distinction is important, and that it indicates a longer interval in India since the deposition of the Nerbudda gravels than has taken place in Europe, since the formation of those pleistocene beds in which the oldest remains of man, yet discovered, have been found. The fauna of India at the present day is a remarkable mixture of African and Malay forms. The idea, so commonly expressed in European books, of India belonging to the same geological province as the Malay peninsula and Southern China, is quite erroneous. The fauna of the Nerbudda gravels, however, so far as it has hitherto been worked out, appears to have been either purely Western (African and European) in its affinities, or to have been much more nearly allied to the Western fauna than is that now existing."

Mr. Justice Phear remarked—

"That as there was still, no doubt, very much incredulity as to whether these supposed stone implements were properly attributable to a human origin or not, he might be permitted to mention a fact which in some sort afforded negative evidence in favour of the hypothesis. A few years ago, he had occasion to examine with some care the gravels of the valleys of denudation in Norfolk and Suffolk: a very large portion of these gravels consist solely of flint, and are the result of the erosion and the dissolving of the chalk in which the flints were originally imbedded. In most instances, no traces of beach action are apparent, though on the other hand the flints are often broken, obviously by violence. The result is, that in these counties are very large quantities of gravels, in which the flints universally exhibit abrupt outlines and sharp edges: still, among these

he never detected any forms resembling those of the stone implements. At the same time he must admit that his observation was not then quickened by expectation. If, however, his supposition, that these forms were absent in the gravels of which he had spoken accorded with the fact, it would go some extent to show that they were not probably due to fracture brought about by natural causes. He would add that too much weight ought not to be given to the objection founded on the rudeness and incompleteness of the great bulk of the specimens, because if they really were the handy work of man, most if not all of those found in the gravels, from which they are manufactured, would be failures. All that were finished, and brought to a condition fitted for use, would of course be taken away from their places, and, if discovered at all, would be found isolated or on the sites of dwellings."

Mr. Dall suggested that the instruments might have been used for religious purposes, probably as sacrificial knives.

Mr. Ball said :—

"One of the chief difficulties with most of these implements is to assign a probable use for them. If it be true that the art of manufacturing some of the more complicated forms is lost, it seems no less to be the case that the art of putting them to the use for which they were intended has not been handed down. As suggesting a probable use for some of the flakes exhibited by Mr. Blanford and Dr. Anderson, I would remind the meeting that, when the first Europeans landed in Mexico, they found that the inhabitants used to shave themselves with flakes of obsidian : two such razors, it is said, were blunted by the operation. It is a well known custom amongst the Andamanese to shave the head with pieces of broken glass, as well as to use lancets of the same material ; now, bearing in mind the objection which savage races always have to adopting new customs, we cannot suppose that the introduction of this one was posterior to that of glass. And we are thus led to speculate as to what the material can have been which glass has superseded. The flakes collected by Col. Haughton and exhibited by Dr. Anderson this evening, seem to prove that a source of flint or agate must be accessible to the Andamanese, though, what its nature may be, the scanty knowledge at present possessed of the geology of the Andamans, prevents our determining. Future investigation may shew, that with the Andamanese, as old nails and scraps of iron have

taken the place of bone, hardened wood, and possibly flint as the material for arrow-tips,—so fragments of glass have superseded flint razors and lancets.”

Mr. King said, with reference to the supposed uses of these implements, that he was strongly inclined to consider, that they had been to a large extent used in the hand. They are easily held in this way: injury to a fellow creature might be easily brought about by a good blow from such a hand weapon: and the hewing of wood, grubbing up of roots, and the scraping of skins were savage practices which might be easily, though slowly, done by manual labour, assisted with one of these oval, or axe-headed implements.

Dr. Anderson then exhibited four deer horns and three skulls received from Colonel Dalton, and directed the attention of the meeting to the fact of the sutures of one of the skulls being almost entirely obliterated.

“Mr. Ball said—I have to regret that I was not before aware of Dr. Anderson’s intention of exhibiting this skull this evening, as I possess a somewhat similar one, which I picked up at Searsole near Ranigunj in November last. It was found in a field where lay the bones of hundreds of victims to the famine, so that it is impossible to say with certainty to what race or caste its owner belonged, but the presumption is in favour of his having been either a Bhowrie or a Sonthal. This, however, is a matter of not much importance, as so abnormal a specimen could never be regarded as an ethnological type. Since it was picked up, ten months ago, I have not seen it, but as far as my recollection serves me, it had most of the principal sutures either partially or totally ankylosed. Besides which, it had a strongly marked ridge over the eyes. I shall take the first opportunity which may occur of exhibiting it to the Society.”

The following communication has been received from Mr. Ball.

“The discovery of stone implements having proceeded so far in India, it has been thought desirable to tabulate the principal facts which have been published on the subject, with the twofold object of facilitating future reference, and of shewing in one view how extensively these remains are distributed, not only in India itself, but also in some of the Islands of the Indian Ocean.

“The implements are divided into the three following classes.

- A, Cores and flakes of agate, flint, &c.
- B, Chipped axes, &c., chiefly of quartzite.
- C, Polished ‘celts’ of Trap, Chert, Jade, &c.

List of localities in India where ancient stone implements have been discovered.

CENTRAL PROVINCES AND CENTRAL INDIA.

Character.	Material.	Locality.	Position.	Discoverer and reference.	Specimens where deposited.	REMARKS.
A. Arrow head.	Chert.	Nyagurhee 28 miles west of Caebye, Jubbulpore district.	?	Mr. H. P. Le Mesurier, C. E., P. A. S. B. 1861, p. 81.	Private collection.	
" "	Flint.	Jubbulpore district.	In granitic gravel and red soil.	Found by Lt. Swinney, H. R. Carnac, in P. A. S. B. 1865, p. 77.	Two specimens forwarded to the Asiatic Museum.	
Cores.	" "	" "	" "	id.	A number of specimens sent to Sir C. Lyell.	
Hammers and knives.	" "	" "	" "			
Hammers, flakes and cores.	Agate.	" "	On surface.	Lt. Swiney, Mr. W. H. Blanford, in P. A. S. B. 1866, p. 230.	Mr. Rivett Carnac's collection.	
Cores.	"	Also at Seoni, Nagpore, Chanda, Rajmahendy.	On all rising ground	Mr. W. H. Blanford, P. A. S. B., Sept., 1867.	Portion in Geological Museum, Calcutta.	These are found all along the edge of the trap country.
B. Axes, &c.	Quartzite.	Nagpore, Chanda, Edlabad in Pem-Gun-ga valley, Maledi W. of Chanda.	On surface.	Mr. W. H. Blanford, P. A. S. B., Sept., 1867.	In Geological Museum, Calcutta.	

Axe.	Agate.	Pem Gunga valley S. E. of Berar.	On surface.	Mr. F. Fedden, vide Mr. W. H. Blanford, (l. c.)	id.	Said to occur in great profusion.
Axes, &c.	Vindhyan sand- stone.	South part of Saugor district.	In and on the cotton soil.	Mr. W. L. Wilson, P. A. S. B., Sept., 1867.	id.	
C. Hatchets (Bat- tle axes?)	Trap and Ba- salt? one of Laterite.	Manikpore and Kir- wee.	In temples round Mahadeos.	Mr. H. P. Le Mesu- rier, C. E., P. A. S. B. 1861, p. 81.	12 specimens in Asia- tic (now Imperial) Museum.	Found in great quan- tities but always in temples; large quantities of lim- pets bearing traces of fire, have been found near the localities where the implements were first found.
Long and short axes, &c.	Greenstone, a schistose rock and one case of limestone.	Bundelkund.	"	Mr. W. Theobald, Jr., P. A. S. B., 1862, p. 323.	?	Length varies from 1½ inches to 10 inches. Mr. T. re- marks on absence of quartzite and Vindhyan sand- stone celts.
Hammer.	?	Powari E. of Son river.	?	.....	?
Battle axes, Perforated stones, hammers?	?	Jubbulpore district.	On the Chautras, round the Maha- deos.	Mr. V. J. Carey, P. A. S. B. 1866, p. 135.	Private collection.	

MADRAS.

