

JOURNAL  
of the  
Malayan Branch  
of the  
Royal Asiatic Society

Vol. VIII—  
1930—

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This Journal forms the continuation of the Journal of the Straits Branch, Royal Asiatic Society, of which Nos. 1-86 were published 1878-1922.

SINGAPORE  
PRINTERS, LIMITED.  
1931



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Eredia's Description of Malacca, Meridional India, and Cathay.  
Translated from the Portuguese, with Notes,

*by J. V. Mills, B.A (Oxon).*

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Vol. VIII

Part I

JOURNAL,

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April, 1930.  
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### EREDIA'S DESCRIPTION OF MALACCA, MERIDIONAL INDIA, AND CATHAY.

*Translated, from the Portuguese, with Notes, by*  
J. V. Mills, B.A. (Oxon.).

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# Annual Report.

of the  
**Malayan Branch, Royal Asiatic Society**  
for 1929

**Membership.** On the last day of the year the Society consisted of 644 members as against 631 for the end of 1928. The membership roll included 14 Honorary Members, 2 Corresponding Members and 628 Ordinary Members

The deaths include a recent President and two Honorary Members Sir Hayes Marriott, K.B.E., C.M.G., only retired as President of the Society on 16th December 1928 and his death occurred very shortly after his arrival in England. He was elected a member of the Society in 1902, served as Councillor and Vice-President and finally as President in 1928. The Society was also notified of the death of Mr. W. R. Collyer, I.S.O., which took place in 1928. The late Mr. Collyer was elected a member in 1894 and in the Annual Report for 1907 we read—

“ In recognition of the long services of Mr. W. R. Collyer as Vice-President of the Society the Council elected him an Honorary Member of the Society ”

Mr H. C. Robinson was also recently elected an Honorary Member (1927). He also was one of the senior members of the Society his election dating from 1904. Mr. Robinson served on the Council of the Society in 1920 and was a Vice-President on several occasions. His services to Malaysian Zoology are too well known to need more than mention here, he was co-author of a number of important papers contributed to the journal of the Society.

Thirty-eight new members were elected in 1929 as against forty-four in 1928

The new members are --

|                             |                           |
|-----------------------------|---------------------------|
| Abu Bakar, H. H. Tungku     | Ehlers, R. H.             |
| Anderson, D. K.             | Frank Sheppard, M. C.     |
| Baddeley, S.                | Gracie, A. J.             |
| Beville Archer, J.          | Gray, G. L.               |
| Blagg, F.                   | Gregg, J. F. F.           |
| Brooke, Miss Joyce          | Griffiths Williams, G. C. |
| Cobden Ramsay, A. B.        | Humphreys, A.             |
| Corner, E. J. H.            | Ingle, D.                 |
| Dalle, J. D.                | Mace, N.                  |
| de Langlade, Baron Francois | Macgregor, R. O. C. R.    |
| Dickinson, Mrs. W. G.       | Mahmud bin Jantan         |
| Edmett, L. R. J.            | Pagden, H. T.             |

|                                     |                         |
|-------------------------------------|-------------------------|
| Phillips, W. J.                     | Smith, J. H.            |
| Raja Rayman bin Raja Abdul<br>Hamid | Smythe, H. W. St. Aubyn |
| Richards, D.                        | Stephenson, E. F.       |
| Roberts, W. R.                      | Tait, W. S.             |
| Scott, Hon. Mr. John, C.M.G.        | Tatham, T. P. H.        |
| Sloan, T. I.                        | Terry, R. A.            |
| Smith, C. R.                        | Whyte, R. P.            |

**Council.** The Council records with regret the departure from Malaya of its distinguished patron, Sir Hugh Clifford, G.C.M.G., G.B.E. The President, the Hon. Mr. R. O. Winstedt, C.M.G., D.LIT., resigned in December on the occasion of his departure for Europe on furlough and Mr C Boden Kloss was elected President for the remainder of the year.

**Annual General Meeting.** The Annual General Meeting was held in the Society's Room at the Raffles Museum on February 18th

**Journal.** Three journals were issued during the year. The Council intended to produce four numbers but an unexpected delay occurred in the delivery of the manuscript for Part IV when it was too late in the year to arrange for the printing of other papers

The volume for the year consists of pp I-XXXIII, 1-472, plates I-X and many text-figures

The first part consists of a long treatise by Mr E N. Taylor, of the Malayan Civil Service, entitled "The Customary Law of Rembau" Parts two and three are both miscellaneous in character. Altogether the three journals include nineteen articles by ten contributors and should thus contain something to interest most members of the Society.

**Finances.** For several years past the Society has received a regular income from the Governments of the Straits Settlements and Federated Malay States

In 1924 the Government of the Straits Settlements granted an annual subsidy of \$1,000 for five years, and in 1929 contributed a further sum of \$500.

The financial assistance rendered by the Government of the Federated Malay States also took the form of an annual subsidy of \$1,000 starting from 1924. In the first instance it was granted for three years and then renewed for a further period of three years. The two Governments came to the assistance of the Society at a critical moment of its existence and the Council desires to express its gratitude for the help it has received from official sources during the past six years.

Since the Society received its first annual grant from the Governments in 1924, six volumes of its journal have been published, the average number of pages in a journal being 468.

In 1929 all government subsidies ceased but, taking the long view, the financial position of the Society remained unsatisfactory. It was therefore decided to ask both Governments to continue their support for a further period of three years.

The Council is happy to announce that the appeal has met with success. The Government of the Straits Settlements has promised a contribution of \$500 per annum for a further period of three years starting in 1930. The Government of the Federated Malay States has granted \$500 for the year 1930 and has promised to consider the position again at the end of the year.

Payments for printing include \$1,340.70 for 1928 Journals. The Society's holding of \$2,200 in the S.S. 5½ per cent loan, was transferred at par to Penang Municipal debenture stock 1929 (4¾%)

### **Delegation to Java: Presentation of Raffles' Bust to the Royal Batavian Society of Arts and Science.**

An interesting event took place at the end of the year when a delegation went to Java and, on behalf of the Society, presented a bronze copy of the Chantrey bust of Sir Stamford Raffles to the "Koninklijk Bataviaasch Genootschap van Kunsten en Wetenschappen" (the Royal Batavia Society of Arts and Letters).

At the time of the British occupation of Java, Raffles was the President of the Royal Batavia Society and on the eve of his final departure from Batavia consented to the Society's request to allow its agents in London to prepare a bust of himself as soon as possible after his arrival in England. Circumstances prevented the fulfilment of this project. Now, after an interval of one hundred and thirteen years, the omission is repaired and the Royal Batavian Society has received, at the hands of the Malayan Branch of the Royal Asiatic Society, the bust of one of its most distinguished Presidents for which it has waited so long.

The delegation to Java consisted of the President, Mr. C. Boden Kloss and the Hon. Secretary.

On the morning of the 23rd December a simple ceremony took place in the Weltevreden cemetery at the grave of Olivia Mariamne Raffles, the wife of the great proconsul.

Mr. Ch. J. I. M. Welter, Vice-President of the Council of the Indies and President of the Batavian Society of Arts and Sciences, laid a wreath on the grave in the name of the Society. Mr. Boden Kloss expressed thanks for the kindly thought which inspired this action and wreaths were also laid on the tomb on behalf of the

Malayan Branch of the Royal Asiatic Society, the British Protestant Community, the Raffles Society of Batavia, the Royal Empire Society and the Batavia Cricket Club.

On the evening of the 23rd of December in the hall of the Royal Batavia Society in the Presence of H. E. the Governor-General of the Netherlands East Indies, members of the Council of the Indies, the General Commanding the India Army, the heads of the various departments, members of the Consulate Corps, Professors, the members of the Society and a large gathering of the British Community, the formal presentation of the bust was made by Mr. Boden Kloss. Speeches were made by Mr Ch. J I M. Welter, Mr. Boden Kloss, Prof. B Schrieke and Sir Josiah Crosby, K.B.E. (British Consul-General).

A full account of the proceedings will appear in an early number of the journal for 1930

F. N. CHASEN,  
*Hon. Secretary.*

**MALAYAN BRANCH, ROYAL ASIATIC SOCIETY**  
**Receipts and Payments for the year ending 31st December, 1929.**

| <b>RECEIPTS.</b>                          | <b>PAYMENTS.</b>                             |
|---|--|
| <b>Cash</b>                               | <b>Printing.</b>                             |
| Balance at Mercantile Bank                | Journal Vol. VI part 2 \$ 668.00             |
| January, 1st 1929 . . . \$9,272.01        | Vol. VI part 4 . . . 672.70                  |
| Petty cash in hand, 1-1-29 . . . 57 22    | Vol. VII part 1 . . . 1,950.10               |
| Brought forward from 1928 . . . 10 00     | Vol. VII part 2 . . . 555.50                 |
| 9,339.23                                  | Illustrations . . . 347.43                   |
| <b>Subscriptions.</b>                     | Reprints for authors . . . 225.00            |
| For year 1928 and previously . . . 200 00 | \$4,418.73                                   |
| For year 1929 . . . 1,925 00              | Stationery . . . 234.61                      |
| For year 1930 & Subsequently. . . 285 00  | Furniture . . . 418.00                       |
| Life-memberships . . . 185 00             | Postages & other petty expenses . . . 182.25 |
| 2,595.00                                  | Cheque commission. stamps, . . .             |
| Sales of Journals and Maps . . . 532.90   | cheque books . . . 16.98                     |
| <b>Government Grants.</b>                 | Balance in Mercantile Bank . . .             |
| Straits Settlements . . . 500 00          | December, 31st 1929 . . . 8,758.20           |
| F. M. S. . . . 1,000.00                   | Petty cash in hand December, . . .           |
| 494.61                                    | 31st 1929 . . . 24.97                        |
| <b>Interest.</b>                          | Salaries . . . 408.00                        |
| On investments . . . 295.00               |  |
| On current account . . . 199.61           |  |
| 494.61                                    |  |
| \$14,461.74                               | \$14,461.74                                  |

Examined and found correct.  
 E. J. H. CORNER.

M. R. HENDERSON,  
*Hon. Treasurer.*

# List of Members for 1930.

(As on 1st January, 1930)

## \*LIFE MEMBERS.

### Patron.

1930. CLEMENTI, H. E. SIR CECIL, K.C.M.G.

### Honorary Members.

#### Year of Election.

- 1903, 1923. ABBOTT, DR W L., North-east Maryland, U.S.A.  
1890, 1918. BLAGDEN, DR. C. O., School of Oriental Studies,  
Finsbury Circus, London, England  
1921. BRANDSTELLER, PROF DR R, Luzern, Switzerland.  
1903, 1917 GALLOWAY, SIR D J, Singapore. (Vice-President,  
1906-7, President, 1908-13)  
1895, 1920. HANITSCH, DR R, 99, Woodstock Road, Oxford,  
England (Council, 1897-1919. Hon Treasurer,  
1898-1906, 1910-11, 1914-19, Hon. Secretary,  
1912-13).  
1922. Johore, H. H. THE SULTAN of, G.C.M.G., K.B.E., Johore  
Bahru, Johore.  
1903, 1927 MAXWELL, SIR W. G., K.B.E., C.M.G., 123, Oakwood  
Court, Kensington, W. 14, England (Council,  
1905, 1915. Vice-President, 1911-12, 1916, 1918,  
1920, President, 1919, 1922-3, 1925-6).  
1921. Perak, H. H. THE SULTAN of, K.C.M.G., K.C.V.O.,  
Istana Negara, Bukit Chandan, Kuala Kangsar,  
Perak  
1890, 1912. RIDLEY, H N., C.M.G., F.R.S., 7, Cumberland Road,  
Kew Gardens, Surrey, England. (Council, 1890-4,  
1896-1911, Hon Secretary, 1890-3, 1896-1911).  
1916. Sarawak, H. H. THE RAJAH of, G.C.M.G., Kuching,  
Sarawak.  
1885. SATOW, SIR E. M., Beaumont, Ottery St Mary,  
Devon, England.  
1894, 1921. SHELLABEAR, REV. DR W G., 20, Whitman Avenue,  
West Hartford, Conn, U.S.A. (Council. 1896-  
1901, 1904, Vice-President, 1913; President,  
1914-18).  
1921. SNOUCK-HURGRONJE, PROF. DR. C., Leiden, Holland.  
1921. VAN RONKEL, DR. P. H., Zoeterwoudsche Singel 44,  
Leiden, Holland.

**Corresponding Members.**

1920. LAIDLAW, DR F F, Eastfield, Uffculme, Devon, England.  
 1920 MERRILL, DR. E D, New York Botanical Garden, Bronx Park, New York City, U S A

**Ordinary Members.**

- 1921 \*ABDUL AZIZ, ENSKU, Johore Bahru, Johore  
 1926. ABDUL AZIZ BIN AHMAD, District Forest Office, Taiping, Perak.  
 1927. ABDUL GHANI BIN MOHAMMED, Medical College, Singapore  
 1926 ABDUL HAMID BIN DATO KAYA, District Office, Klang, Selangor  
 1926 ABDUL HAMID BIN HUSSAIN, Pasir Mas, Kelantan.  
 1918 ABDUL MAJID BIN HAJI ZAINUDDIN, HAJI, Political Intelligence Bureau, Singapore  
 1926 ABDUL MALEK BIN MOHAMMED YUSUF, District Office, Bentong, Pahang  
 1926 ABDUL MANAF BIN MOHAMED HASSAN, Monopolies and Customs Office, Alor Star, Kedah  
 1926 ABDUL RAHMAN BIN YASSIN, 3, Jalan Chat, Johore Bahru, Johore  
 1923 \*ABDULLAH BIN JA'AFAR, DATO, C B E., Taram, Johore Bahru, Johore  
 1916 ABRAHAM, H C, Topographical Department, Taiping, Perak  
 1929 ABU BAKAR of Johore, H H, Johore Bahru  
 1907 \*ADAMS, SIR A, K B E., Penang (Vice-President, 1919)  
 1921 ADAMS, C D, The Residency, Sibu, Sarawak  
 1917 ADAMS, R H, Singapore.  
 1909 \*ADAMS, T S, Kuala Kangsar, Perak.  
 1919 \*ADELBERG, F, Pelepah Valley Rubber Estates, Kota Tinggi, Johore  
 1927 AGAMA, J, Forest Department, Sandakan, British North Borneo  
 1927. AHLSTON, A T., Changkat Tin Dredging Ltd, Batu Gajah, Perak.  
 1925 AHMAD, H H TUNGKU, ISTANA MARBLE, Johore Bahru, Johore.  
 1926. AHMAD BIN MOHAMMED ISA, District Office, Sungai Patani, Kedah  
 1926. AHMAD BIN OSMAN, District Office, Pekan, Pahang.  
 1926. AHMAD BIN YAHYA, 363, Serangoon Road, Singapore  
 1921. AHMAD JATILUDDIN, Malay College, Kuala Kangsar, Perak.  
 1926. AHMAD ZAINALABIDIN, TENGKU, Kota Bharu, Kelantan.  
 1922. \*ALEXANDER, C S., c/o The Crown Agents, 4, Millbank, London, England.