Character.	Material.	Locality.	Position.	Discoverer and reference.	Specimens where deposited.	REMARKS.
B. Axe and scrapers.	Semi vitreous quartzite.	Near Madras.	In laterite gravel bed.	W. King and R. B. Foote, Dr. T. Oldham in P. A. S. B. 1864 p. 67.	Geological Museum, Calcutta.	This was the first discovery of implements <i>in situ</i> in India.
Axes, Hatchets, spears, &c. in great variety.	id.	id. Rachoozee. Kurnool.	In laterite gravel or unaltered laterite conglomerates of uncertain age.	Dr. Oldham, Messrs. R. B. Foote, C. Æ. Oldham, W. King. See Dr. Oldham, P. A. S. B., 1865. p. 206. R. B. Foote, Madras Journal of Literature and Science, Oct., 1866, pp. 1—46.	id.	For particulars of localities, &c. See appendix to Mr. Foote's paper.
Axes, scrapers, &c.	"	.....	In situ in gravel.	W. King, P. A. S. B., Sept., 1867.	id.	

BENGAL.

B Axe and spear heads.	Quartzite.	Manbhoom in Jher- ria coal field.	On surface.	Mr. V. Ball, P.A.S.B. 1865, p. 127.	Geological Museum Calcutta.
Axe.	"	Hazareebagh.	" "	Mr. T. W. H. Hughes.	id.
"	"	Manbhoom, 11 miles S. S. W. of Beheri- nath.	" "	Mr. V. Ball, P.A.S.B., Sept., 1867.	id.
C ? Fragment.	Agate.	Behar near mouth of the Son river.	In alluvium.	Mr. W. Theobald, P. A. S. B., 1862, p. 323 and 1865, p. 127.	id.

BOMBAY.

A Knife.	Agate.	Godavery valley near Pyton.	Pliocene beds ?	Mr. A. B. Wynne, Geological Mag. June, 1866, p. 283. Also see Geologi- cal Mag. Feb., 1866, p. 95, & P. A. S. B., 1865, p. 207.	Geological Museum. Calcutta.	Found in clays and gravels which also contain remains of large extinct mammalia.
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SCINDE.

Character.	Material.	Locality.	Position.	Discoverer and reference.	Specimens how disposed of.	REMARKS.
A Cores.	Flint.	Shikarpore on the Indus.	3 feet below the rock? in the bed of the river.	Lt. D'O. Twemlow, R. B. Es., Major-Genl. Twemlow and Mr. Evans, Geological Mag. Oct., 1866, p. 433, and Geological Mag. Jan., 1867, p. 43.	British Museum?	
,	"	Roree.	On surface.	Sir B. Frere, Mr. W. H. Blanford, P. A. S. B., Sept., 1867.	.....	Said to occur in great abundance.

ASSAM.

C Scraper.	Argillaceous slate.	Debrugurh.	Under surface.	Mr. H. B. Medlicott.	Geological Museum, Calcutta.	
Square Celt, (axe?)	Jade?	Naga hills, lat. 27° 30' long. 91°.	" "	Lt. Steel, R. A., Sir J. Lubbock Bart. Athenæum, June 22nd, 1867.	Private collection of Mr. Wingroves, planter.	Said to have been brought down from the hills by the Namsany Nagas. A second specimen with Mr. Hoby, tea planter.

BURMAH.

C	Scraper & axes,	Chert and hard slate.	Scarce in Burmah and not below Prome in Pegu. More abundant in upper valley of Irawadi.	†	Mr. W. Theobald, Junr., P. A. S. B., 1865, p. 126.	Geological Museum, Calcutta.	Burmese call these <i>Magio</i> or Thunder-bolts, and prize them as medicine. They sometimes cost as much as 50 rupees.
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ANDAMANS.

A	Chips (arrow tips).	Chert.	Near Port Blair.	In an old encampment.	Major Haughton, Mr. W. Theobald, Junr., P. A. S. B., 1862, p. 326. See also P. A. S. B., 1863, p. 306.	Private collection & Imperial Museum.	Found in no great abundance in a native encampment.
Cores.	.....	.....	.....	.....	.....	.....	.....
Round stone (hammer?)	.....	.....	.....	.....	.....	.....	.....

JAVA.

B & C	Spear heads, axes and hatchets both smooth and rough.	? ?	Province of Bagelen.	? ?	Mr. Kunder Von Camarecq, Lt.-Col. H. Yule, B. E., J. A. S. B., 1862, p. 30.	In discoverer's private collection.	Found in all parts of the Island.
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V. BALL, B. A. Geological Survey of India.

LIBRARY.

The following additions were made to the Library, since the Meeting held in August, 1867.

. The names of Donors are in capitals.

Presentations.

Mittheilungen der Kaiserlich-Königlichen Geographischen Gesellschaft VIII. Jahrgang 1864 Heft II.—THE K. K. GEOGRAPHISCHE GESELLSCHAFT.

Jahrbuch der Kaiserlich-Königlichen Geologischen Reichsanstalt. Jahrgang 1866 XVI. Band, Nos. 2 and 3.—THE K. K. GEOLOGISCHE REICHSANSTALT.

Indische Studien, Vol. X. No. I.—PROFESSOR A. WEBER.

Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften *Math.-Nat. Classe* Band, LIV. Hefte I to IV.—THE K. AKADEMIE DER WISSENSCHAFTEN IN WIEN.

Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften *Phil.-Hist. Classe* Band, LIII. Hefte I to III.—THE K. AKADEMIE DER WISSENSCHAFTEN IN WIEN.

Fontes Rerum Austriacarum: Herausgegeben von der Historischen Commission der Kaiserlichen Akademie der Wissenschaften in Wien. Bände, XXV. XXVI. Abth. II.—THE K. A. DER WISSENSCHAFTEN IN WIEN.

Archive für Österreichische Geschichte. Herausgegeben von der zur Pflege vaterländischen Geschichte aufgestellten Commission der K. A. der Wissenschaften. Band, XXXVI. Hälfte, I.—THE K. A. DER WISSENSCHAFTEN IN WIEN.

Neêrlands Streven tot Openstelling van Japan voor den Wereldhandel, by Mr. J. A. von der Chijs.—THE KONINKLIJK INSTITUUT VOOR DE TAAL-LAND EN VOLKENKUNDE VAN NEDERLAND-CH INDIË.

Bijdragen tot de Taal-Land en Volkenkunde von Nederlandsch Indië Eerste deel—3 and 4 Stuk.—THE K. INSTITUUT. V. DE TAAL-LAND-EN VOLKENKUNDE. V. NEDERLANDSCH INDIË.

Journal Asiatique, No. 33, 1867.—THE SOCIÉTÉ ASIATIQUE, PARIS.

Proceedings of the Royal Society, Vol. XV. No. 93.—THE ROYAL SOCIETY OF LONDON.

Actes de L'Académie Impériale des Sciences, Belles-Lettres et

Arts de Bordeaux, 29th Année, 1867.—THE IMPERIALE ACADEMIE OF BORDEAUX.

Indische Alterthumskunde, by C. Lassen, Vol. I, Part II.—THE AUTHOR.

Die Papageien monographisch bearbeitet, by O. Finsch, Band I.—THE AUTHOR.

Atlas der Hautkrankheiten, Lief. VI. 12, Tafn.—THE K. A. D. WISSENSCHAFTEN IN WIEN.

Selections from the records of the Bombay Government, No. C. IV.—THE GOVERNMENT OF BENGAL.

Report on the Police of the Town of Calcutta and its Suburbs for 1866.—THE GOVERNMENT OF BENGAL.

Progress report of Forest Administrations in British Burmah, 1865-66.—THE GOVERNMENT OF INDIA.

Professional Papers on Indian Engineering, Vol. IV. No. 16—THE EDITOR.

Memoirs of the Geological Survey of India, Vol. VI. pt. I.—THE GOVERNMENT OF BENGAL.

A catalogue of Native Publications in the Bombay Presidency up to December, 1864, by Sir A. Grant.—THE AUTHOR.

Bulletin de la Société de Géographie, Juin, 1867.—THE PARIS GEOGRAPHICAL SOCIETY.

Bulletin de l'Académie Impériale des Sciences de St. Pétersbourg. Tome X. Feuilles 1 to 36, Tome XI. Feuilles 1 to 19.—THE ACADEMIE IMPERIALE DES SCIENCES OF ST. PETERSBOURG.

Mémoires de l'Académie Impériale des Sciences de St. Pétersbourg Tome X. Nos. 3 to 15.—THE ACADEMIE IMPERIALE DES SCIENCES OF ST. PETERSBOURG.

Monatsbericht der Königlich Preussischen Akademie de Wissenschaften zu Berlin, January to December, 1866.—THE PRUSSIAN ACADEMY OF SCIENCES.

8 Copies of Auszug aus dem Monatsbericht der Königl. Akademie der Wissenschaften zu Berlin: Nachtrag: über die Phonetik der Tibetischen Sprache, von H. A. Jaeschke.—THE AUTHOR.

Journal of the Statistical Society of London, June, 1867.—THE SOCIETY.

Zeitschrift der Deutschen Morgenländischen Gessellschaft. Edited by Professor L. Krehl. 22nd Band, Hefte 1, II.—THE EDITOR.

Purchases.

- Revue des Deux Mondes, 15 Juin, 1st July 1867.
 The Annals and Magazine of Natural History, Vol. II. No. 115.
 The Westminster Review, July, 1867.
 The Quarterly Journal of Science, July, 1867.
 Revue et Magasin de Zoologie, No. 5, 1867.
 The Journal of Sacred Literature, July, 1867.
 Comptes Rendus, Nos. 22, 23, 24 and 25, 1867.
 Tables des Comptes Rendus, Tome LXIII.
 Lane's Arabic and English Dictionary, B. I. pt. 3.
 Introduction du Buddhisme dans le Kashmir, by M. L. Feer.
 Revue Archéologique, January to December, 1865.
 Böhlingk and Roth's Sanskrit-Wörterbuch, 34 Lief.
 Journal des Savants, Juin, 1867.
 Hewitson's Exotic Butterflies, part 63.
 Arago's Popular Astronomy, Vol. II.
 The Wild Tribes of Malaya by the Rev. Favre.
 Buckle's History of Civilization in England, 3 Vols.
 Justi's Handbuch der Zendsprache.
 The Indian Medical Gazette, Vol. II. No. 9.

Exchange.

- The Athenæum, for June 1867.
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PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,

FOR NOVEMBER, 1867.



A General Meeting of the Society was held on Wednesday, the 6th instant, at 9 P. M.:

Dr. S. B. Partridge, Vice-President, in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced:—

1. From Colonel C. S. Guthrie; 79 Sheets of the Ordnance Survey maps of England.

2. From Captain R. A. Cole; a copy of his Elementary Grammar of the Coorg language.

3. From Colonel J. T. Walker; copies of the administration report of the Great Trigonometrical Survey of India, and of the Topographical Survey in the Bengal Presidency, for 1864-65 and 1865-66.

4. From Babu Kedárnáth Banerjee, the publisher; a copy of *Chanda-kaushika Nátaka*, with commentaries.

5. From Pundit Satyabrata Swámi; the first No. of *Pratna-kamra-nandini*.

6. From F. Cockburn, Esq.; a specimen of *Sciurus palmarum*.

7. From J. Avdall, Esq.; a fossil elephant tooth from Caunti.

8. From John S. Harris, Esq.; a copy of a Japanese and English Dictionary.

9. From Babu Jadunáth Datta, a young Crocodile.

At the invitation of Dr. Partridge, Captain Anderson introduced two Andamanese lads to the meeting. He also laid before the meeting the following correspondence detailing the objects for which the boys had been brought to Calcutta. He had found them apt at learning the names

of things, and acquiring a parrot-like imitation of sounds. They had no objection to wearing clothes, but on the contrary showed an especial desire to wear them.

From Lieut-Colonel B. FORD, Superintendent, Port Blair.

To Captain T. C. ANDERSON, Barrack Master, Fort William.

Dated Port Blair, 3rd August, 1867.

SIR,—In accordance with your expressed desire and offer, on the occasion of your visiting this settlement some months ago, to undertake the education of any Andamanese lad, who could be induced to go to Calcutta for that purpose, I have the honor to acquaint you that I referred the matter to Mr. J. N. Homfray, in charge of the Andamanese house at Port Mouat, in terms of my letter No. 248 dated 31st of May last, copy attached.

2. From his reply No. 5 A, dated 19th June last, copy attached, there appears to be no objection or difficulty in carrying out your object, so far as the children and their friends are concerned, and as it is a scheme which, if successful, is likely to be fraught with many advantages and benefit to the Andamanese themselves, and to the Government, in effecting an amicable understanding with the aborigines, as well as regards other interests between them and future residents and settlers on those islands, I beg to recommend that you now apply to the Supreme Indian Government for permission to carry out your scheme, and if sanctioned, I shall be glad to afford you all the assistance at my command in carrying it out.

I have the honor &c.,

(Signed) B. FORD, *Lieut.-Colonel.*

From J. N. HOMFRAY, Esq. Asstt. to the Superintendent, in charge of the Port Mouat, Andaman Ids.

To Lieut.-Colonel B. FORD, Superintendent Port Blair.

Dated Port Mouat, 19th June, 1867.

SIR,—I have the honor to acknowledge the receipt of your letter No. 248 of the 31st May last on the subject of an offer of Captain T. C. Anderson to undertake the education of an Andamanese lad, who would afterwards prove of great use to the world, particularly to those dwelling in these Islands.

I acknowledge the offer to be a most liberal and charitable one, with great advantages to be gained by all who take an interest in the

welfare of mankind; especially of those unfortunates, who have not yet the light of civilization thrown open to them.

I have enquired of the Andamanese on the subject, to which they have no objection, and I would suggest that the best way to carry it out to satisfaction would be as follows:—

I believe about the end of this year there is to be an Ethnological congress in Calcutta, in which case, I dare say, I might be required to show the races of these Islands, and on which occasion I could take such lads as are desirable and willing to remain behind in Calcutta for education. I would return with their parents or guardians, who would then be sure of the youngsters being taken care of and treated kindly. I would advise two or three being educated, as jointly they are likely to do more good than a single boy, whom their friends would doubt, and not take notice of on his return. It is necessary for them to keep up their own language in Calcutta, and also, on their return here, to keep up the English they would learn in Calcutta. They would also recall to each other past occurrences, which they would relate as instances to their friends, and which no doubt would be very interesting and useful to them. Should one die, the others could explain the cause to the tribe, on their return, and I am sure their parting from their friends would not be felt severely. By the same opportunity I would pay for the expense of one lad in living and education, and would further suggest that their separation from the tribe should not be for more than two years, after which period, on visiting them, should they express a wish to return to their homes, they ought to be allowed it, and again, if found necessary, and they be willing to return to Calcutta for education, it may be continued. This would show them our good intentions, and would increase their confidence in us. The lads should be treated kindly and with mildness, and not frequently flogged for not knowing their lessons and other trifles; firmness is necessary, which can be effected by withholding any indulgences from them. The mere knowing of the English language, with our habits, customs and manners, is a great boon without being great scholars. This should be the first two years' tuition: food and clothing will be the heavy expense.

I have &c.,

(Signed) J. N. HOMFRAY.

From Lieut.-Colonel B. FORD, Superintendent.

To J. N. HOMFRAY, Esq.,

Dated Port Blair, 31st May, 1867.

SIR,—On the occasion of the visit to this settlement, some months ago, of Captain T. C. Anderson, Barrack Master, Fort William, Calcutta, that officer made, I believe, an offer to you of undertaking the education of any Andamanese lad, who could be induced to go to Calcutta for that purpose; the object in view being eventually to send amongst the aborigines of those islands, a man of their own tribe, who might not only be an interpreter between them and us, but with whose aid perhaps greater ends might be accomplished.

2. I have the honor now to inform you, that I have by the last mail received a renewal from Captain Anderson of his former offer. This offer is a most liberal one, and I am of opinion that no pains should be spared to take advantage of it; and I should be much obliged to you therefore, if you will endeavour to induce any of the elders of the tribe, with whom we are most friendly, to nominate a lad, say from 7 to 10 years of age, whose friends they might be able to persuade for a time to part with him, in order to go to Calcutta for the purpose of education. Our Andamanese friends must have such a pleasurable recollection of Calcutta hospitality and kindness, (in which respect they owe much to yourself), that I entertain a hope that there would not be much difficulty in inducing the Andamanese to send a lad away for a time for the above purpose.