## LIST OF MEMBERS.

1924. ALEXANDER, J. A., 50, National Mutual Buildings,  
Smith Street, Durban, South Africa.
- 1927 ALLEN, B. W., Police Office, Kuala Lipis, Pahang.
1914. ALLEN, H. C. W., Boustead & Co., Ltd., Singapore.
1921. ALLEN, HON. MR. L. A., Perlis, Kedah.
1921. ALLEN, W. H. R., "Allerton," St. Anthony's Road,  
Blundellsands, Liverpool, England
1927. ALOR STAR GOVERNMENT ENGLISH SCHOOL UNION,  
Alor Star, Kedah.
1926. AMBLER, G., Outram Road School, Singapore
1929. ANDERSON, D. K., Mercantile Bank, Kuantan,  
Pahang.
1926. ANDERSON, CAPT. H. A., Commissioner of Police,  
Kota Bahru, Kelantan.
1921. ANDREINI, CAPT. E. V., Lower Rejang, Sarawak.
1929. ARCHER, J. B., Kuching, Sarawak.
1926. ARIFF, DR. K. M., The New Dispensary, 217,  
Penang Road, Penang
1926. ATKIN-BERRY, H. C., Swan and Maclaren, Singapore.
1926. AUGUSTINE, J. F., Government English School, Alor  
Star, Kedah.
1908. \*AYRE, C. F. C., Ipoh, Perak
1929. BADDELEY, CAPT. S., c/o Harrison & Crosfields,  
Sandakan, British North Borneo.
1926. \*BAGNALL, HON. MR. J., Straits Java Trading Co.,  
Ltd., Singapore.
1919. \*BAILEY, A. E., Keecha, Park Road, Leamington Spa,  
England.
1923. BAILEY, HON. MR. A. S., Kuala Lumpur, Selangor.
1926. \*BAILEY, JOHN, British Vice-Consulate, Nakawan  
Lampang, Siam.
1915. BAIN, NORMAN K., Kuala Kangsar, Perak.
1926. BAIN, V. L., Forest Department, Bentong, Pahang.
1912. BAKER, CAPT. A. C., M.C., Adviser's Quarters, Muar,  
Johore, (Council, 1928).
1926. BAKER, LT. J. S.
1899. \*BANKS, J. E., The American Bridge Co., Cambridge,  
Pa., U.S.A.
1920. BARBOUR, DR. T., Museum of Comparative Zoology,  
Harvard University, Cambridge, Mass; U.S.A.
1928. BARCOCK, F. G., Meranti Lapan Estate, Lahat, Perak.
1926. BARNARD, B. H. F., c/o Lloyds Bank, Burnham—on  
Sea, Somerset, England.
1921. BARNES, J. R., Kuching, Sarawak.
1926. BARRACLOUGH, F. C., Victoria Institution, Kuala  
Lumpur.
1923. BATHURST, H. C., Labour Department, Penang.
1914. BAZELL, C., Malay College, Kuala Kangsar, Perak.  
(Hon. Librarian, 1916-20; Hon. Treasurer,  
1921-22).

1926. BEACH, N. B. Kinta Kellas, Batu Gajah, Perak.  
 1921. BEARD, H., The Asiatic Petroleum Co., Ltd, Miri, Sarawak  
 1923. BECKER, F. E., Wessyngton Estate, Rengam, Johore  
 1928. BECKETT, O., Land Office, Malacca.  
 1925. BEE, R. J., c/o F.M.S Railways, Kelantan.  
 1921. BELGRAVE, W. N. C., Department of Agriculture, Kuala Lumpur  
 1910. \*BERKELEY, CAPT H, I.S.O., Clink Gate, Drowitwich, England  
 1927. BEST, G. A., Botanic Gardens, Singapore  
 1928. BEYER, PROF. H. O., 212, Nebraska Street, Manila, Philippine Islands.  
 1912. \*BICKNELL, J. W., U. S. Rubber Plantations, Medan, Sumatra  
 1884. BICKNELL, W. A., 2, Philips Avenue, Exmouth, Devon, England  
 1922. BIGGS, L. A. C., c/o Bank of New Zealand, Napier, Hawkes Bay, New Zealand  
 1924. BIRD, R., Batu Pahat, Johore  
 1926. BIRKINSHAW, F., Agricultural Department, Kuala Lumpur  
 1926. BIRTWISTLE, W., Fisheries Department, Singapore  
 1908. \*BISHOP, MAJOR C. F., R.A.  
 1922. BISHOP, D. A., Raffles Institution, Singapore  
 1923. BLACK, J. G., Asst Adviser's Office, Trengganu.  
 1921. BLACK, MAJOR K., M.C., General Hospital, Singapore.  
 1926. BLACKBURN, H. K., Malim Nawar South Ltd., Malim Nawar, Perak  
 1923. †BLACKER, DR G. O., "Sentosa," Brooklands Road, Sale, Manchester, England.  
 1929. BLAGG, F. O., Kuching, Sarawak  
 1926. BLAIR, R. W., Institute for Medical Research, Kuala Lumpur  
 1884. BLAND, R. N., 25, Earl's Court Square, London, S.W. 5. (Council, 1898-1900: Vice-President, 1907-9).  
 1921. BLASDELL, REV R., Frewsbury, New York, U.S.A.  
 1926. BLOOMFIELD, C. W., Education Department. Alor Star, Kedah  
 1925. BLYTHE, W. L., Chinese Protectorate, Johore  
 1926. \*BOSWELL, A. B. S., Forest Department, Taiping, Perak.  
 1910. BOULT, F. F., The Residency, Kuching, Sarawak.  
 1919. \*BOURNE, F. G., Coroner's Office, Singapore.  
 1921. BOYD, R., Co-operative Societies Department, Penang.  
 1927. BOYD, T. R., Hongkong Bank, Kuala Lumpur, Selangor.  
 1928. BOYD, MR. JUSTICE T. STIRLING, Kuching, Sarawak.  
 1919. \*BOYD, W. R., Colonial Secretariat, Singapore.

1925. CULLIN, E. G., Lumut, Dindings.  
 1927. CUMMING, C. E., Floral Villa, Ipoh, Perak.  
 1928. CUNNINGHAM, F., Port Dickson, Negri Sembilan.  
 1923. CURTIS, R. J. F., District Office, Dindings.  
 1926. DAKERS, C. H., Police Courts, Singapore.  
 1929. DALLEY, J. D., F.M.S. Police, Kuala Lumpur.  
 1922. DALTON, H. G., Subur Rubber Estates, Ulu Sepatang P.O., Perak.  
 1923. DALTON, N. D., Gadek Estate, Tampin.  
 1910. \*DALY, M. D., Kuala Lumpur, Selangor  
 1924. DATO MUDA ORANG KAYA KAYA, Panglima Kinta, Jalan Istana, Ipoh, Perak  
 1918. \*DAVID, P. A. F., c/o The Crown Agents, 4, Millbank, London  
 1926. DAVIDSON, J., c/o Caldbeck, Macgregor & Co., Kuala Lumpur.  
 1928. DAVIDSON, W. W., c/o Public Works Department, Batu Pahat, Johore.  
 1925. DAVIES, D. J., Sungai Purun Estate, Semenyih, Selangor  
 1927. DAVIES, E. R., Malay College, Kuala Kangsar, Perak.  
 1926. DAVIES, G. C., Victoria Institution, Kuala Lumpur, Selangor.  
 1927. DAWSON, C. W., Colonial Secretariat, Singapore.  
 1928. DAWSON, W., Merewether Road, Lumut, Dindings.  
 1923. DAY, E. V. G., Asst. Adviser's Office, Besut, Trengganu.  
 1926. DEL TUFO, M. V., Labour Office, Penang.  
 1922. DENNY, A., Sungai Pelek Estate, Sepang, Selangor  
 1903. \*DESHON, H. F.  
 1929. DICKINSON, Mrs. W. J., Bandoeng, Java.  
 1897. DICKSON, E. A., Batu Gajah, Perak  
 1921. \*DICKSON, Rev. P. L., Long Marston Vicarage, Tring, Herts, England.  
 1927. DIRECTOR OF PUBLICATIONS, Princes Street, Westminster, London, S.W.1, England.  
 1927. DODD, G. C., District Judge, Malacca.  
 1920. DODDS, DR. H. B., Kulim, Kedah.  
 1926. \*DOLMAN, H. C., Forest Office, Kuala Kangsar, Perak.  
 1923. \*DOSCAS, A. E., Coleman, Department of Agriculture, Kuala Lumpur, Selangor  
 1922. DRURY, CAPT. F., Bukit Zahara School, Johore Bahru, Johore  
 1921. DRYBURGH, A. M., Colonial Secretariat, Singapore.  
 1926. DUFF, DR. R. W., Taiping, Perak.  
 1910. DUNMAN, W., Grove Estate, Grove Road, Singapore.  
 1926. DUNN, DR. E. R., Hareford College, Hareford, Penn., U.S.A.  
 1915. \*DUSSEK, O. T., Sultan Idris Training College, Tanjong Malim, Perak.

1922. EBDEN, W. S., 11, Scotland Road, Penang.  
 1922. ECKHARDT, HON MR H. C., Alor Star, Kedah.  
 1922. EDGAR, A. T., Suffolk Estate, Sitiawan, Perak.  
 1929. EDMETT, L. R. J., Kuching, Sarawak.  
 1927. EDUCATION DEPARTMENT, Alor Star, Kedah.  
 1926. EDWARDS, MAJOR W. A. D., Baling, Kedah.  
 1885. EGERTON, SIR WALTER, Fair Meadow, Mayfield, Sussex, England  
 1929. EHLERS, R. H., Kuala Gris Estate, Ulu Kelantan.  
 1921. ELDER, DR. E. A., The British Dispensary, Singapore.  
 1926. ELEY, H. J., "Axwell," 18, Stomcliffe Avenue, West Southbourne, Bournemouth, England.  
 1922. ELLES, HON MR B. W., The Residency, Alor Star, Kedah.  
 1918. ELLIOTT, F. M., Treskelly, Maruhull, Dorset, England  
 1924. ELSTER, C., Kuala Han Estate, Kelantan.  
 1926. ENSOR, T. D., c/o Messrs. Neill & Bell, 1, Old Market Square, Kuala Lumpur, Selangor  
 1913. ERMEN, C., c/o Lloyds Bank, Brixham, South Devon, England.  
 1923 \*EU TONG SENG, O B E., Sophia Road, Singapore.  
 1924. EVANS, I. H. N., The Museum, Taiping, Perak. (Vice-President, 1926-7, 1928-9)  
 1925. FAIRBURN; HON. MR H., Stevens Road, Singapore.  
 1927. FARRELLEY, G. A., Sandakan, British North Borneo.  
 1909. FARRER, R. J., C.M.G., Municipal Offices, Singapore, (Council, 1925-7)  
 1929. FFWNICK, C., c/o The BORRADO Co., Kuching, Sarawak. (Council, 1912-13).  
 1911. \*FERGUSON-DAVIE, RT REV. C. J.  
 1909. FERRIER, J. C., 28, Fenchurch Street, London, England  
 1928. FINDLAY, C. S., c/o Secretariat, Singapore.  
 1917. FINLAYSON, DR. G. A., "Changi," West Moors, Dorset, England.  
 1919. \*FINNIE, W., 73, Forest Road, Aberdeen, Scotland.  
 1925. FITZGERLAND, DR. R. D., c/o Glyn Mills & Co., 3, Whitehall Place, London, S.W.1, England.  
 1924. FLEMING, E. D., Chinese Protectorate, Taiping, Perak.  
 1926. FLIPPANCE, F., Botanic Gardens, Penang.  
 1897. \*FLOWER, MAJOR S. S., Spencersgreen, Tring, Herts, England.  
 1928. FOENANDER, F. C., District Forest Office, Mentakab, Pahang.  
 1926. FORBES, G. D., Kinta Kellas Estate, Batu Gajah, Perak.  
 1926. FORD, P. B., 60, Klyne Street, Kuala Lumpur, Selangor.

1923. FOREST BOTANIST, THE, Forest Research Institute, Dehra Dun, U.P. India.
1921. FORRER, H. A., District Court, Kuala Lumpur.
1918. \*FOXWORTHY, DR F. W., Forest Department, Kuala Lumpur, Selangor. (Council, 1923, 1926-7).
1921. \*FRASER, F. W., The Badminton Club, 100 Piccadilly, London, W.1.
1908. \*FREEMAN, D., 16, St. Catherine's Road, Southbourne, Bournemouth, Hants, England
1926. FRODA, A. H., Ipoh Club, Ipoh, Perak.
1910. \*FROST, HON. MR. MEADOWS, Resident Councillor, Malacca.
1922. FULLER, J. C., c/o General Post Office, Malacca.
1912. \*GALIAGHER, W. J., U. S. Plantations Inc., Medan, Sumatra.
1924. GAMMANS, L D., East Court, East Cosham, Hants, England.
1917. \*GARNIER, REV. Keppel, Penang.
1923. GATER, B. A. R., Institute for Medical Research, Kuala Lumpur
1926. GATFIELD, W H, Chinese Protectorate, Singapore.
1928. GEAKE, F H, c/o Government Analyst, Singapore.
1920. GEALE, DR W. J, Kuala Krai, Kelantan
1926. \*GEORGE, J. R., The Chartered Bank, Singapore.
1917. \*GERINI, LT.-COL. G. C.,
1927. GERMAN, R L., Federal Secretariat, Kuala Lumpur, Selangor.
1928. GILLET, PROF E. W., Raffles College, Cluny Road, Singapore.
1923. GILMOUR, A., District Office, Klang
1902. \*GIMLETIE, DR. J. D., Hillside, Upper Weston, Bath Somerset, England.
1922. \*GLASS, DR. G S., Municipal Offices, Penang.
1928. GLOVER, A. H, Municipal Offices, Malacca
1918. GLOYNF, G. B, c/o Burt Myrtle & Co, Batavia, Java.
1916. GOODMAN, HON. MR A M., Chinese Protectorate, Singapore.
1922. GORDON, T I M, General Post Office, Singapore.
1920. GORDON-HALL, CAPT. W. A, c/o The Crown Agents, 4, Millbank, London.
1926. GOSS, P H, Survey Department, Malacca.
1909. GOULDING, R R., Survey Department, Johore Bahru, Johore.
1929. GRACIE, A. J., Kuala Trengganu, Trengganu.
1926. GRAEME, A. W. S., Sentul, Selangor.
1927. GRAHAM, H. GORDON, Sungei Kruit Estate, Sungkai, Perak.
1924. GRAHAM, W H., Malacca.
1929. GRAY, G L., Sandakan, British North Borneo.
1928. GREAD, R. E., Situawan, Lower Perak.

1923. GREEN, DR. P. WITNERS, Johore Bahru, Johore  
 1926. GREENE, R. T. B., Institute for Medical Research,  
 Kuala Lumpur.  
 1929. GREGG, J. F. F., Land Office, Malacca.  
 1928. GREGSON, CAPT H. ST. JOHN-RUSSEL-DE LYS,  
 Chartered Bank, Singapore.  
 1924. GREIG, G. E., Kuala Lumpur, Selangor.  
 1926. GRICE, N., Chinese Protectorate, Johore Bahru,  
 Johore.  
 1923. GRIEVE, C J K., Post Box No 58, Klang, Selangor.  
 1921. GRIFFITHS, C S., Kuching, Sarawak.  
 1911. GRIST, D. H., Department of Agriculture, Kuala  
 Lumpur  
 1922. GUBBINS, W H W., c/o Mansergh and Taylor,  
 Seremban, Negri Sembilan.  
 1926. GUMMER, W. A., Survey Dept., Kulim, Kedah  
 1925. GUNN, R. F., Education Department, Penang  
 1916. GUPTA, SHIVA PRASAD, Naudansahu Street, Benares  
 City, India.  
 1923. \*HACKER, DR H. P., Zoological Department,  
 University College, London, W.C.1, England.  
 1923. HAINES, MAJOR O B., Selama, Perak.  
 1923. HAKE, H. EGMONT, Barker & Co., Kuala Lumpur.  
 1923. HALFORD, SIDNEY, F. M S. Railways Constructio  
 Department, Kuala Lumpur, Selangor  
 1927. HALL, A S., c/o Gammon & Hall, Ltd., Taiping,  
 Perak  
 1914. HALL, J. D., c/o Colonial Secretariat, Singapore,  
 (Council, 1924, 1926-28).  
 1911 \*HALLIFAX, F. J., Oakwood, Brampton, Cumberland,  
 England.  
 1915. HAMILTON, A W, Chief Po'ice Office, Alor Star,  
 Kedah. (Vice-President, 1922, 1925, 1929—).  
 1918. HAMPSHIRE, HON. MR. A. K E., Kuala Lumpur,  
 Selangor.  
 1922. HAMPSHIRE, HON. MR D H, c/o Boustead & Co,  
 Ltd, Kuala Lumpur, Selangor.  
 1924. HAMZAH BIN ABDULLAH, Land Office, Kuala Lumpur,  
 Selangor.  
 1923. HANCOCK, A. T., 22-2, Tanglin Road, Singapore.  
 1922. HANITSCH, P H. V, 99, Woodstock Road, Oxford,  
 Eng'land.  
 1909. HARRINGTON, A. G.  
 1922. HARROWER, PROF. G., Medical College, Singapore.  
 1921. HASHIM, CAPT. N. M., Parit Buntar, Perak.  
 1926. \*HASTINGS, W. G. W., 56, Klyne Street, Kuala  
 Lumpur, Selangor.  
 1928. HAUGHTON, A. DE BURGH, Kua'a Reman Rubber  
 Estates, Ltd., Kuantan, Pahang.  
 1926. HAWKES, CAPT. W. B., c/o T. Orchard, Esq., The  
 Grange, Hallatrow, near Bristol, England.

1921. HAWKINS, G., The Secretariat, Kuala Lipis, Pahang.  
 1925. HAY, A. W., Chinese Protectorate, Singapore.  
 1919. HAY, M.C., Kemaman, Trengganu.  
 1921. HAYES, L. J., Fraser & Co., Singapore.  
 1904. \*HAYNES, A. S., Federal Secretariat, Kuala Lumpur, Selangor. (Council, 1920).  
 1928. HEAH JOO SEANG, c/o Hin Giap Co., 195, Victoria Street, Penang.  
 1922. HELINGS, G. S., Estate Duty Officer, Kua'la Lumpur.  
 1926. HELPS, A., Alor Star, Kedah.  
 1923. HEMMANT, G., C.M.G., Colonial Secretariat, Singapore.  
 1926. HENDERSON, CAPT. A. M., Sandala Estate, Sandakan, British North Borneo.  
 1925. HENDERSON, L., Sultan Idris Training School, Tanjong Malim, Perak.  
 1921. HENDERSON, M. R., Botanic Gardens, Singapore, (Council, 1928, Hon. Treasurer 1928—).  
 1923. HENGELER, A. A., Kuala Lumpur, Selangor.  
 1917. HERFORD, G. A.  
 1927. HEROD, E. J., c/o The British Borneo Timber Co., Sandakan, British North Borneo.  
 1926. HERON, F. R., Singapore Cold Storage Co., Singapore.  
 1921. HEWITSON, C., c/o Lyall & Evatt, Singapore.  
 1923. \*HICKS, E. C., Education Department, Alor Star, Kedah.  
 1878. HILL, E. C., 26, Highfield Hill, Upper Norwood, London.  
 1922. HILL, W. C., Singapore Oil Mills, Ltd., Havelock Road, Singapore.  
 1922. HINDE, C. T., Mersing, Johore.  
 1923. \*HODGSON, D. H., Forest Department, Kuala Lumpur, Selangor.  
 1921. HOLGATE, M. R., c/o Education Department, Malacca.  
 1926. HOLL, E. S., Kuching, Sarawak.  
 1923. HOLLAND, A. D., Kapoewas Rubber Co., Ltd., Sungei Dekan, Pontianak, Borneo.  
 1922. HOLTUM, R. E., Botanic Gardens, Singapore. (Hon. Treasurer, 1923-6, 1928, Vice President 1929—).  
 1921. HOOPS, HON. DR. A. L., Singapore. (Council 1929).  
 1897. HOSE, E. S., C.M.G., The Manor House, Normandy, Guildford, England. (Vice-President, 1923, 1925; President, 1924).  
 1926. HOWITT, C. R., Jasin, Malacca.  
 1926. HOWL, CAPT. F. W., c/o Federal Secretariat, Kuala Lumpur.  
 1891. HOYNCK, VAN PAPENDRECHT, P. C., 38, Avenue Hoche, Paris VIII, France.  
 1909. HUBBACK, T. R., Sunlaws, Bukit Betong, Kuala Lipis, Pahang.

1922. HUGGINS, CAPT. J., Federal Secretariat, Kuala Lumpur.
1909. HUGHES, J. W. W., District Office, Klang, Selangor
1926. HUGHES, R. W., Boustead & Co., Ltd., Singapore
1929. HUMPHREYS, A, Kuching, Sarawak.
1922. HUNT, CAPT H. NORTH, District Office, Raub, Pahang.
- 1921 HUNTER, DR P S, Municipal Offices. Singapore
1926. HUSSAIN BIN MOHAMED TAIB, District Office, Temerloh, Pahang.
1929. HUTCHINSON, DR. W, Kuching, Sarawak.
- 1925 HYDE, A., c/o Colonial Secretariat, Singapore.
1926. \*INCE, H M., Langkon, British North Borneo
1929. INGLE, D., Kota Belud, via Jesselton, British North Borneo.
- 1922 IRVINE, CAPT R., c/o Mrs. Romanes, 28, St. Alban's Road, Edinburgh, Scotland.
1921. ISMAIL BIN BACOK, DATO, Johore Bahru, Johore.
1926. ISMAIL BIN HAJI PUTEH, Monopolies and Customs, Kulim, South Kedah
1921. IVENS, F. B., c/o Bannon & Bailey, Kuala Lumpur.
1921. \*IVERY, F E, Alor Star, Kedah
1926. JACKSON, A, Mansfield & Co., Ltd., Singapore.
1925. JACQUES, E. V H., Kuching, Sarawak.
1922. JAGO, E., District Office, Tanjong Malim, Perak.
1918. \*JAMES, D., Goebilt, Sarawak.
1927. JAMIESON, M., c/o Government Analyst, Singapore.
- 1907 JANION, E. M., 5, Gracechurch Street, London, E.C.3, England.
- 1918 JANSSEN, P. J, 6, Wilhelminalaan, Park de Kieviet, Wassenaar, Holland.
1926. JEFFERSON, J. P., Miri, Sarawak
1926. JEFFERSON, J W., Education Office, Clark Street, Kuala Lumpur, Selangor.
1921. \*JERMYN, L. A. S., Government English School, Batu Pahat, Johore.
1926. JERVOISE, R. S., Krian, Perak.
1910. JOHNSON, B. G H., Crossways, Littlehampton, Sussex, England.
- 1925 JONES, A. E. THORNLEY, Mansfield & Co, Ltd., Singapore.
- 1918 \*JONES, E. P.
1913. JONES, S. W., Johore Bahru, Johore.
- 1919 \*JORDAN, A. B., Sanitary Board, Ipoh, Perak.
1926. KAHAR BIN YAMTUAN ANTAH, Tengku, Kuala Pilah, Negri Sembilan.
1926. KASSIM BIN CHE ISMAIL, State Council Office, Alor Star, Kedah.
1921. KASSIM BIN SULTAN ABDUL HAMID HALIMSAH, Tengku, Alor Star, Kedah.
1921. \*KAY-MOUAT, DR. J. R., Medical College, Singapore.

## LIST OF MEMBERS.

1927. **KEBLE, W. T.**, Sandakan, British North Borneo.  
 1926. **KEET, MRS. H. G.**, c/o The Inspector of Schools, Singapore.  
 1926. **KEIR, A.**, Education Office, Taiping, Perak.  
 1926. **KEITH, H. G.**, Forest Department, Sandakan, British North Borneo.  
 1921. \***KELLIE, J.**, Dunbar Estate, Neram Tunggal, P.O. Chegar Perah, Pahang.  
 1913. **KEMPE, J. E.**, Weir Cottage, Knighton, Radnorshire, England.  
 1920. \***KER, W. P. W.**, Paterson, Simons & Co., Ltd., Singapore.  
 1920. \***KERR, DR. A.**, Wireless Road, Bangkok, Siam.  
 1926. **KHOO SIAN EWE**, 24, Light Street, Penang.  
 1921. **KIDD, G. M.**, District Office, Tampin, F.M.S.  
 1920. **KING, E. M.**, Kong Lee (Perak) Plants, Ltd., Bagan Serai, Perak.  
 1927. **KING, S. E.**, The Chinese Protectorate, Singapore.  
 1926. **KINGSBURY, DR. A N**, Institute for Medical Research Kuala Lumpur, Selangor.  
 1926. **KINNEIR, DR D.**, Rim Estate, Jasin, Malacca.  
 1921. **KITCHING, T.**, Superintendent of Surveys, Trengganu.  
 1900. **KLOSS, C. BODEN**, Raffles Museum, Singapore. (Council, 1904-8, 1923, 1927-8, Vice-President, 1920-1, 1927, Hon. Secretary, 1923-6).  
 1915. **KNIGHT, V.**, Fairgreen Cottage, Glemsford, Suffolk, England.  
 1914. **LAMBOURNE, J.**, Department of Agriculture, Kuala Lumpur.  
 1926. **LAMIN BIN KASSIM**, Police District, Lahat, Perak  
 1929. **LANGLADE, BARON FRANCOIS DE**, Budu Estate, Raub, Pahang.  
 1926. **LANKAMIN BIN HAJI MUHAMMAD TAHIR**, Kuala Krai, Kelantan.  
 1925. **LAWES, G. W.**, Police Headquarters, Kuala Lumpur, Selangor  
 1927. **LAYCOCK, J.**, c/o Braddel Bros., Singapore.  
 1926. **LAYMAN, E. C H**, Section Engineers Office, F.M.S. Railways, Kuala Gris, Kelantan.  
 1923. \***LEASE, F. E.**, The Shanty, Chislehurst Hill, Chislehurst, Kent.  
 1921. \***LEE, L. G.**, Labu Estate, Brunei.  
 1922. \***LEGGATE, J.**, Railway Construction, Kuala Lumpur, Selangor.  
 1913. \***LEICESTER, DR. W. S.**, Kuantan, Pahang.  
 1894. \***LEMON, A. 'H.**, c.m.g., Hillbrow, Reigate, Surrey, England. (Vice-President, 1916-18).  
 1920. **LENDRICK, J.**, 30, Norre Alle, Aarhus, Denmark.  
 1926. **LEONARD, H. G. R.**, Treasury, Kuala Lumpur, Selangor.  
 1925. \***LEONARD, R. W. F.**, Mansfield & Co., Ltd., Singapore.

1926. LEUTHOLD, W H., Hooglandt & Co., Singapore.  
 1890. LEWIS, J. E. A., Harada 698, Kobe, Japan.  
 1926. LEWIS, MISS M. B., 28, Stacey Road, Cardiff, S. Wales.  
 1928. LEWIS, T. P. M., Maxwell Road, Ipoh, Perak.  
 1927. LEYH, S. G. H, Colonial Secretariat, Singapore.  
 1922. LEYNE, E. G., c/o The Chartered Bank of India, 38, Bishopsgate, London, England.  
 1926. LIM CHENG KING, c/o The Criterion Press, Ltd., Penang.  
 1915. LIM CHENG LAW, 70, Beach Street, Penang.  
 1926. LIM ENG KAH, 6-J, Old Pudu Road, Kuala Lumpur, Selangor.  
 1925. LINEHAN, W., Kuala Lipis, Pahang  
 1928. LOCH, C. W, Tronoh Mines, Ltd., Kampar, Perak.  
 1926. LOGAN, S. S., Chartered Bank, Klang, Selangor.  
 1918. LOH KONG IMM, 12, Kia Peng Road, Kuala Lumpur, Selangor  
 1914. LORNIE, HON. MR J, The Residency, Kuala Lumpur, Selangor  
 1922. LOWINGER, V A., Survey Department, Kuala Lumpur, Selangor.  
 1907. \*LYONS, REV. E. S, c/o The Methodist Publishing House, Manila, Philippine Islands  
 1926. MACASKILL, DR. D C., Kuala Lumpur, Selangor.  
 1920. \*MACBRYAN, G. T. M., Bedil House, Sarawak.  
 1926. MACDONALD, J., Chartered Bank, Kuala Lumpur, Selangor.  
 1929. MACE, N., Survey Dept., Kuching, Sarawak.  
 1910. \*MACFADYEN, E., c/o Sports Club, London, England.  
 1929. MACGREGOR, R. O. C. R., Sentool Estate, Djember, East Java.  
 1920. MACKIE, VIVIAN, Kuala Lumpur, Selangor.  
 1922. MACKNESS, L. R., Kuala Lumpur, Selangor  
 1921. MACMILLAN, I. C., S.S. Police, Singapore  
 1918. MADGF, RAYMOND, Kuala Lumpur, Selangor  
 1929. MAHMUD BIN JINTAN, Malay College, Kuala Kangsar, Perak.  
 1924. MAHMUD BIN MAT, District Office, Kuala Lipis, Pahang.  
 1923. MAHMUD BIN MOHAMED SHAH, Batu Pahat, Johore.  
 1903. MAKEPEACE, W., 22, Holmes Grove, Henleaze, Bristol, England. (Council, 1914, 1916, 1920. Hon. Libr, 1909-12; Vice-President, 1917, Hon Secretary, 1918-19).  
 1928. MALACCA LIBRARY, THE, Malacca.  
 1926. MALAY COLLEGE, THE, Kuala Kangsar, Perak.  
 1927. MALLESON, B. K., Sungei Kruit Estate, Sungkai, Perak.  
 1921. MANCHESTER, H. L., Municipal Offices, Singapore.  
 1916. MANN, W. E., c/o Burt Myrtle & Co., Batavia, Java.

1929. MARJORIBANKS, DR. E. M., Kuching, Sarawak.  
 1907. \*MARRINER, J. T., Pantiles, Frinton, Essex, England.  
 1926. MARSDEN, H., Institute for Medical Research, Kuala Lumpur.  
 1920. MARSH, W, Municipal Offices, Singapore. (Council 1929)  
 1927. MARSHALL, A. O., Borneo Motors, Ltd., Kuala Lumpur.  
 1925. \*MARTIN, W. M. E., 12, Norham Road, Oxford, England.  
 1923. MARTYN, C. D., Jesselton, British North Borneo.  
 1921. MATHER, N. F. H., Federal Secretariat, Kuala Lumpur, Selangor.  
 1926. MATTHEWS, J. J., Krubong Estate, Alor Gajah, P.O., Malacca.  
 1921. MAXWELL, C. N., Sitiawan, Perak.  
 1922. MAY, P. W, c/o Spicers Export, Ltd., 51, Robinson Road, Singapore.  
 1928. MAYNE, A. F, Kelubi Estate, Jitra, Kedah.  
 1914. MEAD, J. P., Batu Gajah, Perak.  
 1924. MEADE, J. M, Telok Anson, Perak.  
 1928. MEE, B. S., Forest Department, Kuala Lumpur, Selangor.  
 1927. MEGAT YUNUS BIN ISA, Land Office, Telok Anson, Perak.  
 1928. MEYER, L D., Revenue Surveys, Taiping, F.M.S.  
 1926. MIDDLEBROOK, S M., c/o Chinese Protectorate, Singapore.  
 1926. MIDDLEMAS, N. A, Kuching, Sarawak  
 1926. \*MILES, HON. MR. C V., Rodyk and Davidson, Singapore.  
 1926. MILLAR, G R. M., Tranquerah, Malacca  
 1925. MILLER, G. S., Edendarroch, Loch Lomond, Scotland.  
 1921. \*MILLER, J. I., c/o Colonial Secretariat, Singapore.  
 1926. MILLINGTON, W. M., The Residency, Kuala Trengganu.  
 1925. MILLS, G R, Kinta Kellas Estate, Batu Gajah, Perak.  
 1926. MILLS, J V., Solicitor-General's Chambers, Government Offices, Singapore. (Council 1929—).  
 1924. MILLS, L. L, Kuala Trengganu, Trengganu.  
 1925. MILNE, CHARLES, 420, Great Western Road, Aberdeen, Scotland.  
 1919. MISSIONARY RESEARCH LIBRARY, 3041, Broadway, New York City, U.S.A  
 1924. MOHAMED IBNI SULTAN ABDUL HAMID HALIMSHAH, Tengku, Alor Star, Kedah.  
 1922. MOHAMED ISMAIL MERICAN BIN VAFOO MERICAN NOORDIN, Legal Adviser's Office, Alor Star, Kedah.  
 1927. MOHAMED NOOR BIN MOHAMED, Free School, Penang.  
 1922. MOHAMED SAID, CAPT. HAJI, Bukit Timbalan, Johore.