3. I would suggest, should there be any reluctance to send a single individual, that I would undertake to induce Captain Anderson to receive two lads, who would thus not only be happy in their companionship, but who, from living together, would be less likely to forget their mother tongue.

4. I should feel obliged by your giving me an early reply in this matter, as I am desirous of replying to Captain Anderson's offer, as requested, by the next mail.

I have, &c.

(Signed) B. FORD, *Lieut.-Col.*

From A. H. HARRINGTON, *Esq., Offg. Under-Secy. to the Govt. of India.*
 To Captain T. C. ANDERSON, *Barrack Master, Fort William.*

Dated Simla, the 9th September, 1867.

SIR,—I am directed to acknowledge the receipt of your letter of the 21st ultimo, and to state in reply that the Governor-General in Council has much pleasure in acceding to your wish to undertake the charge of not more than two Andamanese lads, for the philanthropic purposes indicated in your letter, provided they are not removed from India, and that they are produced whenever required, either for inspection, or if Government should think it fit, for restoration to their friends.

I have, &c.

(Signed) A. H. HARRINGTON,

From Lieut.-Col. B. FORD, Superintendent, Port Blair.

To Captain T. C. ANDERSON, B. S. C.

Dated Port Blair, 21st October, 1867.

SIR,—I have the honor to inform you that, agreeably to your request, and by the permission of the Government of India, two Andamanese lads are forwarded by this opportunity, to be made over to you, in accordance with your philanthropic intentions as regards the undertaking of their education and improvement, with the view to their ultimately being a benefit to their fellow islanders on the Andamans.

Dr. J. B. Gaffney, in medical charge of the troops on Board the "Arracan," has been so good as to take charge of the lads, to make them over to you. As the steamer "Arracan" returns immediately to Calcutta, and as Mr. Homfray has had, consequently, but 24 hours' notice of her departure, he has not been able by this opportunity to send you the vocabulary you wish for, but trusts to do so at an early date.

The two lads have been selected by Mr. Homfray and myself; the objects we had in the selection were, to send such as were willing to go, whose relations had no objection to their being sent, who had themselves evinced intelligence, and were not too old for placing under tuition. Their names are.

Andaman names, { 1 Katoo.
 { 2 Katoo Moogtie.

"Scedi Boy"—The former name given by Mr. Homfray.

For facility of recognition these lads have been given the simple names of

1	Joe	}	Andaman.
2	Tom		

Mr. Homfray has rationed and made every provision for the lads on board the 'Arracan.'

The original enclosure of your letter of 12th ultimo is herewith returned.

I have, &c.

(Signed) B. FORD, *Lieut.-Col.*

At the request of the chairman the boys sang a native song and performed a native dance.

The special thanks of the meeting were voted to Captain Anderson for the introduction of his interesting charges.

M. E. Petit, duly proposed and seconded at the last meeting, was balloted for and elected an ordinary member of the Society.

The following gentlemen were nominated candidates for ballot as ordinary members at the next meeting.

W. H. Stevens, Esq. C. E., proposed by Mr. V. Ball, seconded by Mr. Ormsby (for re-election).

G. King, Esq. M. D. 1st Central India Horse, proposed by Dr. Ewart, seconded by Mr. Ormsby.

J. S. Harris, Esq. proposed by Dr. Colles, seconded by Mr. Scott.

F. J. Chambers, Esq., India Carrying Co., proposed by Mr. W. King, seconded by Mr. Ormsby.

Lieutenant J. Johnstone, Superintendent of Elephant Khuddas, Central Provinces, proposed by Mr. Medlicott, seconded by Mr. H. F. Blanford.

J. W. Chisholm, Esq. Commissioner of Belaspore, Central Provinces, proposed by Mr. Medlicott, seconded by Mr. H. F. Blanford.

E. Gay, Esq. Finance Department, proposed by Dr. J. Anderson, seconded by Mr. Locke.

Letters from the following gentlemen, intimating their desire to withdraw from the Society were recorded:—

The Hon'ble E. Drummond.

Babu Súrathnáth Mullick.

E. S. Robertson, Esq.

Mr. H. B. Medlicott moved the following, notice of which was duly given at the last meeting.

“ That the latter portion of Rule 62 be altered to read as follows ;— ‘ for the purpose of taking into consideration special matters relating to the business of the Society, but not extending to the alteration of a Bye Law.’ ”

Some discussion arose on this motion as to the course that should be adopted in accordance with the Rules of the Society ; at the conclusion of which, the Chairman notified that in accordance with Rule 43, the motion must be referred to the Council for Report.

The Council reported that they have re-elected Mr. H. F. Blanford, a member of their body and as General Secretary to the Society, in place of Mr. M. H. Ormsby who has resigned, and they recommended that a vote of thanks be given to Mr. M. H. Ormsby for his valuable services as Secretary.

The vote of thanks was unanimously carried.

Read a letter from the Secretary to the Government of India, forwarding, for the information of the Society, copies of the following circular letter to the local Governments, on photographing architectural remains and other works of art in India.

Simla, the 29th August, 1867.

SIR,—The desirability of conserving ancient architectural structures or their remains, and other works of art in India, and of organizing a system for photographing them, has attracted the attention of the Governor-General in Council, and, as the first step towards attaining these objects, I am directed to request that a list may be submitted, for the information of the Government of India, of all such remains or works of art as may exist in each district, together with a report of the measures that have from time to time been adopted to preserve them.

2. As regards photographing them, the Governor-General in Council is of opinion that the employment of professional skill will be unnecessary, and that the services of amateurs may with advantage be enlisted.

3. In this view, I am directed to request that arrangements may be made for the photographing by competent amateurs of all such

objects of architectural and artistic interest in their neighbourhood, as may be included in the list called for in the opening paragraph of this letter, and for their submission to the Secretary of State.

4. I am to add that some assistance may be given, where desired, either in the shape of travelling expenses, or by the purchase of a certain number of copies of really good photographs.

I have the honor to be,

SIR,

Your most obedient Servant,

(Signed) E. C. BAYLEY,

Secretary to the Govt. of India.

No. 4040.

Copy forwarded to the Foreign Department for communication and issue of the necessary orders to the Political Officers under its control.

Secretary to the Govt. of India.

The following letter from H. P. Lemesurier, Esq., was read.

Allahabad, Oct. 24th, 1867.

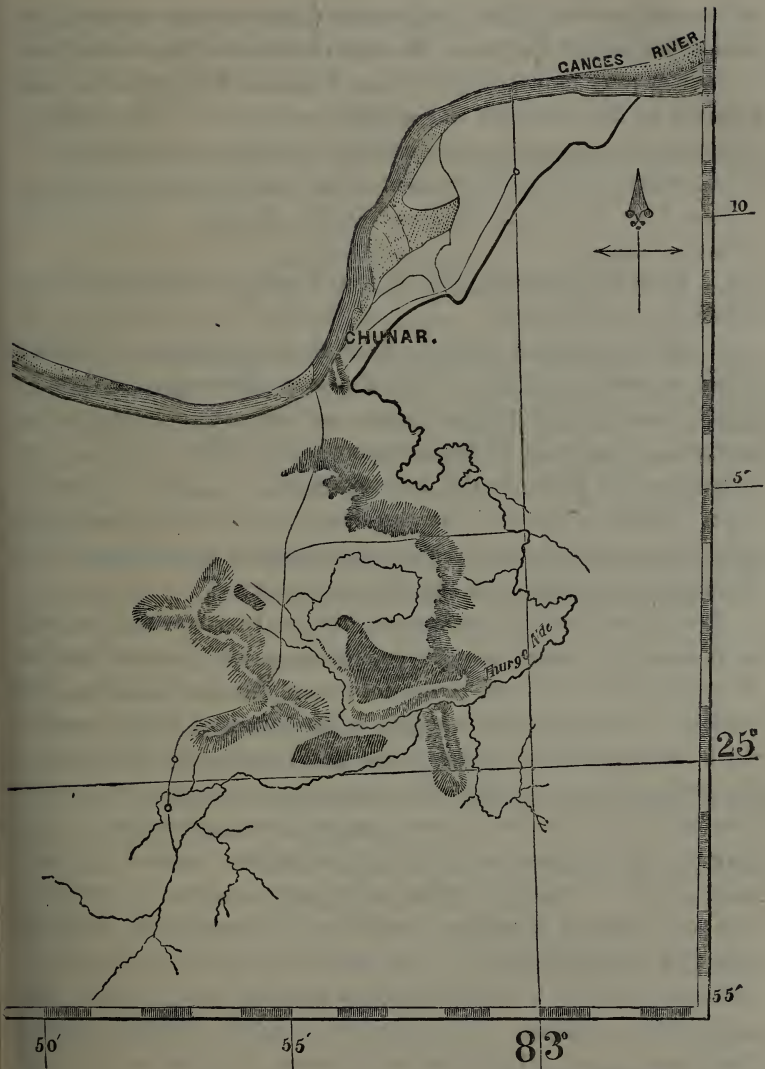
MY DEAR GROTE,

I have just hit upon a large area of ground covered with Cairns or stone barrows, each of which has contained a perfect kist: very many have been ransacked in times past by the natives. I opened one that seemed undisturbed. Its section was longitudinally thus:—