1921. MOHAMED SALLEH BIN ALI, DATO, Johore Bahru, Johore.
1921. MOHAMED SHERIFF BIN OSMAN, Land Office, Alor Star, Kedah.
1926. MOHAMMED AMEEN AKBAR, 4, Birch Road, Kuala Lumpur.
1926. MOIR, G. T., c/o Sarawak Oilfields, Ltd., Miri, Sarawak.
1920. MONK, H. F., Grik, Upper Perak
1926. MONTGOMERY, A., Kota Bharu, Kelantan.
1926. MOONSHI, DR H S., 742, North Bridge Road, Singapore.
1921. MORGAN, S., c/o The Chartered Bank of India, 38 Bishopsgate, London, England
1926. \*MORICE, JAMES, Kuantan, Pahang.
- 1920 \*MORKILL, A G., District Office, Ma'acca
1920. MOWBRAY, G. A DE C. DE, Commissioner of Land, Trengganu.
- 1926 MUMFORD, E W, Police Department, Ipoh, Perak
- 1915 \*MUNDELL, H. D., c/o Sisson & Delay, Singapore
- 1913 MURRAY, REV W, Gilstead Road, Singapore
- 1926 MYDDELTON, HUGH, The Residency, Tawao, British North Borneo
- 1928 McALISTER, D., Sandakan, British North Borneo.
1909. McARTHUR, M S H, c/o The Crown Agents, 4, Millbank, London.
1920. MACCABE, DR. J. B., Kapoewas Rubber Estate, Soengei Dekan, Pontianak, Borneo
- 1923 McKERRON, P A B., Brunei, Borneo.
- 1910 McLEAN, L., c/o The Crown Agents, 4, Millbank, London.
- 1921 McLFOD, D, King Edward's School, Taiping, Perak
1917. NAGLE, REV. J S, 2732, N., Calvert Street, Baltimore Md, U.S.A
- 1922 NASH, G H., Kuala Pilah, Negeri Sembilan
1927. NATIVIDAD, P., Forestry Department, Sandakan, British North Borneo.
- 1926 NEAVE, J. R., Assistant Adviser, Kota Tinggi, Johore.
1926. NEIL, W H E, Topographical Surveys, Alor Star, Kedah
1921. NEILSON, J. B., Inspector of Schools, Malacca.
1926. NICHOLAS, DR. C. J., General Hospital, Alor Star, Kedah.
1923. NICHOLSON, J E H., c/o The Eastern Extension Telegraph Co., Labuan.
1927. NISBET, W, E. A. Barbour, Ltd., Union Building, Singapore.
1928. NOBLE, C., Topographical Surveys, Taiping, Perak.
1906. NUNN, B., Galphay Manor, Ripon, England. (Council, 1922).

1923. O'CONNELL, LT. B. M., Police Officers Mess, Kuala Lumpur.
1926. OMAR BIN ENDOK, DATO, Segamat, Johore.
1911. O'MAY, J., c/o Harrisons & Crosfield, Ltd., 1-4, Great Tower Street, London, England.
1916. ONG BOON TAT, 51, Robinson Road, Singapore.
1926. ONG TENG NGAH, Victoria Institution, Kuala Lumpur, Selangor.
1923. OPIE, R. S., Box 140, Kuala Lumpur, Se'angor.
1926. ORANG KAYA KAYA STIA BEJAYA DI RAJA, Kuala Kangsar, Perak.
1921. ORCHARD, H. A. L., Chinese Free School, Cecil Street, Singapore.
1927. OSMAN BIN TALIB, Land Office, Taiping, Perak.
1920. O'SULLIVAN, T. A., Education Office, Kuala Lumpur, Selangor.
1913. OVERBECK, H., c/o Behn Meyer & Co., Ltd., Sourabaya, Java.
1925. OWEN, A. T., Bukit Batu Estate, Tampin, Negri Sembilan.
1929. PAGDEN, H. T., Agricultural Dept., Kuala Lumpur.
1922. PAGE-TURNER, F. W., Simanggang, Sarawak.
1919. PARK, MUNGO, P.O. Delivery 19, Kuala Lumpur, Selangor.
1908. \*PARR, C. W. C., C.M.G., O.B.E., c/o The Crown Agents, 4, Millbank, London, England. (Vice-President, 1919).
1926. PARRY, B. B., P.O. Box 42, Miri, Sarawak
1927. PARTRIDGE, A. T., Jesselton, British North Borneo.
1922. PASQUAL, J. C., Perlis, Kedah.
1921. \*PATERSON, MAJOR H. S., c/o The Crown Agents, 4, Millbank, London, England.
1926. PATTERSON, MRS. M. W., 6, Cairnhill Circle, Singapore.
1921. PEACH, REV. P. L., 68, Larut Road, Penang.
1926. PEALL, G. T., Raffles Institution, Singapore.
1921. PEDLOW, J., Deputy Public Prosecutor's Office, Singapore
1922. PEEL, HON. SIR W., K.B.E., C.M.G., Carcosa, Kuala Lumpur, Selangor
1928. PENANG FREE SCHOOL, Green Lane, Penang.
1926. PENANG LIBRARY, Penang.
1921. \*PENDLEBURY, H. M., Selangor Museum, Kuala Lumpur, Selangor.
1926. PENGILLEY, E. E., District Office, Pasir Puteh, Kelantan.
1924. PENNEFATHER-EVANS, J. P., F.M.S. Police, Kuala Lumpur.
1925. \*PENRICE, W., c/o Mansfield & Co., Ltd., Singapore.
1914. PEPYS, W. E., c/o Federat Secretariat, Kuala Lumpur.

1920. PESKETT, A. D., African Direct Telegraph Co., Free Town, Sierre Leone.
1920. PETERS, E. V.
1929. PHILLIPS, W. J., c/o The District Office, Sandakan, British North Borneo.
1925. PIJPER, DR. G. F., Kramat 61, Weltevreden, Java.
1927. PITT, ISAAC, Brieh Estate, Bagan Serai, Perak.
1921. \*PLUMMER, W. P., The Observatory, Bidston, Birkenhead, England.
1928. POWELL, I. B., Llanfihangel, Tallylyn, Breconshire, Wales
1924. PURCELL, V. W. W. S., Chirese Protectorate, Penang
1926. PURDOM, MISS N., Education Office, Kuala Lumpur, Selangor.
1906. PYKETT, REV. G. F., 5, Logan Road, Penang
1926. QUAH BENG KEE, 15, China Street, Penang.
1926. RAE, CECIL, Ipoh, Perak.
1924. RAJA BENDAHARA OF PERAK, Kuala Kangsar, Perak
1924. RAJA MUDA OF PERAK, Telok Anson, Perak.
1924. RAJA OMAR BIN RAJA ALI, Court House, Ipoh, Perak.
1926. RAJA PETRA BIN RAJA MAHMUD, District Office, Kajang, Selangor.
1929. RAJA RAZMAN BIN RAJA ABDUL HAMID, Kuala Kangsar, Perak.
1926. RAJA YA'ACOB BIN JA'AFAR, Magistrate, Klang, Selangor.
1924. RAMBAUT, A. E., Forest Department, Kuala Lumpur, Selangor.
1924. RASMUSSEN, H. C., c/o The East Asiatic Co., Singapore.
1917. RATTRAY, DR. M. J., c/o The Europe Hotel, Singapore.
1916. RAYMAN, L., Kuala Trengganu, Trengganu.
1923. READE, C. C., Kuala Lumpur, Selangor
1926. \*REAY, MR JUSTICE J. McCABE, Judge's House, Johore Bahru, Johore.
1924. REED, J. G., Klang, Selangor.
1910. \*REID, DR. ALFRED, Kuala Lumpur, Selangor.
1926. RENNIE, A. A., Kuching, Sarawak.
1921. \*REX, MARCUS, Kuala Lumpur, Selangor.
1926. RHODES, H., c/o Logan & Ross, Penang.
1915. RICHARDS, HON. MR. A. F., Johore. (Council, 1923, 1926-7; 1929).
1929. RICHARDS, D., c/o Sanitary Board, Taiping, Perak.
1911. RICHARDS, R. M., c/o Caledonia Estate, Province Wellesley.
1923. RIDOUT, F. G., c/o Harbour Board, Singapore.
1926. \*RIGBY, W. E., c/o The Chartered Bank, Singapore.
1929. ROBERTS, C. W., Lumut, The Dindings.
1912. ROBERTSON, J., c/o W. H. Rose, Burgh House, Burgh, Woodbridge, Suffolk, England.

1926. ROBINSON, F., Alor Star, Kedah.
1911. \*ROBINSON, H., 55, St. George's Square, London, S.W.1, England. (Council, 1916-20: Vice-President, 1922-3).
1926. ROBINSON, P. M., c/o The Eastern Smelting Co., Ltd., Penang.
1928. ROCHE, F. R., Rubber Estates of Krian, Ltd., Bagan Samak, Kedah.
1916. ROGERS, A, P.W.D., Singapore.
1926. ROGERS, M. F., Vimy Estate, Kundang, Kuang, Selangor.
1924. ROOKE, C. E., Director of Railways, Cyprus
1921. ROSS, E. A, Singapore.
1917. \*ROWLAND, W. R., Schloss Kalling, Post Moosen a.d. Bils, Oberbayern, Germany.
1922. RUSSELL, D. J. A., Kua'a Lumpur, Selangor.
1924. RYVES, V. W., Takau Estate, Rantau, Negri Sembilan.
1924. SAMAH BIN HAJI ALI, Pekan, Pahang.
1926. SANGER-DAVIES, A. E., Forest Office, Kuala Lumpur, Selangor.
1923. \*SANSOM, C. H., Police Headquarters, Singapore.
1919. \*SANTRY, D, c/o Swan & Maclaren, Singapore.
1896. \*SAUNDERS, C. J., The Lawn, Barcombe Mills, Nr Lewes, Sussex, England (Vice-President, 1910-11, 1914-15, President, 1916-18).
1923. SAVAGE, H. E., Kuala Trengganu, Trengganu.
1926. SAYID HASSAN BIN SAYID ZAIN, Ag Land Officer, Yen, Kedah.
1926. SAYID JAN BIN SAYID ASGAR ALI, Government English School, Sungai Patani, Kedah.
1922. SAYID MOHAMED IDID BIN ALI IDID, Alor Star, Kedah
1926. SAYID SHAIDALI, Government English School, Batu Gajah, Perak.
1921. SCHIDER, DR R., P.O. Box 12, Miri, Sarawak
1926. SCOTT, MISS A. M., Sentosa Hall, Singapore.
1929. SCOTT, HON MR. JOHN, C.M.G., Colonial Secretariat, Singapore.
1920. \*SCOTT, DR WAUGH, Sungai Siput, Perak
1906. SCRIVENOR, J. B., Batu Gajah, Perak. (Vice-President, 1922, 1924, 1926-9).
1915. \*SEE TIONG WAH, Balmoral Road, Singapore.
1922. SEHESTED, S., Chartered Bank, Penang.
1927. \*SELLS, H. C., Satuan, Burnham, Buckinghamshire, England.
1926. SHANNON, S. L., Harvard Estate, Bedong, Kedah.
1923. SHEARN, E. D., c/o Pooley & Co., Klyne Street, Kuala Lumpur.
1926. SHEFFIELD, J. N., Topographical Surveys, Taiping, Perak.
1927. SHEFFIELD, W. D., Tanjong Pau Estate, Jitra, Kedah.

1923. SHEIKH ABDULLAH BIN YAHAYA, Lt., Bukit Timbalan, Johore.
1925. SHELLEY, HON. MR. M. B., Education Office, Singapore
1929. SHEPPARD, M. C. FFRANCK, Carcosa, Kuala Lumpur.
1925. SHORLAND, C. W., Labour Office, Penang
1924. SIME, F. D., Bukit Lintang Estate, Malacca.
1926. SIMMONS, HON. MR. J. W., British Residency, Taiping, Perak.
1921. SIMPSON, P., Presgrave & Mathews, Penang
1927. SIMPSON-GRAY, L. C., Labour Office, Ipoh, Perak.
- 1909 \*SIMS, W A, 30, Park Hill, Carshalton near London, England.
1928. SIVAM, M. S., District Office, Miri, Sarawak.
1928. SIVAPRAGASAM, T., District Office, Port Dickson, Negri Sembilan.
1926. SKINNER, C. F., Beaufort, Jesselton, British North Borneo
1921. SKRINE, W. F DE V., c/o Sarawak Government Offices, Millbank House, Westminster, Eng'land.
1926. \*SLEEP, A, Kuala Selangor, Selangor.
1929. SLOAN, T. I., c/o The British Borneo Timber Co., Sandakan, British North Borneo.
1922. SMALL, A. S., Treasury, Johore Bahru, Johore.
1922. SMART, DR. A. G H., Chief Medical Officer, Penang.
1924. SMEDLEY, N., Raffles Museum, Singapore. (Hon. Treasurer, 1926-7; Asst. Hon Secretary, 1928-9).
1928. SMITH, A. St Alban, Seletar, Singapore.
1926. SMITH, C., Kuantan, Pahang.
1929. SMITH, C. R., Sandakan, British North Borneo.
1912. SMITH, PROF. HARRISON W., Papaari, Tahiti, Society Ids
1924. SMITH, J. D. MAXWELL, Temerloh, Pahang
1929. SMITH, J. H., Bruas Rubber Co., Bruas, Perak.
1921. SMITH, CAPT S R., Kuala Lumpur, Selangor.
1929. SMITH, W. T. H., Kuching, Sarawak.
1929. SMYTHE, H. W. St. Aubyn, Pundut Estates, Pundut, The Dindings.
1928. SOLLIS, C. G., Inspector of Schools, Penang
1910. SONG ONG SIANG, C.B.E. Aitken & Ong Siang, Singapore
1921. SOUTH, F. W., Department of Agriculture, Kuala Lumpur, Selangor.
1921. SPEERS, W. E., "San Souci" House, Larne Co. Antrim, Ireland.
1925. SPROULE, HON MR. JUSTICE P. J., Supreme Court, Penang.
1927. STAINES, E. A. General Post Office, Kuala Lumpur.
1928. STANTON, W. A, Brooklands Estate. Banting, Selangor.
1925. STARK, W. J. K., Telok Anson, Perak.

1929. STEPHENSON, E. F., Electrical Inspector, Ipoh, Perak.  
 1926. STEPHENSON, MISS E. M., Bukit Tanggah, Singapore.  
 1926. STEVENS, E. H., c/o The British American Tobacco Co., Ltd., Keppel Road, Singapore.  
 1920. STEVENS, HON. MR. JUSTICE, F. G., Supreme Court Singapore (Council, 1914-15).  
 1910. \*STILL, A. W.  
 1917. \*STIRLING, W. G., c/o The Chinese Protectorate, Singapore. (Council, 1923-5, 1927-9).  
 1921. STROOKE, G. BERESFORD, c/o The Secretariat, Nairobi, Kenya, East Africa.  
 1928. STOOKES, DR. V. A., Sandakan, British North Borneo.  
 1921. STOWELL, DE LA M., Bukit Mertajam, Province Wellesley.  
 1926. STREET, A. C., 13, Palm Bungalow, Kuching, Sarawak.  
 1926. STROUTS, E. A., Kuala Pilah, Negri Sembilan.  
 1927. STRUGNELL, E. J., Forest Office, Kuala Lumpur, Selangor.  
 1921. STUBINGTON, W. H., Bentong, Pahang.  
 1910. STURROCK, HON. MR. A. J., P.W.D., Singapore. (Vice-President, 1924)  
 1926. SULTAN IDRIS TRAINING COLLEGE, Tanjong Malim, Perak.  
 1927. SUNGAI PATANI GOVERNMENT ENGLISH SCHOOL, Sungai Patani, Kedah.  
 1921. SUTCLIFFE, H., Research Laboratory, Pataling, Selangor.  
 1912. SWAYNE, J. C., Rejang, Sarawak.  
 1926. SWINDELL, VEN. ARCHDEACON F. G., c/o Crown Agents.  
 1923. SWORDER, G. H., Taiping, Perak.  
 1926. SWORDER, J. C., Pekan, Pahang.  
 1918. \*SYKES, G. R., Chinese Protectorate, Kedah.  
 1929. TAIT, W. G., Kuching, Sarawak.  
 1925. TALALLA, H. B., 12, Perak Road, Kuala Lumpur, Selangor.  
 1927. TALLACK, C. C., Silimponon, East Coast Residency, British North Borneo.  
 1908. TAN CHENG LOCK, HON. MR., 59, Heeren Street, Malacca.  
 1926. \*TAN SOO BIN, 9, Boat Quay, Singapore.  
 1929. TATHAM, T. P. H., Budu Estate, Raub, Pahang.  
 1915. TAYLER, C. J., Kuala Sepang Coconut Estate, Sepang, Selangor.  
 1928. \*TAYLOR, E. N., Land Office, Telok Anson.  
 1921. TAYLOR, E. R., Newlands, Grange - over - Sands, Lancashire, England.  
 1925. TAYLOR, W. C., Butterworth, Province Wellesley.  
 1925. TAYLOR, W. R., Maclaine Watson & Co., Batavia, Java.

1926. TEMPLETON, T. V., Alor Star, Kedah.  
 1926. TERMANSEN, V., Kuala Hau, Kelantan.  
 1921. TERRELL, A. K. à' B., Presgrave & Mathews, Penang.  
 1929. TERRY, R. A., Survey Dept., Kuala Trengganu, Trengganu.  
 1927. THAYER, K. V., Methodist Boy's School, Kuala Lumpur, Selangor.  
 1927. THILLAIMUTHU, S., Kennedy Burkill & Co., Ltd., Ipoh, Perak.  
 1921. \*THOMAS, L. A., Chief Police Office, Singapore.  
 1926. THOMAS, T. J., 129, Green Lane, Penang.  
 1927. THOMSON, G. M., Gunong Ledang Estate, Tangkah, Johore.  
 1920. THOMSON, HON. MR. H. W., British Residency, Taiping, Perak.  
 1923. THORNE, HON MR. JUSTICE W. H., Ipoh, Perak.  
 1925. THURSTON, J. B. H., Kota Tinggi Estate, Kota Tinggi, Johore.  
 1926. TIDMAN, S T, Kerilla Estate, Kelantan.  
 1926. TOYO BUNKO, 26, Kami-Fujimayecho, Hongo, Tokyo, Japan  
 1927. TURNER, R A., Telok Anson, Perak.  
 1923. UNDANG OF REMBAU, THE, Rembau, Negri Sembilan.  
 1925. VENABLES, O E., Seremban, Negri Sembilan.  
 1928. VERNON, DR. G. H., Thursday Island, Australia.  
 1927. VETHAVANAM, JAMES ROBERTS, Bungsar Road, Kuala Lumpur.  
 1926. \*WADDELL, MISS M.C., Government Girls School, Alor Star, Kedah.  
 1922 WALKER, E. G., c/o United Engineers Ltd., Singapore.  
 1926. WALKER, H. HOPSON, Klang, Selangor.  
 1926 \*WALLACE, W. A., Revenue Surveys, Taiping, Perak.  
 1921 WAITON, B. S, Land Office, Malacca.  
 1923. WAN IDRIS BIN IBRAHIM, Muar, Johore.  
 1926. WAN MOHAMED ALI BIN WAN OMAR, District Office, Kuantan, Pahang.  
 1922 WAN YAHYA BIN WAN MOHAMED TAIB, Alor Star, Kedah.  
 1922. WARD, D. J., c/o The Chartered Bank, London, England  
 1927. WATSON, E. L., Kuala Lumpur, Selangor.  
 1917 WATSON, J., Education Office, Kuala Lumpur, Selangor.  
 1916. WATSON, J. G., Forest Department, Kuala Lumpur, Selangor.  
 1916. WATSON, SIR MALCOLM, Klang, Selangor.  
 1926. WELLINGTON, DR. A. R., Kuala Lumpur, Selangor.  
 1926. WHEATLEY, M., Victoria Institution, Kuala Lumpur, Selangor.  
 1926. WHEELER, L. R., c/o Royal Empire Society, London, W.C.2.

LIST OF MEMBERS.

1927. WHITE, REV. GRAHAM, The Parsonage, Ipoh, Perak.  
 1910. WHITEHEAD, C. B., Lower Down Cross, Bovey Tracey, Devonshire, England.  
 1923. WHITFIELD, L. D., Education Office, Muar, Johore.  
 1929. WHYTE, R. P., Posts & Telegraphs Dept., Kuala Lumpur.  
 1926. \*WILCOXSON, W. J., c/o The Straits Trading Co., Ltd., Singapore.  
 1926. WILHELM, DR. O., 114, Mittlere Strasse, Basel, Switzerland.  
 1926. WILKINSON, GODFREY, c/o Forest Office, Batu Gajah, Perak.  
 1923. WILKINSON, H. B., 65, Harcourt Terrace, London, S.W.10, England.  
 1920. \*WILKINSON, R. J., c.M.G., Poste Restante, Mityiene, Greece.  
 1926. \*WILLAN, T. L., Gopeng Road, Batu Gajah, Perak.  
 1921. WILLBOURN, E. S., Batu Gajah, Perak.  
 1926. WILLIAMS, A.  
 1922. WILLIAMS, E. B., Federal Secretariat, Kuala Lumpur, Selangor  
 1921. WILLIAMS, E. T., Colonial Secretariat, Singapore.  
 1922. \*WILLIAMS, F. L., Chinese Protectorate, Singapore.  
 1929. WILLIAMS, G. C. G., Singapore Club, Singapore.  
 1921. WILLIAMS, R. M., Paterson Simons & Co., Ltd, Singapore.  
 1927. WILLIAMSON, PROF. K. B., Medical College, Singapore.  
 1925. WILSON, C., Labour Office, Kuala Lumpur  
 1926. WILSON, E. H.  
 1919. WILSON, F. K.  
 1910. \*WINKELMANN, H.  
 1926. WINNINGTON-INGRAM, E. A., K. Lumpur, Selangor.  
 1923. WINSON, V. H., Office of the Senior Engineer, P. and T. Dept., Penang.  
 1904. WINSTEDT, HON. DR. R. O., c.M.G., D.LITT., Education Office, Singapore. (Vice-President, 1914-15, 1920-1, 1923-5, 1928; President, 1927, 1929).  
 1925. WITCOMB, L. A., Adamson, Gilfillan & Co., Ltd, Penang.  
 1918. WOLFE, B., 41, Cantonment Road, Penang.  
 1902. WOLFF, HON. MR. E. C. H., Sandihayes, Bitterne Park, Southampton, England.  
 1927. WOOD, D. D., Sandakan, British North Borneo.  
 1908. \*WOOD, E. G., c/o King & Co., 65, Cornhill, London, England.  
 1913. WOOD, W. L., Istana Gardens, Johore Bahru, Johore.  
 1920. WOOLLEY, G. C., Jesselton, British North Borneo.  
 1922. WOOLLEY, H. W., Batu Gajah, Perak.  
 1927. WOOLLEY, J. B., Long Stanton Vicarage, Cambridge, England.

1922. WORLEY, N. A., c/o C. Worley, Esq., 3. Park Lane, Reigate, England.
1911. WORSLEY-TAYLOR, F. E., Newton Hall, Newton, Clitheroe, England.
1905. \*WORTHINGTON, HON. MR. A. F., Kuala Lipis, Pahang. (Vice-President, 1924).
1921. WURTZBURG, MAJOR C. E., c/o Mansfield & Co., Ltd., Singapore. (Council. 1924-6; Hon. Secretary, 1915; Vice-President, 1927, 1929).
1914. WYLEY, A. J., Lebong Donok, Benkoelen, Sumatra.
1923. WYNNE, M. L., Police Office, Kuala Lumpur, Selangor.
1926. YAHYA BIN AHMAD AFIFI, 70, The Arcade, Singapore
1923. \*YATES, H. S., P.O. Box 95, Berkeley, California, U.S.A.
1917. \*YATES, MAJOR W. G.
1928. YEOH CHENAG ANN, 117, Beach Street, Penang.
1920. \*YEW DALL, CAPT J. C., Sitiawan, Perak.
1927. YOUNG, C. G., Rubana Estate, Telok Anson, Perak.
1916. YOUNG, E. STUART, Caixa 675, Rio de Janeiro, Brazil, South America.
1904. \*YOUNG, H. S., Rosemount, Tain, Rosshire, England
1920. ZAINAL ABIDIN BIN AHMAD, Sultan Idris Training College, Tanjong Malim, Perak
1927. ZUMSTEIN, R. B., Anglo Chinese School, Penang.

**RULES**  
OF  
**The Malayan Branch**  
OF THE  
**Royal Asiatic Society**

**I. Name and Objects.**

1. The name of the Society shall be 'The Malayan Branch of the Royal Asiatic Society.'
2. The objects of the Society shall be:—
  - (a) The increase and diffusion of knowledge concerning British Malaya and the neighbouring countries.
  - (b) The publication of a Journal and or works and maps.
  - (c) The acquisition of books, maps and manuscripts.

**II. Membership.**

3. Members shall be of three kinds—Ordinary, Corresponding and Honorary.
4. Candidates for ordinary membership shall be proposed and seconded by members and elected by a majority of the Council.
5. Ordinary members shall pay an annual subscription of \$5 payable in advance on the first of January in each year.

No member shall receive a copy of the Journal or other publications of the Society until his subscription for the current year has been paid.

Newly elected members shall be allowed to compound for life-membership for \$100; other members may compound by paying \$50, or \$100 less the amount already paid by them as ordinary members in annual subscriptions, whichever of these two sums is the greater. Societies and Institutions are eligible for ordinary membership.

6. On or about the 30th of June in each year the Honorary Treasurer shall prepare and submit to the Council a list of those members whose subscriptions for the current year remain unpaid. Such members shall be deemed to be suspended from membership until their subscriptions have been paid, and in default of payment within two years shall be deemed to have resigned their membership\*

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\* Bye-Law, 1922 "Under Rule 6 Members who have failed to pay their subscription by the 30th June are suspended from membership until their subscriptions are paid. The issue of Journals published during that period of suspension cannot be guaranteed to members who have been so suspended "

This island produces great elephants, and rhinoceros or "badas", and other remarkable and valuable animals, and monkeys so shapely that they resemble human beings.

Marco Polo. The island was governed by 8 kings and satraps: Marco Polo the Venetian personally visited the following 6 kingdoms: Ferlech, Basman, Samara, Dragoian, Fanfur, and Lambri. The people were idolaters: though in Ferlech he found Mouros: from which it may be inferred that the sea-route to Meridional India was open and that the inhabitants of the sea-coast were civilized and tractable, but this was not the case with the inhabitants of the Hinterland, who were wild cannibals, devourers of human flesh. (17)-(21)  
(22)  
(23)  
(24)

Further to the south are situated the islands of Necuran and Agania, very prolific in cloves, nutmegs, sandal-wood, and all kinds of spices: here too the herb "birco" occurs.

Still further to the south, running south-east and west, lies the mainland of Lucach: this ought to be the same continent on which is situated the peninsula of Beach, a province of gold.

Further to the west lie the islands of Angaman major and minor, or Lucatambini, inhabited by women, and Lucapiatto, uninhabited. (25)  
(26) (27)

Although Marco Polo the Venetian did not state precisely the degree of latitude of Java Minor, he declares that he could not see the constellation of Urssa minor from the Point of Samâra: thus demonstrating that Java Minor was situated more or less on the Tropic of Capricorn: this is stated in Book 3 Chapter 16.

MARCO POLO  
Bk 3 ch 16  
ANNALS AND  
'LONTARES' OF  
JAVA

Moreover the "Lontares" and Annals of Java Major (in which Bantan and Sunda are situated) (28)

mention Meridional India and its commerce and trade: as appears in the poems, vulgar songs, and histories of the Empire of Mattaron, which speak of the ancient sea-route from Java Major to Java Minor.

The traffic in gold and spices created one of the world's great trading-centres in Java Minor: its ports were frequented by merchants not only from Gram Cathay but also from China Mansim, the Archipelago, Indostan, and Egypt. as is shown by the fact that these Mouros found in the port of Ferlech came here long before the arrival of Marco Polo in the year 1295. (29) (31)

This trade and commerce was destroyed later on through the dislocation caused by the wars which supervened; the sea-communication from Java Major to Java Minor was in abeyance for a period of 331 years, and they were not able to communicate with each other till the year 1600. In this year, by the just decision of God, it happened that a boat from Lucaantara in Meridional India, after being carried out of its course by storms and currents, came to land on the beach, having made the port of Balambuam in Java Major (in which Bantan and Sunda are situated); where the voyagers were hospitably received and entertained by the King of the coast district, accompanied by the Portuguese who happened to be there at the time. (32)  
(33)

These strangers from Lucaantara in build and cast of countenance, &c., resembled the Jaos of Bantan; but they spoke a different language: thus showing that they were Jaos of another type.

This unusual incident greatly excited the Jaos of Balambuan and their satraps, especially Chiaymasiouro, king of Damuth; his curiosity was whetted, prince

(34) that he was, and he wished to set out on the discovery of Lucaantara.

Taking the necessary supplies, he embarked with some companions in a "*caletus*" or boat provided with oars, and set out from

(35) the port of Balambuan towards the south; after a 12-days' voyage  
(36) (37) he arrived at the said port of Lucaantara, a peninsula or island having a compass of 600 leagues in circumference. Here Chiaymasiouro, king of Damuth, was well received and entertained by the "*Xabandar*" or governor of the land, for the king was up the river in the interior.

Chiaymasiouro enjoyed the freshness of the land, and noted its richness: he saw a large quantity of gold, cloves, nutmegs, white and red sandal-wood, and other spices and aromatics: and he took samples of all these things. When the southerly monsoon winds set in, he started back for his own country and the port of Balambuan: where, after a favourable voyage, he was received by the King in the presence of the Portuguese and in particular Pedro de Carvalhaes, Alderman of Malaca, who attested his arrival and his voyage from Lucaantara to Balambuan in the year 1601.

According to the itinerary of Chiaymasiouro, Lucaantara should be the general name for the peninsula on which were situated the ports in the Kingdoms of Beach and Maletur: for between Beach lying in 16 degrees of latitude and Balambuan in Java Major lying in 9 degrees of latitude there is a distance equivalent to a difference (38) of 8 degrees: which gives 140 Spanish leagues for the 18-days' voyage of Chiaymasiouro from Balambuan to Lucaantara.

So Lucaantara should not be the Java Minor of Marco Polo the Venetian, since the latter land lies in a more southerly latitude, on the Tropic of Capricorn, in 23 degrees 30 minutes.

At the same time, with a view to this enterprise, Manuel Godinho de Eredia, wearing the habit of Christ and bearing the title of "Adelantado of Meridional India", was despatched under a commission to pass to the south, with an obligation to undertake the discovery of lands in the south and to take possession of them for the Crown of Portugal: this was in the same year, 1601.