Three of the four walls were of dry rubble-stone; the fourth, the western one, was a stone on edge. Covering slabs about four feet, and from 18 inches to 27 inches wide. Length 6' 6" breadth 2' 0". Depth 18 inches or rather more; not any vestige even of a tooth or jaw bone, but mould of fine quality. Two chips of sandstone might have been in use. There must be a hundred tumuli in all. Have these been noticed before? I send sketch of the position.

(Signed) H. P. LEMESURIER.



Area covered by tumuli shaded thus—



The Chairman drew attention to the discrepancy of the observations recorded at the Government Observatory during the late Cyclone, and those taken by Mr. Lafont and other observers : also to the destruction

of the Anemometer, so that the pressure of the wind was registered for a small part only of the storm. He moved that Government be solicited to make enquiry into the cause of these failures. The proposition was seconded by Mr. Medlicott and carried unanimously. The possibility of warning the town in cyclones was also a subject of discussion.

The receipt of the following communications was announced.

From Lieut.-Col. C. L. Showers. On the Meenas, a wild tribe of "Central India."

2. From W. Theobald, Esq. Jr. A descriptive Catalogue of the reptiles of British Burma.

3. From R. Michell, Esq., F. R. G. S. A Translation of "Survey of the western extremity of the Karakau Mountains by Captain Meyer," and of "A General Survey of the country lying to the westward of the Trans Ili Region between the rivers Chin and the Jaxartes or Syr Daria, by Col. Poltorotski."

Dr. Waldie made the following observations with reference to the communication he had made to the Society at the meeting of 3rd April last, on the subject of the Hooghly water:—

Observations had been continued during the succeeding hot and rainy seasons, in order to settle one or two points then left doubtful. As respects the river water of the hot season, the new observations had confirmed the former ones in regard to the amount of organic matter: much less common salt, however, had been found in the water than in the previous year. Possibly this might have arisen from the proper time of full tide not having been caught, although this seemed not a very probable explanation. With respect to the water of the rainy season, he had formerly brought particularly to notice its putridity: this year, however, it was not found to be so characterised or at least only to a very slight degree: had the odour been the only point of difference observed, it might have been supposed to be due to some mistake in observation, but several other points of difference were found to exist, and all of them corroborative of the indications of the first. Indeed, judging from the amount of vegetation formed in the water by long standing, the water of 1865 contained more organic matter than that of 1866, and this again than that of 1867. He was disposed to attribute these differences to some general cause, possibly connected with the amount of rainfall, but could form no decided opinion.

The particulars of these observations would be found in a post-script, dated 16th September, to the paper, Part III, just published in the Society's Journal.

LIBRARY.

The following additions were made to the Library since the last meeting in September.

. The names of Donors in capitals.

Presentations.

The Journal of the Royal Geographical Society, Vol. 36.—THE ROYAL GEOGRAPHICAL SOCIETY OF LONDON.

Mélanges Asiatiques tirés du Bulletin de l'Académie Impériale des Sciences de St. Petersburg, Tome V. Chronologisches Verzeichniss der seit dem Jahre 1801 bis 1866 in Kasan gedruckten arabischen, türkischen, tartarischen und persischen Werke, als Katalog der in dem asiatischen Museum befindlichen Schriften der Art, von B. Dorn.—

THE AUTHOR.

Selections from the Records of the Government of India, Foreign Department, No. LIII.—THE GOVERNMENT OF INDIA, AND THE GOVT. OF BENGAL.

Two copies of Professor Wilson's Glossary of Indian Terms.—THE GOVERNMENT OF INDIA.

Dattaka Çiromani.—BABOO PROSONNOOOMAR TAGORE.

Chandakaushika nátaaka.—BABOO KEDARNATH BANERJEE.

Annual Report and Transactions of the Adelaide Philosophical Society for 1865 and 1866 :—THE SOCIETY.

Annales Musei Botanici Lugduno-Batavi, edidit F. A. G. Miquel. Tome III. Fasc I—V.—THE LEYDEN UNIVERSITY.

Rahasyasandarbha, No. 42.—BABU RAJENDRALALA MITRA.

Bulletin de la Société de Géographie, for July and August, 1867.—THE GEOGRAPHICAL SOCIETY OF PARIS.

Mémoires de l'Académie Impériale des Sciences, Belles-Lettres et Arts de Lyon: new series; Vols. XII, XIV and XV.—THE IMPERIAL ACADEMY OF SCIENCES, BELLES-LETTRES AND ARTS OF LYONS.

Annales des Sciences Physiques et Naturelles, d'Agriculture et d'Industrie: 3rd series, Vols. IX and X.—THE IMPERIAL SOCIETY OF AGRICULTURE &C. OF LYONS.

Indische Studien, Vol. X. No. 2.—THE AUTHOR.

Proceedings of the Natural History Society of Dublin. Vol. IV. pt. III.—THE NATURAL HISTORY SOCIETY OF DUBLIN.

Memoirs of the Geological Survey of India, Vol. VI, pt. 2.—THE GOVERNMENT OF BENGAL.

Selections from the Records of Government, North-Western Provinces, Part XLV.—THE GOVERNMENT OF THE NORTH-WESTERN PROVINCES.

Notes on the Propagation and Cultivation of the Medicinal Cinchonas or Peruvian Bark trees, by W. G. McIveor.—THE GOVERNMENT OF BENGAL.

An Elementary Grammar of the Coorg Language, by Captain R. A. Cole, Superintendent of Coorg.—THE AUTHOR.

The Anthropological Review, Nos. 18 and 19.—THE ANTHROPOLOGICAL SOCIETY OF LONDON.

The Journal of the Chemical Society, for July, August and September, 1867.—THE CHEMICAL SOCIETY OF LONDON.

Proceedings of the American Philosophical Society, Vol. X. No. 76.—THE AMERICAN PHILOSOPHICAL SOCIETY.

Memorie della Reale Accademia della Scienze di Torino, Vol. XXII.—THE R. ACADEMY OF SCIENCES OF TURIN.

Atti della R. Accademia Della Scienze di Torino, Vols. 1 and 2.—THE R. ACADEMY OF SCIENCES OF TURIN.

Purchased.

The Song of Songs, a pastoral drama, not by King Solomon, with notes by Satyam Jayate.

Adam's Wanderings of a Naturalist in India.

Forbes's Hindustani and English Dictionary, Part I.

Revue Archéologique : new series Vols. XIII and XIV, and Nos. 1, 2, 3, 4, 6, 7 and 8, 1867.

Encyclopédie Méthodique ; Histoire Naturelle des Vers. Vols. 1, 2, 3 and 4.

Tableau Encyclopédique et Méthodique des Trois Règnes de la Nature. Vers, Coquilles, Mollusques et Polypiers, Vols. 1, 2 and 3.

The Ibis, July 1867.

The Annals and Magazine of Natural History, Vol. 26, No. 116.

The Edinburgh Review, July, 1867.

Revue de Deux Mondes, 15th July, 15 August, and 1 September, 1867.

Revue de Zoologie, No. VIII. 1867.

Comptes Rendus, Nos. 1, and 3, 5, 6, 7, 8 and 9, Vol. LXV.