ROYAL BOOKS OF THE TIME OF THE VICEROYS

39) (40)

But the expedition did not eventuate, because while he was at Malaca, ready to make the voyage to Meridional India, the fortress was subjected to attacks by the Malayos and Hollanders: this prevented the discoveries from being made, for all available men were required for the defence of Malaca: the Governor of the fortress at this time was Andre Furtado de Mendoca.

## Chapter 2.

### CONCERNING THE LETTER OF CHIAYMASIOURO.

The letter of Chiaymasiouro, King of Damuth, to the King of Pam:—

Having equipped myself for travel and supplied myself with necessary requirements, I embarked with some companions in a "*caletus*" or vessel provided with oars, and set out from the port of Balambuan towards the south. After a voyage lasting 12 days, I reached the port of Lucaantara; there I disembarked and was received by the "*Xabandar*" with demonstrations of pleasure. Being fatigued with the voyage, I was unable to see the King of Lucaantara, who was staying up-river in the Hinterland, eight days' journey away.

The King was advised of my arrival and presented me with some handfulls of gold coins resembling in appearance the gold "*Venetian*" of Venice (1)

I was hospitably entertained as long as I remained in the country, and enjoyed the splendid freshness of the climate.

I saw a considerable amount of gold, cloves, mace, white sandalwood, and other spices, as well as large quantities of foodstuffs of every kind which are produced in this country.

The island of Lucaantara is as large as Java, in which Balambuan is situated. The people are Jaos, as in our own Java, though their language is somewhat different. They wear their hair hanging as far as the shoulder, while the head is girt with a fillet of hammered gold. The "*cris*" is ornamented with precious stones, like the "*cris*" with the curved scabbard in Bale (2)

Speaking generally, the Jaos of Lucaantara spend their whole time in sports and pastimes; they are especially addicted to cock-fighting.

When it was time to start on our voyage, I requested the "*Xabandar*" to inform the King that the monsoon was now favourable for my return to my own country. Provided with a stock of necessaries, I set out from Lucaantara, and after a few days' voyage arrived at the port of Balambuan, to the great astonishment of the whole of Java.

CHIAYMASIOURO.

**Chapter 3.****(1) CONCERNING THE CERTIFICATE OF  
PEDRO DE CARVALHAES.**

- (2) I, Pedro de Carvalhaes, citizen and alderman of Malaca, certify that I met Chiaymasiouro, King of Damuth, at Surabaya, where in the course of conversation he related how "a rowing-boat from Lucaantara, driven out of its course by currents and ill winds or storms, reached the port of Balambuan: actuated by curiosity, I gave orders for a "*calelus*" or boat provided with oars to be equipped with an adequate supply of all necessaries, and I set out with some companions from the port of Balambuan towards the south: after a voyage of 12 days, I reached the port of Lucaantara, where I was well received and entertained by the inhabitants, who are Jaós like those of Java Major, similar in build and colour, and for the most part having similar interests, though their language is different. The island of Lucaantara has a compass of more than 600 leagues in circumference.

I saw a considerable amount of gold, cloves, mace, white sandalwood, and other spices, as well as large quantities of foodstuffs of every kind which are produced in this country.

The earth is very fertile and the trees keep the climate cool.

The country is organized into several kingdoms: and contains many populous towns and villages "

The whole of the above account was given to me by Chiaymasiouró and his companions.

This matter of Lucaantara was a subject of public notoriety in Surubaya and in other parts of Java Major.

- (3) Since I have been asked for this information by the "Descobridor" Manuel Godinho de Eredia, in the interests of his voyage and for the advantage of the King's service, I swear by the Holy Gospels that this is the truth, and that it is my signature which appears below. At Malaca, on the 4th day of October in the year 1601. †

PEDRO de CARVALHAES.

## Chapter 4.

### CONCERNING THE PLACES WHICH ARE "ANTISCIAN" AND "PERIOECIAN" TO LUCAANTARA.

The meridian of Lucaantara passes through a point in Syam (or Camboja); hence the people of Syam, which lies in 16 degrees of north latitude, are "antiscian" to the people of Lucaantara, which is equidistant from the equator, in 16 degrees of south latitude.

So, too, the meridian of Lucaantara cuts through a point in Chile (in America): hence the people of Chile are "perioecian" to the people of Lucaantara; for the parallel of latitude which passes through points in Lucaantara and Chile, cuts the meridian of both these places at a distance of 180 degrees: these two countries are therefore "opposite" or "antipodean" to each other.

Thus Lucaantara is "antiscian" to Siao or Camboja, and

APPIAN "perioecian" to Chile in America, in accordance  
*Bk 1 ch 16* with the doctrine of Appian, Book 1 Chapter 16.

The same thing occurs with the parallel of Monomotapa, which (1)

ARISTOTLE cuts through a point at Nova Jerusalem in the (2)

PTOLEMY district of Nova Guinea: so that the people of

Nova Jerusalem are "perioecian" to the Cafres of Monomotapa: (3)

living on the same meridian at a distance of 180 degrees, they are "opposite" and "antipodean" to each other. These two places are situated on the same parallel and meridian, and in the same zone, as Appian notes; therefore the two countries are of a similar nature, and both alike are the native places of black Cafres, just as Lucaantara and Chile in America are alike, on the other hand, in being the native places of brown or honey-coloured people.

This phenomenon proves that the earth is round, as was main-

PIUT tained by Aristotle, Plutarch (Book 2 Chapter  
*De placitis phil* 1), and the Peripatetic and Stoic philosophers,  
*Bk 2 ch 1* contrary to the opinion of many learned persons,

LACT such as Lactancio Firmiano and S. Augustino,  
*Bk 7 divm inf* who thought that there were no antipodes.  
*ch 28*

Aug *Bk 16*  
*De civit ch 9*

## Chapter 5.

### CONCERNING WHITE, BROWN, AND BLACK PEOPLES.

In Meridional India we find the same variety of races, white, (1)  
brown, and black, as is found in Europe, Asia, and Africa.

The white people resemble the Spaniards in appearance: they (2)  
wear red tunics.

That white people live to the east of Lucaantara is known to us only from the account of how a boat containing white women was driven out of its course by the currents and arrived in Banda.

Of the brown people we have more information, for we have first-hand accounts of the Jaos of Lucaantara and Java Minor and the neighbouring islands.

Thus there is the description of Marco Polo the Venetian: then again there is the adventure of Francisco de Rezende; having travelled from Malaca in a junk and taken on a cargo of sandalwood in Tymor, he was carried by a "Tuphon" storm to a land in the south inhabited by Jaos who prevented his men from landing; they recovered some gold, however, in waist-deep water off the shore, and after loading a considerable quantity they returned from that port to Malaca in the junk.

These wild Jaos should belong to the port of Beach.

- (3) As to the black Cafres or Papuas of the south, we find a great number of them to the east of Tymor: for instance, in the islands which lie around the coasts of Nova Guinea. They resemble the
- (4) Cafres of Monomotapa: in some islands Mulatos are to be found.
- (5) It is an extraordinary thing that among the black Cafres children are sometimes born who are as white as Italians or Venetians, with fair hair. In the year 1594, I was shown some of these white children, born of a black Cafre father and mother in a country inhabited by black people.

## Chapter 6.

### CONCERNING ACCIDENTAL DISCOVERIES.

Some of the islands in Meridional India have been discovered by accident.

For instance, on one occasion some merchants of Macao in China, after loading a cargo of sandalwood in their junk at Tymor, were carried by a storm to an island in the south, which resembled Tymor in appearance.

They disembarked there to replenish their stores of water and fuel: they obtained water from the springs and wood from the thick groves of clove-trees and palms: they saw deer and other animals, but met with no human being nor any trace of people.

From its description, this island ought to be identical with the Petan of Marco Polo the Venetian, situated among the shoals of Maletur.

- (1) On another occasion, a boat from Malaca was carried away by the currents through the strait of Bale, between Java and Bima, and passing to the south discovered the island of Lucatambini inhabited only by women like Amazons with bows and arrows, who defended the beach and allowed not a single person to disembark.

These women ought to have their husbands on another island some distance away: the annals and "*lontares*" of Java contain references to Lucatambini.

Further to the south the same boat discovered another island which they circumnavigated in 8 days without detecting any person on the shore but they saw in certain harbours elaborate stone and brick buildings in large cities and fortresses which had been abandoned. (2)

This shows that in Meridional India they possessed the appurtenances of civilization, and were acquainted with liberal and mechanical sciences.

Again, the pilot of the ship "S. Paulo" lost his course off Samattra in a storm which took the rowers to 36 degrees south: after running towards the east for several days he encountered, further to the south, the island of Sera, so-called because on the beach they found many lumps of wax marked with characters differing from the characters of Arabia. This wax was going to be loaded in some boat, which, however, had completed its loading at another point of this inhabited island: the wax could not have been piled up on the beach from a shipwreck, for in such case, it must inevitably have been melted and dissolved by the heat of the sun

Moreover the wax would appear to be an article of commerce emanating from some continent in the south and handled by civilized merchants

Another Portuguese ship, carried to 40 degrees of south latitude by a storm, discovered the land of Parrots: where they saw, so to speak, schools of parrots, during their voyage along the coast.

This country would appear to be identical with the continental mainland of Lucach

In the year 1606, the Hollander ship driven by a storm to 41 degrees of south latitude discovered the southern continent. (3)

They found there a large number of Portuguese, the sons and descendants of other Portuguese who had been shipwrecked on the coast

These people still possessed the same fire-arms and guns, but went unclad or poorly clad: they lived by tilling the soil and working.

## Chapter 7.

### CONCERNING THE ISLAND OF LUCA VEACH.

The people of Ende frequently used the sea-route which had been opened from Ende to Luca Veach, 'land of gold', which contained a large quantity of this metal, many "bares" of gold being obtained by barter. Such is the account given by the old men of Ende, who relate the adventure of a ship from Ende which was making a voyage to Luca Veach: when they had got as far as the island of Sabbo, they encountered a storm and violent winds ("Tuphon") which prevented them from putting in at Sabbo, nor were they able to make the islands of Rajoam and Lucachancana which are in sight of each other. (1) (2) (3)

Being compelled by the storm to run before the hurricane, they lost sight of all these islands.

- (4) Then the weather cleared, the winds moderated, and they were becalmed for three days drifting from one place to another: it was during this stage of their voyage that they discovered Luca Veach, where they disembarked at a village to obtain water and provisions, for they had jettisoned everything in the storm, and had kept nothing except some "*sivallas*" fruits as ballast for the boat: now this fruit was valuable in the country of Luca Veach, so in exchange for "*sivallas*", which were merely the fruits of wild palms, the inhabitants gave the voyagers the gold for which they asked: for gold occurred in large quantities there, and even the gravel at the base of the trees contained metallic gold.

The island of Luca Veach has a compass of more than 8 Spanish leagues in circumference: the country, while containing mineral ores, is fresh with abundant wooded groves and bears very prolific crops of rice, grains, and every kind of foodstuff.

It abounds with palms, including the familiar cocos, as well as extensive plantations of sugar-cane; and contains numerous fresh streams with excellent water; from these streams, in which auriferous rocks are found, the mariners replenished their store of water.

Some of the people are white, with fair hair and light-blue eyes: they are short in stature: they go in public unclad or poorly clad: they inhabit cottages which are covered with thatch: they live by tilling the soil and working; this includes the cultivation of vegetable gardens.

- Living amongst the white people are a brown people. all speak the same language, which is that of Rajoao and Sabbo: they are entirely without iron and for weapons they use slings, darts, and lances with points made of fishes' teeth. He who is richest and most influential governs the country. Along the coast for a distance of 150 geometrical paces the sea is choked with a kind of false coral,
- (5) "*agaragar*" or sea-weed, which obstructs disembarkation in the port of Luca Veach: for the boat to reach the land it was necessary to cut the branches of the sea-weed, in order to make a way for the boat to pass: then one could return without danger for there are no sandbanks or other difficulties there. After the boat had been loaded with the requisite quantity of gold they set out from Luca Veach, and in the course of the sea-voyage met another storm, whereupon
- (6) they jettisoned all the gold except what was necessary for ballast: then with calm weather they made the port of Sabbo where they discharged the gold: even this was so considerable in quantity that it amazed all the people of Sabbo.

Actuated by greed for these riches, they proposed to make a second voyage from Sabbo to Luca Veach: but this did not eventuate owing to the ignorance of the people of Sabbo, for they did not know the latitude or the appearance of the island of Luca Veach.

- (7) The island is so-called because among the natives of Ende and Sabbo and Java, "*Luca*" means "*Island*" and "*Veach*" means "*of Gold.*"

## Chapter 8.

### CONCERNING THE CERTIFICATE REGARDING LUCA VEACH.

I, Pedro de Carvalhaes, Captain of the fortress of Ende, during my appointment as Captain of the fortress, received from the most honourable and influential natives of the Christian community the following account of what happened in connection with the 'island of gold' or Luca Veach. A small boat from the port of Sabbo with some merchants aboard encountered a storm and violent winds, and being driven out of its course by furious currents lost sight of land.

Continuing their voyage with the bows pointing south for a little less than 30 leagues, they came to the uninhabited Pulo Cambim, 'island of goats', thence travelling south about as far again they discovered another uninhabited island, Pulonghior, 'island of coconuts', further on they discovered the island of Pulo Tambini, 'island of women': then catching sight of Luca Veach they particularly noticed the fortunate mountain of gold.

The men from Sabbo disembarked at the port and found on the island such an immense quantity of gold that they were amazed.

So they loaded as much gold as they wanted until the boat could bear no greater weight; then with south or austral winds the boat returned to their original port of Sabbo, bringing riches to a country which was ill provided with them: for from the cargo of this boat is derived all the gold which is found in Sabbo today

On Luca Veach rises a lofty mountain or high peak or point, which is inlaid with gold: I mean to say, it is so prolific in the metal that quite thick veins of it shoot through the rock, which, as it becomes bare and smooth with the disintegrating effect of the weather, gleams all the more as it reflects the rays of the sun: from a distance its brightness resembles a glowing coal. After receiving this information, I gave orders for the immediate supply and preparation of 2 boats provided with oars; they were supplied with necessaries, with pilots and sailors from Ende, and other ratings, in order to make the voyage to Luca Veach

Just as the boats were on the point of raising anchor and setting sail, the Dominican Fathers being, as it were, the vicars and administrators of the Christian organization in the south, implored me in most earnest terms to abandon the whole voyage, on the ground that the Christians, as being unacquainted with the sea-route and having no experience of these latitudes, would undoubtedly consider that they were going to certain destruction and death in this Ocean.

Out of respect for the solemn request made by the reverend gentlemen, I abandoned the design, so the rich voyage to Luca Veach or 'island of gold' did not eventuate. The "Descobridor" Manuel Godinho de Eredia asks for this statement in the interests of his voyage and enterprise and for the advantage of the King's service. I swear by the Holy Gospels that this is the whole truth and that it is my signature which appears below.

AT Malaca, on the 4th day of October in the year 1601.

PEDRO de CARVALHAES. <sup>9</sup>

## Chapter 9.

### CONCERNING THE SCANTY INFORMATION ABOUT MERIDIONAL INDIA.

- (1) PLINY Pliny in Book 2 Chapter 67 mentions the  
*Bk 2 ch 67* voyage of Hannon, a Carthaginian captain who sailed from the port of Carthage, now Tunes in Barbaria, through the strait of Gibraltar, and followed the coast of Africa round the Cape of Good Hope until he reached the strait of the Red Sea.

CORNELIUS NEPOS Both Pliny and Cornelius Nepos refer to the voyage of Eudoxo, a servant to the king of the Satyros or of Ethiopia or of the Cafres, who set out from the strait of the Red Sea and followed the coast of Africa round the Cape of Good Hope or of Monomotapa until he reached the strait of Gibraltar.

From which it is clear that in those days men had opened the same sea-routes to Africa and the Oriental Indias as are used today by the Portuguese from Portugal. But they make no mention of the land of the south and of Meridional India, for it was a country with which the ancients had no intercourse and of which they did not even know their intercourse did not extend beyond the Canary

PLINY or Fortunate Islands, which Pliny mentions in  
*Bk 6 ch 32* Book 6 Chapter 32.

And Seneca in his anapaestic verses shows that they had no knowledge of any other lands except Europe, Asia, and Africa: he merely prophesies that a time will come when Thile will no longer be the world's end.

Moreover the writings of the mappists and cosmographers mention no other ancient countries nor any other divisions of the globe except Europe, Asia, and Africa: they have no information about any other part of the world.

Hence it is difficult to maintain that Solomon's trading voyages extended to Meridional India.

- PTOLEMY Ptolemy makes written mention of Meridional  
*India only in his Table 12 of Asia.* It is from this date that the land of the south was visited by merchants from Egypt and Arabia, and that the Mouros began to pass over to Ferlech in Java Minor, introducing Arabic characters and the wearing of "*Cabanas*", as is noted by Marco Polo the Vegetian and other merchants.

- (2) MARCO POLO
- (3) PLATO The Island of Athlantis off the strait of Gib-  
*Atlantis* raltar or Columns of Hercules in Plato's story would appear to be a mere vision, and not real land as he makes Critias assert in the Timaeus. Nobody regards this land as anything more real than an enchanted island: even today signs of Athlantis are to be seen. within sight of the island called Madeira: Martim Affonço de Mello, Governor of Malaca, assured me that in the year 1590 he caught a glimpse of Athlantis from Madeira, but though he endeavoured to reach the land with two boats he could never touch it although he was within seeing-distance.

## Chapter 10.

CONCERNING THE EXPEDITION TO  
MERIDIONAL INDIA.

Apart from orders made by the Kings of Portugal in their instructions, discoveries were made by licence of Pope Martinho V granted to the Infante Dom Anrique the Mathematician, Master of the Order of Christ and Duke of Viseu, in the year 1414: the privilege was confirmed in the year 1441. and later, in the year 1493, other Popes permitted the division of the world between Castile and Portugal. (1)

Now, by an instruction dated at Lisbon on the 14th day of February in the year 1594, Our Lord the King Dom Phelippe III ordered that the discoveries in Meridional India should be made by Manuel Godinho de Fredia, Mathematician. and accordingly the latter, in the year 1600, received a Commission from the Viceroy Dom Francisco de Gama, Count of Vidiguera and Admiral of the Indian Sea, to undertake this enterprise in the name of His Majesty. The Commission was confirmed by the succeeding Viceroy Ayres de Saldanha, and he was despatched with the Habit of Christ, and with the title of "Adelantado of Meridional India," being promised a twentieth part of the revenues from the new state

So he passed from the court of Goa to the port of Malaca, where he completed his preparations to proceed to the south, in order to accomplish the voyage to Meridional India, the land of gold.

But he was not able to effectuate his happy voyage in the year 1601 above-mentioned.

First, because the fortress of Malaca was subjected to a succession of attacks from the Malaios, and the military force attached to the expedition was required at Malaca for the defence of the fortress: secondly, because the Hollanders were holding the channels and straits of Bale and Solor.

But, in view of his accounts as to the undoubted existence of Meridional India and Lucaantara, he kept the undertaking in mind, so that when peace and tranquillity prevailed in the South, he might go later to take possession of the country, in order to incorporate it in the Crown of Portugal and to organize intercourse and trade between Lucaantara and Malaca, to the advantage of the customs-revenues.

While detained at the fortress of Malaca, Manuel Godinho de Eredia devoted himself to the service of the Navy: in particular, he founded the fortress of Muar, at the mouth of the River, by order of the Viceroy Ayres de Saldanha and of the General Andre Furtado de Mendoza issued on the 2nd day of February in the year 1604: further, he gave orders for the foundation of other forts for the

- (4) defence of the straits of Sincapura and Sabbaó: in addition he captured and enforced his rule in the town of Cottabatu, ancient court of the Malayos, conquered by the famous captain Dom Paulo de Lima Pereyra in the year 1588: he performed much other diligent service for the King, having at his disposal the whole Southern Squadron of armed rowing-boats, consisting of 6 decked galiots and 60 "bantis", which also resemble "bargantis" or small ships propelled by oars.

(5) **CHRONICLES**  
 With this fleet they captured prizes, and inflicted much damage upon the villages and cultivated lands and boats, in which they killed many of the Malayos.

While he was actually staying at the fortress, he occupied himself with its fortification and defence, assisting in the necessary duties at the fosses, ramparts, and palisades, and carrying on the system of watch and guard.

Most of the time he devoted to making discoveries in the district of Malaca. The whole of this district was visited and explored by Manuel Godinho de Eredia in the capacity of "Descobridor". and he prepared plans and chorographic descriptions of the country.

Besides, he found out all the places with deposits of metals, gold, silver, mercury, tin or "calem", iron, and other metals, precious stones, and other minerals, including nitre.

It was during the time when he was making his discoveries of metals in the district that by the grace of God there appeared in the sky a vision of the Cross, in the shape which is shown at the end of this outline, to the greater glory of God.

- (6) On the orders of the General Andre Furtado de Mendoça the "Descobridor" returned to the court of Goa to recruit his health, for he had fallen a victim to the malady known as "berebere": it was because of this illness that he could not return to Malaca with the Viceroy Dom Martin Affonço de Castro: he held an order in the Viceroy's own hand addressed to the Archbishop, the Governor of the State, authorizing the bearer to make provision for the relief of the fortress of Malaca: this order, however, had no effect owing to the death of this Viceroy in the year 1607.

## Chapter 11.

### CONCERNING THE COMMISSION.

I, Ayres de Saldanha, a Member of His Majesty's Council, Viceroy of India, &c., make known to all who may see this my commission, that, for just causes which are contained in another commission, I have granted licence to Manuel Godinho de Eredia whereby he is empowered to discover the island or islands said to contain gold in the Southern parts, and off the further coast of Tymor, or in other parts. And I am well pleased, in the name of His Majesty, to grant that, should it transpire that some island or islands of gold or other islands at present unknown are discovered,

7. Distinguished persons, and persons who have rendered notable service to the Society may on the recommendation of the Council be elected Honorary Members by a majority at a General Meeting. Corresponding Members may, on the recommendation of two members of the Council, be elected by a majority of the Council, in recognition of services rendered to any scientific institution in British Malaya. They shall pay no subscription; they shall enjoy the privileges of members (except a vote at meetings and eligibility for office) and free receipt of the Society's publications.

### III. Officers.

8. The officers of the Society shall be:— ¶

A President.

Vice-Presidents not exceeding six, ordinarily two each from (i) the Straits Settlements, (ii) the Federated Malay States and (iii) the Unfederated or other Protected States, although this allocation shall in no way be binding on the electors.

An Honorary Treasurer      An Honorary Secretary

Five Councillors      An Assistant Honorary Secretary.

These officers shall be elected for one year at the Annual General Meeting, and shall hold office until their successors are appointed

9 Vacancies in the above offices occurring during any year shall be filled by a vote of the majority of the remaining officers.

### IV. Council.

10 The Council of the Society shall be composed of the officers for the current year, and its duties and powers shall be

(a) to administer the affairs, property and trusts of the Society.

(b) to elect Ordinary and Corresponding Members and to recommend candidates for election as Honorary Members of the Society.

(c) to obtain and select material for publication in the Journal and to supervise the printing and distribution of the Journal.

(d) to authorise the publication of works and maps at the expense of the Society otherwise than in the Journal

(e) to select and purchase books, maps and manuscripts for the Library.

(f) to accept or decline donations on behalf of the Society.

(g) to present to the Annual General Meeting at the expiration of their term of office a report of the proceedings and condition of the Society.

(h) to make and enforce by-laws and regulations for the proper conduct of the affairs of the Society. Every such bye-law or regulation shall be published in the Journal.

11. The Council shall meet for the transaction of business once a quarter and oftener if necessary. Three officers shall form a quorum of the Council.

### V. General Meetings.

12. One week's notice of all meetings shall be given and of the subjects to be discussed or dealt with.

13. At all meetings the Chairman shall in the case of an equality of votes be entitled to a casting vote in addition to his own.

14. The Annual General Meeting shall be held in February in each year. Eleven members shall form a quorum.

15. (i) At the Annual General Meeting the Council shall present a report for the preceding year and the Treasurer shall render an account of the financial condition of the Society. Copies of such report and account shall be circulated to members with the notice calling the meeting

(ii) Officers for the current year shall also be chosen.

16. The Council may summon a General Meeting at any time, and shall so summon one upon receipt by the Secretary of a written requisition signed by five ordinary members desiring to submit any specified resolution to such meeting. Seven members shall form a quorum at any such meeting.

17. Visitors may be admitted to any meeting at the discretion of the Chairman but shall not be allowed to address the meeting except by invitation of the Chairman.

### VI. Publications.

18. The Journal shall be published at least twice in each year, and oftener if material is available. It shall contain material approved by the Council. In the first number of each volume shall be published the Report of the Council, the account of the financial position of the Society, a list of members and the Rules.

19. Every member shall be entitled to one copy of the Journal, which shall be sent free by post. Copies may be presented by the Council to other Societies or to distinguished individuals, and the remaining copies shall be sold at such prices as the Council shall from time to time direct.

20. Twenty-five copies of each paper published in the Journal shall be placed at the disposal of the author.

### VII. Amendments of Rules.

21. Amendments to these Rules must be proposed in writing to the Council, who shall submit them to a General Meeting duly summoned to consider them. If passed at such General Meeting they shall come into force upon confirmation at a subsequent General Meeting or at an Annual General Meeting.

### Affiliation Privileges of Members.

*Royal Asiatic Society.* The Royal Asiatic Society has its headquarters at 74, Grosvenor Street, London, W., where it has a large library and collection of MSS. relating to oriental subjects, and holds monthly meetings from November to June (inclusive) at which papers on such subjects are read.

2. By Rule 105 of this Society all the Members of Branch Societies are entitled when on furlough or otherwise temporarily resident within Great Britain and Ireland, to the use of the Library as Non-Resident Members and to attend the ordinary monthly meetings of the Society. This Society accordingly invites Members of Branch Societies temporarily resident in Great Britain or Ireland to avail themselves of these facilities and to make their home addresses known to the Society so that notice of the meetings may be sent to them.

3. Under Rule 84, the Council of the Society is able to accept contributions to its Journal from Members of Branch Societies, and other persons interested in Oriental Research, of original articles, short notes, etc., on matters connected with the languages, archæology, history, beliefs and customs of any part of Asia.

4. By virtue of the aforementioned Rule 105 all Members of Branch Societies are entitled to apply for election to the Society without the formality of nomination. They should apply in writing to the Secretary, stating their names and addresses, and mentioning the Branch Society, stating their names and addresses, and mentioning the Branch Society to which they belong. Election is by the Society upon the recommendation of the Council.

5. The subscription for Non-Resident Members of the Society is 30/- per annum. They receive the quarterly journal post free.

*Asiatic Society of Bengal.* Members of the Malayan Branch of the Royal Asiatic Society, by a letter received in 1903, are accorded the privilege of admission to the monthly meetings of the Asiatic Society of Bengal, which are held usually at the Society's house, 1 Park Street, Calcutta.



EREDIA'S  
DESCRIPTION OF MALACA,  
MERIDIONAL INDIA,  
AND  
CATHAY.

TRANSLATED FROM THE PORTUGUESE  
WITH NOTES

BY

J. V. MILLS, B.A. (OXON.)

*Malayan Civil Service.*



## INTRODUCTORY NOTE.

Antonio Lourenco Caminha, writing in 1807, quotes from the *Bibliotheca Lusitana* of Diogo Barbosa Machado, "Manoel Godinho de Eredia was a distinguished mathematician: while residing at Goa, capital of the Asiatic Empire, he wrote the History of the Martyrdom of Luiz Monteiro Coutinho (which occurred in the year 1588 on the order of Raiamancor, King of Achem), the book was dedicated to the most illustrious D. Aleixo de Menezes, Archbishop of Braga; the dedication being dated at Goa the 11th November, 1615; it consists of manuscript folios with various illustrations".

Caminha adds, regarding Eredia's REPORT ON THE GOLDEN CHERSONESE, "The present work, of which we possess an old manuscript, we regard as one of the most valuable records in our literature, it was not known to Barbosa or his predecessors, whence the reader may realize its rarity."

At the present day, it is possible to enlarge considerably on this meagre account.

If the Irishism may be permitted, one is tempted to say that the most romantic episode in the life of Eredia lies in the first meeting of his parents-to-be.

Eredia himself recounts the story how the gallant Juan de Eredia went to the Celebes in the suite of a missionary expedition, how he won the heart of Dona Elena Vessiva, the 15-year-old Bugis princess, how she stowed away on his junk, how the newly-baptized King of Supa, her father, made an armed demonstration on the shore, and how the Administrator in order to avoid a conflict which might have fatal results gave orders for the boats to sail—a proceeding which to-day would have resulted in the appearance of the reverend gentleman before a criminal court.

All ended happily, however Juan de Eredia 'did the right thing,' he married the girl. This was in 1545 twelve years later the feud with her relations was healed, and friendly intercourse initiated between Malacca and 'Macassar'.

The princess became the mother of four children; a daughter, Anna Godinha de Heredia, and three sons, Father Domingos Godines de Heredia, Master of the episcopal school at Malacca, Father Francisco Godinho Aquaviva, Canon of Malacca, and Manuel Godinho de Heredia Aquaviva, the 'Discoverer' of Meridional India, that nebulous Austral Sphere which Eredia imagined to contain Marco Polo's 'Java Minor.'

The "Descobridor" was born at Malacca on the 16th July, 1563, and received his early education at the College of the Company of Jesus: at the age of 13 he went to Goa and completed his education there.

In 1579 he was received into the order of the Company of Jesus: but in the following year his Superiors bade him farewell in order that his inclination for exploration might be utilized in the service of the State.

After this, he tells us, "he devoted himself to the service of cosmography, with the title of "Cosmographer Major" of the State."

He also taught mathematics for many years; apparently during this period.

He found time, too, to marry a wife, Dona Vilante de Sampaio: and a daughter and a son were born to him in 1587 and 1588.

His most important achievement, however, lay in the preparation of new and up-to-date maps of the Asiatic countries: these maps he submitted to the King of Spain. It is obvious that His Majesty was greatly impressed; for on the 14th February, 1594, he issued an Instruction that Eredia was to effect the discovery of Meridional India he was given the title of "Adelantado" (Governor General), was made a member of the Order of Christ, and was promised one-twentieth of the revenues which should accrue from the new-found lands, were he to obtain possession of them for the Crown of Portugal, which was held at this period by the King of Spain.

May be there are documents at Lisbon which throw further light on this subject.

But nothing happened for six years. Meanwhile Eredia had not been idle.

During the years 1597—1600 he wrote his REPORT ON THE GOLDEN CHERSONESE wherein, with a few words of tactful flattery, he urges the Viceroy, Dom Francisco da Gama, to despatch him on the voyage of discovery.

He also presses his request in a letter written, it would seem, in 1599 to condole with the Viceroy on the death of his only son, importunity which strikes one as the reverse of tactful.

At last the Viceroy moved.

In 1600 Dom Francisco da Gama commissioned Eredia to undertake the task of exploration in the name of His Majesty.

The succeeding Viceroy, Ayres de Saldanha, issued another Commission, which Eredia records in full: in addition to the privileges already mentioned, he is promised that an honourable marriage will be arranged for his daughter should he die after accomplishing the discovery.