Bopp's Glossarium Comparativum Linguae Sanscritae, last part.

The Calcutta Review, August 1867.

The Indian Medical Gazette, October and November 1867.

Journal des Savants, Aout 1867.

Indische Studien, Vol. X. No. 2.

A Catalogue of Shells, British and Foreign, with a supplement by
W. Wood.

Bentham and Hooker's Genera plantarum, Vol. I. Part III.

Tomlin's Comparative vocabulary of forty-eight languages.

The Annals and Magazine of Natural History, September, 1867.

Reeve's Conchologia Iconica, Parts 264 and 265.

Exchange.

The Athenæum for August, 1867.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,

FOR DECEMBER, 1867.



A monthly general meeting of the Society was held on Wednesday the 4th December, 1867 at 9 P. M.

Dr. J. Fayer, President in the chair.

The minutes of the last meeting were read and confirmed.

A photograph by Messrs. Thepland and Bourne, of the two Andaman lads introduced at the last meeting was exhibited by Captain Anderson; and it was announced that members desiring to obtain copies might procure them at the photographers'.

The following gentlemen duly proposed and seconded at the last meeting were balloted for and elected as ordinary members.

W. H. Stevens, Esq. C. E.

G. King, Esq. M. D.

J. S. Harris, Esq.

F. J. Chambers, Esq.

Lieut. J. Johnstone,

J. W. Chisholm, Esq.

E. Gay, Esq.

The following were nominated as candidates for ballot at the January meeting.

Baboo Rakal Doss Haldar, Deputy Collector, Maunbhoom, proposed by Col. E. T. Dalton seconded by Dr. J. Anderson.

J. Boxwell, Esq. C. S. Officiating Deputy Commissioner, Western Doars, proposed by Lieut. J. Williamson seconded by Dr. J. Anderson,

The Rev. J. C. Browne, has intimated his desire to withdraw from the Society.

The Council reported that they have elected Coll. J. E. Gastrell and Dr. J. P. Colles, members of their body, in places of H. B. Medicott, Esq. and Dr. J. Anderson who have resigned.

They announced also that they had nominated Col. J. E. Gastrell as Hon. Treasurer, and Dr. J. P. Colles as Natural History Secretary of the Society.

The council recommended that a special vote of thanks to be given to Dr. J. Anderson and H. B. Medicott, Esq. for their valuable services as officers of the Society.

The proposition was agreed to unanimously.

A letter from Professor Bapu Deva Sastri with reference to a letter received some months since from Major Ellis was read. The following are the original letter and the reply.

Southbrook Cottage ; Starcross ; near Exeter.

20th November, 1866.

DEER SIR,—I beg to enclose a copy of an astronomical calculation, identifying a partial eclipse of the sun, recorded on a grant of land by Janamajaya, published p. 447, Vol. 6, Bengal Asiatic Researches, with one, given by Fergusson, which occurred on 3rd April, A. D. 889, for which I am indebted to the kindness and scientific knowledge of Captain Peacock, formerly of the Royal Navy; and shall esteem it a particular favour, if you will, in the first instance, kindly be at the trouble of ascertaining, whether the pandits of India have any knowledge of the eclipse, which happened on the 3rd April, A. D. 889, about Sambat 946 Vikramaditya; and afterwards proceed with the enquiry of testing by their knowledge the validity or otherwise of the identity of the two Eclipses, supposed to be established by Captain Peacock's postulate.

* * * * *

R. R. M. ELLIS.

In explanation of the very great interest which I take in these enquiries, I should mention, that when I was agent in Bundelkhund, I held the office of Vice-President Delhi Archæological Society, and for several years when in constant communication with Sir Henry Elliot and Mr. Thomason about them.

Postulate regarding a partial eclipse of the sun on Sunday in the Krishna Paksha, or dark half of the moon in the month of Chaitra, when the sun was entering the northern hemisphere, the moon being in the Nakshatra Aswini; recorded on a grant of land on copper by Janamajaya, the son of Parikshita: published p. 44, Vol. 6, Bengal Asiatic Researches, 1809.

The words of the text are "Chaitramasa Krishna" or the dark half of the month, and as Chaitra answers to the month between 15th March and 15th April, the dark half would seem to imply the time of new moon for that month, at which time *only* could an eclipse of the sun happen; and this would be in March or early in April the dark half of the moon being then turned towards the earth, and within the limits of the 17th in the Lunar Nodes: as a solar eclipse only can happen when the moon's latitude, as observed geometrically, is less than the sum of the hemidiameters of the sun and moon combined; because the course of the moon in its path being oblique to that of the sun, makes an angle of $5^{\circ} 35''$.

Now in examining into the date of the eclipse named in the text, and working out the dominical letter and Epact according to the tables in the prayer-book as well as those given by Fergusson, it would seem to have been that named in Fergusson's astronomy at page 217, in Strack's Catalogue of Eclipses as having been observed at Constantinople on the 3rd April, A. D. 889; the record of the *Hindu* plates states that the moon was in the Nakshatra Aswini, which answers to the zodiacal sign *Aries*, and which would also coincide with the month "Chaitra," or between the 15th March, and 15th April, as the sign Aswini or the horse's head comprised a portion or period of the Zodiac—a little over 13 days—the dark shadow of the moon, and ergo, the sun would therefore be in Aswini on the 3rd April, the sun having entered the Northern Hemisphere, or the first star of *Aswini* on the 22nd March, coincident or nearly so with the sign of *Aries*, and quitted Aswini on the 4th April, to enter Bhaiani.

I have calculated all the other eclipses of the sun, happening between the 22nd and 31st March from the year 1261 down to 1699, twelve in number, or during the period of Aswini path, but not one of these happened on a Sunday, and no solar eclipse

took place in Aswini at any period except the 3rd April answering to Sunday.

There was a solar eclipse observed at Rome on the 1st April, A. D. 238, and one on the second April, 1307, observed at Ferrara, but neither of these fell on a *Sunday*, therefore I am of opinion that the one named in the text must have occurred on the 3rd April, A. D. 889.

(Signed) GEORGE PEACOCK, F. R. G. S.

Formerly *Master, Royal Navy, 1835.*

To *Babú RAJENDRALALA MITRA, Hon. M. R. A. S. Phil. Secretary
Asiatic Society, Bengal.*

SIR,—I have the pleasure to acknowledge the receipt of your letter No. 765 dated the 28th ultimo, together with extracts from Major Ellis' letter. He states in it, that the Solar eclipse, observed at Constantinople in the month of April, 889 A. D., happened on a Sunday in the *Krishna Paksha*, the month *Chaitra*, when the moon was in *Aswini*. But I have carefully ascertained that this eclipse occurred on Friday and not on Sunday. I have determined this also, that the eclipse answers to the 3rd April according to the old style, but by the new style it fell on the 8th April. Major Ellis mentions also that no Solar eclipse took place in *Aswini* at any period except the 3rd April answering to Sunday. But this is not the case, as a great Hindu Astronomer named *Ganesa*, the author of *Grahálaghava* says :

भाके त्र्यम्बोन्दुतुल्ये वृषभरदि मधौ मासि रामेन्दुनाडो-
तुल्ये दर्शेऽश्विधिष्ये दिनकरदिवसे भानुसर्वग्रहोभूत् ।
तस्मिन् ग्रहेऽश्विभं चास्मिन्मपि बुधः काव्यसप्तर्षिसुह्या-
स्तारा दृष्टा दिवान्धाकुलितमिह जगत् तत्र हा हा चकार ॥

“In the year 1443 of the *Salivahana* era the *Sanwatsara* called *Vorsha* and the month of *Chaitra*, a total eclipse of the sun took place on Sunday at the time of new moon, 13 *ghatis* (from sunrise) in the *nakshatra aswini*. At the time of obscuration the star *ásvini* (*a Arietis*) even though it was too near to the sun, the planets Mercury and Venus, and the seven stars of *Ursa Major &c.*, were visible, the owls were flying all about and all people were confused.”

I have also calculated this eclipse, and found that *Ganesa* is quite right.

The time of this eclipse answers to the 6th April (O. S.) or the 17th April (N. S.) 1521 A. D.

Therefore it cannot be supposed that the solar eclipse recorded on the grant of land occurred on the 3rd April, 889 A. D. because it fell on Friday and not on Sunday.

Yours faithfully,

BAPU DEVA SASTRI.

Benares, 21st Oct. 1867.

Read a letter from Dr. J. L. Stewart of Lahore on the carnivorous habits of the Himalayan bear.

Lahore, Nov. 25th, 1867.

MY DEAR SIR,—It would appear that the problem has not hitherto been definitely solved, as to whether the Himalayan bears are ever carnivorous, except under stress of want of vegetable food. The following may accordingly be interesting to some members of the Society.

On 7th ultimo, Lieut. Chalmers and Mr. Sparling of the Forest Dept. reached Portee in Punji on the upper Chenab, lying at about 7500 feet above the sea, in order to inspect and extend certain Deodar plantations.

It was reported to them that on that morning a large brown Bear had fought with and killed a smaller one and eaten part of the body, at a spring close to the plantation and in sight of some of the labourers. The body of the smaller bear was found concealed under leaves and grass, a part near the belly having evidently been gnawed and torn off by the jaws of some powerful animal.

On the 10th it was reported that at the same place and within sight of several labourers, the same larger bear had fought with and killed another. The body of the latter, a female, was found by the two officers concealed under leaves, a considerable portion of the back having been consumed.

It would perhaps have been more satisfactory if, in both cases, the bodies had been left for a time, to discover if the cannibal would come back to complete his meal.

Near the spot there is abundance of walnuts and wild fruits of

which the bear is fond, as well as of standing buck-wheat, which is perhaps preferred to other kinds of vegetable food.

Yours very truly,

L. L. STEWART.

With reference to the above, Dr. Buckle mentioned having once possessed a Cashmere bear which though tamed and well fed, killed and ate a goat. He shewed an especial taste for old bones: and at last his carnivorous propensities rendered it necessary to destroy him.

The receipt of the following communication was announced.

From Colonel A. Fytche "A Memorandum on the Panthays of Yunan."

At the request of the President, Colonel A. Fytche then read the Memorandum as follows:—

"Considerable difficulties exist in procuring correct intelligence of the Panthays, or Mahomedan population of Yunan. In the first place, they were not inclined themselves to be communicative; but rather assume a studied ignorance of their own affairs:—Secondly, communication can only be ordinarily held with them, through Chinese merchants and brokers, residents of Burma Proper, who speak the Burmese language; and who, in addition to their own private and self-interested motives for preventing free intercourse with traders from Yunan, are moreover in the pay, or subject to the influence of the King of Burma. They well understand the royal policy of exclusiveness, and have been made acquainted with the several indirect orders which from time to time, have been issued by the Government, in order to restrict as effectually as possible, every means of intercourse between Panthays and foreigners of all nations. The little information, therefore, which it has been possible to collect from the above sources furnished me by Captain Sladen, and also from a few Panthays who visited Moulmain with a Shan caravan, when I was Commissioner of the Tenasserim and Martaban Provinces in 1861, is vague and meagre; but such as it is, I will now briefly record it.

"A paper has been published in the Russian Military Journal for August 1866, on the late rising of the Dungens, or Mussalman population in Western China. I am of opinion that there is no political affinity between the Dungens of the North Western, and the Panthays of the South Western Provinces of China; or rather, that the present

rising of the Dungens on the North, bears no relation to the former rebellion of the Panthays on the south, or to any subsequent movement of the Southern Mussalman population of Yunan, to throw off the Chinese yoke ; such movement having commenced as early as the year 1855.

“This opinion must be understood, however, to have reference only to the present attitude and circumstances of the Panthays in Yunan ; without any speculative allusion to causes, or the possibility of future combination ; for the Panthays of Yunane and the Dungens, are, after all, of the same race and religion, and are merely divided from each other, by the Province of Sechuen ; and a general struggle for independence, if it really arises, and is able to make head against the Chinese Government, will certainly include at no great distance of time, the whole of the Mahomedan population in China wherever found. The first sign of a combination between Panthays and Dungen, will be manifested by the fall of Sechuen, and the news of such an event would soon reach this Province.

“The term Dungen or Turgen is not known or comprehended by either Panthays or Burmese. The Mahomedans of the North Western Provinces of China are known to the Panthays, by the same denomination as they call themselves, “Mooselin,” and to the Burmese as “Tharet.” The word Panthay, or as it is sometimes pronounced Panzee, is of Burmese origin, and is a mere corruption of the Burmese word “Puthee,” which signifies, or distinguishes Mahomedans from persons of other religions in Burma. The Chinese call the Panthays “Quayz.” What they term the Mahomedans of Kansoo, I am not aware—possibly it may be Dungen or Turgen. The Mahomedans of Kansoo are said to have lately achieved their independence, and occupy that province under a chief named Abdool Jaffir.

“The Mahomedans of Yunan are merely a remnant, I should imagine, of the great wave of Mahomedan aggression, which, under Mahomed of Guznee, Mahomed Ghorî, and Gengis Khan, overran Persia, India, and a portion of Northern China : their ingress and progress in China, are separately given or accounted for by Chinese and Panthays. The Panthay account is somewhat mythical, and assumes at once the superiority of their race. The Chinese version

deals less in mystery, and is more in bearing with supposed historical facts. They are as follows :—

“*Panthay Version.* Once upon a time, China was subjected to a plague of evil spirits, who desolated the whole country, and in fact put a stop to the regular course of nature. The sun ceased to shew itself, excepting now and then, in obscure and fitful gleams; and the land refused to produce, or yield fruit in due season. During this calamitous state of affairs, the Emperor ‘dreamed a dream,’ in which a form was prominently revealed to him, in the dress of an Arab; but indicating at the same time, every appearance of peace and friendly goodwill. Astrologers and experts in such matters, interpreted the Emperor’s dream to signify, that the plague of evil spirits would cease on the appearance of a force of Mahomedan Arabs who were well known to be a source of terror to evil spirits and devils of every description. The Emperor was convinced, and sent a mission direct to the Prophet Mahomed, in which he begged the assistance of a few of the Prophet’s followers. Mahomed sent 360 men, who, in due time, reached China. By virtue of their presence, the evil spirits vanished, and the country was restored to its former prosperity. The Arabs were treated with becoming honour, and allowed to settle and establish themselves, in the vicinity of the Royal Capital. But in course of time their numbers increased to such an extent that the Chinese Government became anxious about its own safety; and an arrangement was effected, by which the Arab population near Peking was broken up, and sent in small parties to the confines of the Empire; where they have since established themselves, more or less firmly, and in some instances proclaimed their independence.

“*Chinese Version.*—About a thousand years ago, there was a great rebellion in China, and the Government was in danger. The reigning Sovereign at the time was Oung-lo-show; and being in tribulation, he sent for assistance to a certain King, named Razzee or Khazee, who ruled over the countries to the West of China. A Mahomedan contingent of 10,000 men was sent, and with their assistance, the rebellion was suppressed, and the services of the contingent dispensed with. But a difficulty now arose, as to the return of the Mahomedans to their own country. They had been greatly reduced in numbers, and their inclination to stay where they were and settle

down in China, was encouraged by reports, which reached them, to the effect that a return to their own country was forbidden, owing to long residence abroad, and their pollution as Mahomedans by contact with swine and other abominations, which were known to abound in China. The remnant of the contingent was finally located in Yunan, and settling down there, became peaceful subjects of the Emperor of China.

“It is to be inferred that the Mahomedan population in Yunan was, for some centuries, at least, loyally disposed towards the Chinese Government; for no particular mention is made of them in Chinese History, as far as is known, after their domestication in Yunan, until the year 1855, when they rebelled and successfully threw off the Chinese yoke.