So in 1600 Eredia went from Goa to Malacca and there completed his preparations for the southward voyage. He got no further, however, when he was on the point of departure, the General of the South, André Furtado de Mendoça, brought the information that the Dutch were holding the channels leading to the south between the islands on the east of Java.

Moreover, a succession of attacks by the Malays necessitated the retention at Malacca of the military force attached to the expedition.

So Eredia was perforce detained in Malaya: and during the succeeding four years or so performed a considerable amount of useful public service.

At Malacca he was occupied with the fortification and defence of the fortress, and assisted in the routine duties.

In addition, he explored the whole territory between the Muar and Linggi Rivers, and prepared plans showing the results of his discoveries. This work he performed in his capacity of "Descobridor," that is, officer commissioned to organize the work of exploration and discovery.

He also prospected for minerals and found deposits of various metallic ores.

But after 1602 his chief work was connected with naval activity, for which he had at his disposal the whole southern squadron of some 70 armed boats.

One suspects that after Heemskerck had captured the Portuguese ship from China off the Johore Coast in 1603, the Portuguese realized that their bases in the Straits required elaboration.

At any rate, in 1604, Eredia founded the fortress of Muar, and gave orders for the construction of other forts to defend the Straits of Singapore and 'Sabbaó' (now the island of Kundur, close to the Kerimuns)

At the same time he pursued a policy of aggression against the Malays. Johore was blockaded, relief ships were destroyed; Malay villages and orchards were fired, the boats were captured and their occupants killed.

Lastly, he joined General André Furtado de Mendonça in the capture of Kota Batu, the Malay capital of Johore.

There remains to be related the most interesting episode in Eredia's sojourn at Malacca.

Soon after his arrival, in 1601, he met an Alderman of Malacca, one Pedro de Carvalhaes, who told him of a voyage made by Chiaymasiouro, King of Demak in Java, to a southern land called 'Luca Antara'.

A brief description of this country is given in a letter written by Chiaymasiouro to the King of Pahang and in a certificate made by Pedro de Carvalhaes at Malacca on the 4th of October, 1601.

The incident confirmed Eredia's belief in the existence of the southern land, and he accordingly placed it with Marco Polo's Java Minor in his 'Meridional India', hoping to explore it when circumstances might permit.

But in 1605 or thereabouts his constitution broke down, he fell a victim, he tells us, to the malady known as "berebere"; and the General ordered him to return to Goa for the purpose of recruiting his health.

This he was the less disinclined to do because he was unable to acquire of any further information about 'Luca Antara'; and the acquire any further information about 'Luca Antara', and the was no nearer fulfilment.

His intention was to return to Malacca with the new Viceroy Dom Martim Affonso de Castro who arrived at Goa in 1604.

However, he was still too ill to travel when the Viceroy left Goa in May, 1606; but the Viceroy promised him a relief galliot for the following spring.

Unfortunately the death of the Viceroy at Malacca at the beginning of 1607 dealt a further blow to his hopes. At this stage Eredia wrote once more to the King of Spain, conveying the information about Chiaymasiouro's voyage to 'Luca Antara', and His Majesty in about 1609 instructed the Viceroy Ruy Lourenço de Tavora that arrangements for Eredia's expedition were to be made at once.

The success of Eredia's appeal to the King is the more remarkable because at this very time Quiros at Madrid was also seeking to be placed in charge of an expedition to discover the Austral land, and Quiros, in spite of an interview with His Majesty, was put off from day to day for some 7 years, from 1607 to 1614.

"The minds of Spanish statesmen were beset by the feeling that Spain's day of exploration was done. . . . To whom would this great and golden continent belong? Certainly not to the Spaniards, who now sailed the Pacific in fear of the guns of English and Dutch pirates." This was the crux of the situation: the Portuguese had lost the command of the sea when their Far Eastern fleet was defeated by the Dutch in 1606

The story of Spanish exploration ends with the voyages of Quiros and Torres in 1606

Eredia's expedition never eventuated.

But for the present he continued to hope. Nor was the King of Spain the only person to lend him encouragement: the discovery of the Austral land involved the extension of the Christian faith, so Pope Paul the Fifth favoured the undertaking with his approval, and the Insignia of the Order of Jesus, with the rewards of the Order and other favours, were bestowed upon the "Descobridor." Meanwhile Eredia was instructed by the Viceroy Ruy Lourenço de Tavora (1609--1612) to explore the district of 'Guzerat': and he drew up plans embodying the results of his surveys.

His heart, however, was still in 'Meridional India': and though the Dutch had discovered the northern coast of Australia in 1606, the discovery was not generally known

Eredia wished to confirm the account given by Chiaymasiouro in 1601, and being unable to go himself, he adopted the best alternative, he sent someone else. In 1610 he gave secret instructions to a servant of his to join the fishermen on the south coast of Java and go with them to 'Luca Antara'.

This was done: the servant reached 'Luca Antara,' confirmed Chiaymasiouro's description of the country, and wrote to Eredia from Mataram in Java on the 14th of August, 1610. The next Viceroy, Dom Hierome de Azevedo (1612--1617), employed Eredia in prospecting for minerals in the district of Goa.

Eredia now turned his attention to writing.

In 1613 he wrote his DESCRIPTION OF MALACA, in 1615 the History of the Martyrdom of Luiz Monteiro Coutinho, and in 1616 the TREATISE ON OPHIR.

He was now a man of 53, and his dream of exploring the Austral land remained unfulfilled.

Nothing more is known about him.

Only one topic of universal interest presents itself in Eredia's writings; it concerns the identity of his 'Luca Antara' with Australia, and the 'discovery' of this country by Eredia in 1601, that is, 5 years before the Dutch first saw its shores.

Some writers, such as Ruelens, have accepted this identity; others, such as Major, have rejected it. The question, however lies outside the scope of this paper.

The local interest of Eredia's writings is considerable; as the reader will estimate it for himself, one can refrain from further comment, merely remarking that no less than six of Eredia's maps and illustrations have been thought worthy of reproduction in a recent book of more than ordinary merit, Collet's *Terres et Peuples de Sumatra*.

It may be found that Eredia states something not only of interest but of importance; this, however, is a matter for the savant.

The present paper is concerned primarily with the DESCRIPTION OF MALACA. The original document entitled DECLARACAM DE MALACA E INDIA MERIDIONAL COM O CATHAY is preserved in the Bibliothèque Royale at Brussels (No 7264); it consists of 81 folios, including 56 maps and illustrations. The present English translation is based on the Portuguese transcript in Janssen's *Malaca, l'Inde Méridionale et le Cathay*; his French translation has been of very great help.

It were unbecoming in a mere tyro to criticize Janssen's devoted labours, particularly as they constitute the *font et origo* of this essay suffice it to say, then, that the French translation cannot be relied upon as accurate; nor can accuracy be guaranteed for the present careful but undistinguished rendering, since a condition precedent to accuracy is a correct transcription, and it is clear that Janssen was at a loss owing to his ignorance of such words as '*buile*' (Malay, '*budi*', 'the peepul-tree') and '*curacura*' (Malay, '*kura-kura*' 'a tortoise'). The present rendering constitutes the first attempt, it is thought, to place Eredia's writings before English readers at any length: and the translator is bound to admit that he is favoured with two advantages; first, there is no other translation (excepting two chapters) with which the rendering would invite unfavourable comparison; secondly, Eredia's reports are written (except for one passage) in much the same revolting jargon as modern English official reports, and the translator has therefore been exempted from the necessity to make an attempt at elegant writing; this is fortunate, for a public servant has little leisure to ponder purple passages.

The question of spelling is tiresome: Asiatic names (except in a few cases) have been reproduced as they appear in the transcript: on the other hand, the translator hesitates to infuriate the gentle reader by writing "Aegipto" or "Phtholemeo", and has therefore adopted the conventional English spelling in many instances where there seems no point in adhering to the original: some obvious mislections, too, have been amended: in case, however, the reader should wish to know the exact form which Eredia wrote, the translator adds at the end of this paper a list of the words in which he has deviated from Eredia's spelling.

Following the DESCRIPTION OF MALACA will be found some Notes on points of interest arising in the text. Though a few matters unfortunately remain unexplained, it is hoped that in most cases the Notes contain such information as is essential for understanding of the text, and such references to the most important of recent books and papers as will enable the reader to pursue his subject further. The gentle reader is urged to deal more than gently with these Notes: they have been written under considerable difficulties, and through lack of access to specialist libraries the translator has perforce committed the unpardonable sin of quoting from second-hand authorities. In any case, this first commentary cannot hope to be any less rudimentary than the earliest commentaries on Marco Polo.

But there are two good reasons, in addition to the incompetence of the commentator, why the commentary lacks completeness: first, because particular points have already been discussed at length in previous issues of this Journal, and secondly, because particular subjects lie outside this Branch's territorial sphere of interest.

It is clear, for instance, that Eredia was much interested in the Chinese and their civilization; yet his interest related to many matters which are for us taboo.

A similar sentiment is happily expressed by Hopkins (*The Guide to Kuan Hua*) in phrases too picturesque to blush unseen on Chinese students' dusty shelves, "Whether the Chinese of antiquity said "kwci 7 guk" or "tan 5 dam"; whence they came—these ancient but objurgatory speakers— from Babylon, from Accad, or Assyria, and who they were, Chaldees or Hittites, Proto-Medians or Ugro-Altaics, the lost Ten Tribes or natives of some old-world Parish of Stepney, whether the *I King* is a phallic gospel or a pocket-dictionary: where in the world Ta Ts' in and T'iao-chih could have been, and precisely how much remains of Lao Tzu after being translated by Balfour and analyzed by Giles—on these and kindred topics the *Kuan Hua Chih Nan* will throw no gleam of light".

J. V. M.

Singapore, 31st December, 1929.

## ACKNOWLEDGEMENTS.

The translator desires to express his indebtedness to M. Georges Van Camphenout of Brussels for permitting the publication of the translations from Janssen's *Malaca, l'Inde Méridionale et le Cathay*, to the Conservator-in-Chief of the Bibliothèque Royale at Brussels for supplying the photographs of Eredia's maps, to the Trustees of the British Museum for permitting the publication of the translation from Caminha's *Ordenaçōes da Índia*, to the Conservator-in-Chief of the Bibliothèque Nationale at Paris for permitting the publication of the translations from Eredia's *Tratado Ophunio*, to the Trustees of the Penang Library for granting a long loan of Janssen's book, to the Librarian of Raffles Library at Singapore for the loan of many reference books, and to the Council of the Royal Asiatic Society, Malayan Branch, for meeting the cost of reproducing the maps.

Acknowledgement of indebtedness to individual gentlemen is made in the body of the paper



DE: D: P: H: E: L: I: G: Y: S: P: A: N: S.  
DIRIGIDO: A: S: G: R: M:  
HO: DE: EREDIA:  
POR: EMANUEL: GODIN:  
ORDENADA:  
EM: III: TRACT:  
COM: O: CATHAY:  
INDIA: MERIDIONAL:  
DE: MALACA: E:  
DECLARACAM:



1613.

# DESCRIPTION

OF

MALACA

AND

MERIDIONAL INDIA

AND

CATHAY

IN THREE TREATISES

COMPOSED BY

EMANUEL GODINHO

DE EREDIA

ADDRESSED TO

HIS CATHOLIC ROYAL MAJESTY

DOM PHELIPPE

*King of Spain. Our Sovereign.*



## TO THE KING OUR SOVEREIGN.

LIB 1 RFG CAP 8

In the first book of Kings we find a statement of the duty which devolves upon a Prince's subjects to render loyal service in order to aid and assist him.

It gives me great pleasure, therefore, to lay at your disposal my treatise on Malaca and its district, and Meridional India, together with accounts of Cathay, and the cause of the fixation and variation of the navigator's needle, and other curious things

This I now submit to Your Majesty.

As it deals with matters of extra-ordinary importance, may Your Majesty accept this small offering, tendered as it is because of my love for the prosperity and advancement of His States, and because of my affection for His people.

By accepting it, Your Majesty will fire me with resolution to render yet greater services

May God guard Your Royal person through many happy years to govern His States and to be my protection.

At Goa the 24th November, 1613.

Your Majesty's faithful servant,

EMANUEL GODINHO DE FREDEIA.

## TO THE READER.

PLATO LIB 31  
DIALOG 7

Plato says that in every art the first essential consists in the imitation of former masterpieces

So I follow in the footsteps of the writers who described the many things which were of pre-eminent interest in their own' times.

But present-day knowledge discloses errors in statements which were insistently asserted to be true, not that the authors lacked erudition or ability, but they were much too far away, in Europe and Egypt, to obtain accurate information about the Indias.

So I have been at particular pains to record the necessary facts, and to complete this work in the interests of general utility; not as being more learned or having greater authority to record curious matters, but as having more experience of conditions in the Indias.

I have divided this dissertation according to its subject-matter into 3 parts or treatises; the first deals with Malaca, and its district, and its foundation in the year 1411; the second deals with Meridional India, and the ancient intercourse therewith, and its aromatics which were known in the year 1295; the third deals with Cathay or Attay, and the Chinas, and the empire of Preste Juan, a Christian, who ruled all this portion of the Orient, it also deals with the accounts of Ophir and Tharsis, following the views of Josephus and St. Jerome, and it deals with the reason for the fixation of the navigator's needle, and for its variation from the North.

However grave may be its defects, I pray the reader will be tolerant when he observes them, not condemning my efforts, but accepting my work as designed to stimulate interest and enthusiasm in shedding light on certain things in the world about which our knowledge is all too scanty. Farewell.

**PART I.**  
**CONCERNING MALACA**  
**AND ITS DISTRICT.**

**Table of Chapters in the First Part.**

- CHAPTER 1 Concerning the Town of Malaca.  
CHAPTER 2. Concerning the District of Malaca.  
CHAPTER 3 Concerning Tanjon Quan.  
CHAPTER 4 Concerning the antiquities.  
CHAPTER 5 Concerning the flora.  
CHAPTER 6. Concerning the fauna.  
CHAPTER 7 Concerning the foodstuffs.  
CHAPTER 8 Concerning the wines.  
CHAPTER 9 Concerning the name "Malaio".  
CHAPTER 10 Concerning the armed forces.  
CHAPTER 11. Concerning the fortresses.  
CHAPTER 12 Concerning the commerce.  
CHAPTER 13. Concerning the boats.  
CHAPTER 14 Concerning their occupations.  
CHAPTER 15 Concerning Ganoledan.  
CHAPTER 16 Concerning the Malaio Sea.  
CHAPTER 17 Concerning the nature of the land.  
CHAPTER 18 Concerning the temperate climate.  
CHAPTER 19 Concerning the medicines.  
CHAPTER 20. Concerning the sorceresses.  
CHAPTER 21. Concerning the Maumeth faith.  
CHAPTER 22 Concerning the mines.  
CHAPTER 23. Concerning the waterspout.  
CHAPTER 24. Concerning the bore.  
CHAPTER 25 Concerning Christianity.  
CHAPTER 26. Concerning the Malaio Kings.

(1)

## Chapter 1.

### (2) CONCERNING THE TOWN OF MALACA.

(3) (5) "Malaca" means Myrobalans, the fruit of a tree growing along  
 (6) the banks of a river called the Aerlele, which flows down from its  
 (7) source on the hill of Buquet China to the sea, on the coast of the  
 (8) mainland of Ujontana. It was on the south-east side of this stream  
 (9) (11) that the Permicuri, first king of the Malayos, founded the town  
 (12) called Malaca, so famous throughout the world

(13) It lies in 2 degrees 12 minutes of north latitude, at the inter-  
 (14) section of the meridian and the vertical: it is in the torrid zone, in  
 front of the first climate: the longest day is 12 hours 6 minutes.

PTOLEMY Ptolemy does not mention the name "Malaca":  
*Cosmographia* it is a modern name given by the abovementioned  
 (15) king who founded the town in the year 1411, during the ponti-  
 ficate of Juan XXIV, when Dom Juan II was

GARIBAY King of