“The rebellion is stated to have originated and been carried out in this wise. The Panthays in Yunan had multiplied and become a flourishing and distinct community. They preserved their separate nationality and customs, but were nevertheless obedient to the Chinese laws. The Chinese and Tartar officials are said to have been oppressive, and the foreign population was specially marked out for the exercise of more than ordinary severity. Their industrious habits and general aptitude made the Mahomedans profitable subjects; whilst it rendered them, at the same time, victims to unjust and extortionate masters. Then a feeling of enmity and hate was engendered, with the usual results. The Loosonphoo Silver Mines of Yunan were worked by Panthays, under the superintendence of Chinese officers. On a certain day a dispute arose at the mines, and the miners, exasperated by unjust treatment, had recourse to force and murdered every Chinese officer they could find. The revolt of the miners, was at once followed by a general armed rising of the Panthays throughout Yunan. Being far inferior in number to the Chinese, they at first took to the woods and mountain fastnesses, whence they carried on a fierce guerilla warfare. Meeting every where with success, they were soon joined by large numbers of the neighbouring semi-independent hill tribes of Shans, Kakhyens,*

* The Kakhyens above alluded to are a portion of the vast horde of Singphoos, that inhabit the mountainous districts of Northern Assam, and stretch round the north of Burma into Western China. They extend not only all along the Northern Frontier, but dip down Southward wherever the mountain ranges lead them, and nearly as far south as the latitude of Mandalay.

and others, when they soon extended their operations to the plains, and to the siege of large towns; and the local Government, receiving no assistance from Peking, finally succumbed, the insurgents became supreme, and a separate Panthay Government was established with its Head Quarters at Tali or Talifoo, then only a city of secondary importance, but where the Mahomedan element had always been very strong. Feeble attempts have since been made, from time to time, to recover the lost Province, by the despatch of Imperial Troops from the Capital; but the Chinese Government has never been able to make head against the Panthays; and the troops sent have generally been repulsed, before they could even penetrate within the Yunan frontier.

“The present Mahomedan Government of Yunan is presided over by a military chief styled Sooleman by the Panthays, and Tuwintsen by the Chinese. He has assumed the insignia of Royalty, by formal instalation on the guddee, and by the exclusive, and prerogative use of yellow clothing and appurtenances. This chief or king is assisted by four military and four civil ministers, the principal one of whom is established at Momein, a large town close to the Shan frontier, west of Yunan. There appears to be little departure, in the matter of administration, from the old form of Chinese Government, except being more military in its character. Taxation is extremely light, being restricted, as far as can be understood, to a moderate assessment on land.

“The Panthays are Mahomedans of the Soonee sect, and pride themselves on their Arab descent: many of them are able to converse in Arabic, and their prayers are all in this language. They have mosques or musjids of the true Moslem type, and are fanatical and strict in their religious performances; as far as I have been able to ascertain, however, there is no trace of any religious zeal, or motive, as the origin or pretext for the present rising of the Panthays against Chinese rule. The Chinese are generally tolerant of all religious persuasions, and unlikely to cause irritation to the Mahomedans by any interference with their religion. The Buddhist, wherever found, is untrammelled by conventional dogma, and far less imbued with the *odium theologicum*, or that contemptuous abhorrence of all creeds and customs other than his own, than is the case with other natives of the east, of

whatever creed or denomination. The dress of the Panthays is in accordance, for the most part, with Chinese habit ; though many of them cut their hair to a certain length, and allow it to fall back on the nape of the neck. They also wear, in many instances, a distinctive turban of more ample form than in use amongst Chinese. They are fair, tall, and strongly built men : are an interesting race or community of people : and after twelve years of absolute government in Yunan, it is not improbable that their future independence is secure.

“Panthay traders state that, during the past year, an embassy was received from the Emperor of China, in which the Imperial Government sued for a cessation of hostilities, and volunteered to cede Yunan to the Panthays, provided they would come to terms, and commit no further acts of aggression on neighbouring Provinces. The offer it is said was indignantly refused, and the Embassy was obliged to return to Pekin, without accomplishing its object.

This, if true, bodes evil to our future intercourse with China through Yunan by Railway or otherwise. The trade viâ Bamo between China and upper Burma, amounted in 1854 (the year before the Mahomedan insurrection) to half a million of pounds sterling. No caravans from Sechuen or other Provinces of China, since the establishment of Mahomedan rule, have passed through Yunan ; and trade by this route has almost altogether ceased. But with Yunan alone, a large trade was formerly carried on, and it is hoped that the caravan route, at any rate, may be shortly re-opened. It possesses the unusual advantage of having been used for centuries as a line of traffic, and has maintained its vitality hitherto among all the disturbing influences of the flow and ebb of the Chinese and Burmese power, and is a cogent proof of the necessity for interchange of commodities between the respective countries.

“An apparent interminable feud has doubtless arisen between the Manchur dynasty, and the Mahomedan population of China which may, probably combined with other numerous causes, ultimately end disastrously to that dynasty. How long it will take for the Chinese Government to disintegrate and reappear under a new form ; what effect such a change would have on the independent Mahomedan population of the Western Provinces ; and whether the change will be brought about by them, are questions which may probably affect a future generation,

but are nevertheless full of interest to neighbouring Governments, and political speculators of the present day.”

On the proposition of the President, the special thanks of the meeting were voted to Col. Fytche.

Major Lees exhibited a bronze hookah which had been dug up on his plantation in Cachar, and was very different from anything now used in the province, while in point of manufacture it is far superior to any now manufactured there.

He also read a letter from Messrs. Johnson and Drew of Cashmere, in which the writers announce the proposed establishment of an Himalayan Club for collecting, interchanging and publishing scientific and general information concerning the Himalayan range.

The President undertook to refer the letter to council.

LIBRARY.

The following additions were made to the Library since the last meeting in November.

* * * The names of Donors in capitals.

Presentations.

Progress Report of Forest Administration in the Central Provinces, 1866-67.—THE GOVERNMENT OF INDIA.

La Gurlande Précieuse des demandes et des Réponses Publique en Sanskrit et en Tileekan et Traduite Pour La Premiere Fois en Français by Ph. Ed. Foucaux.—THE TRANSLATOR.

Journal Asiatique, Tome IX.—THE ASIATIC SOCIETY OF PARIS.

Professional Papers on Indian Engineering, No. 17.—THE EDITOR.

Sitzungsberichte der Königlich Bayerischen Akademie der Wissenschaften Zu München, 1866 II. Heft II. III. and 1867 I. Heft I—IV.—THE ROYAL ACADEMY OF SCIENCES OF MUNICH.

Abhandlungen der Mathe—Physikn. classe der Königlich Bayerischen Akademie der Wissenschaften Band XXXVII. Abth. I.—THE ROYAL ACADEMY OF SCIENCES OF MUNICH.

Abhandlungen der Histor. classe der Königlich Bayerischen Akademie der Wissenschaften, Band XXXV. Abth. II.—THE ROYAL ACADEMY OF SCIENCES OF MUNICH.

On the relations of *Tanalia Philopotanus* and *Paludomus* with a

review of the Cingalese species of the latter genera by H. F. Blanford, Esq. F. G. S.—THE AUTHOR.

Ueber die Branchbarkeit der in verschiedenen europäischen Staaten veröffentlichten Resultate des Recrutirungs-Geschäftes zur Beurtheilung des Entwicklungs-und Gesundheits-Zustandes ihrer Bevölkerungen von Dr. Th. L. W. Bischoff.—THE AUTHOR.

Latáifo-'l-ma'árif auctore Abu Mañur Abdolmalik ibn Mahommed ibn Isma'il at Tha'alibi quem librum E Codd. Leyd. et Goth-Edidit P. De. Joug.—THE EDITOR.

Zeitschrift der Deutschen morgenländischen Gesellschaft: herausgegeben von den Geschäftsführern, Band XXI. Heft III.—PROFESSOR DR. L. KREHL.

Indische Studien X.—THE EDITOR.

Journal of the Royal Geological Society of Ireland, Vol. I. pt. 3.—THE SOCIETY.

Meteorological Report for the Panjaub, 1866.—THE GOVERNMENT OF THE PUNJAUB.

Annual Report on the Administration of the Bengal Presidency foot 1866-67.—THE GOVERNMENT OF BENGAL.

Report of Native Papers for the week ending the 9th November, 1867.—BABU RAJENDRALALA MITRA.

Rahasya Sandarbha, Vol. IV. pt. 43.—BABU RAJENDRALALA MITRA.

Purchased.

A Treatise on Natural Philosophy by Thomson and Tait, Vol. I.

The Journal of Sacred Literature, October, 1867.

The Annals and Magazine of Natural History, October, 1867.

Revue des Deux Mondes 15th September, 1867.

Revue it Magasin de Zoologie, November, 1867.

Deutsches Wörterbuch V—7 Comptes Rendus, Nos. 10, 11, 12.



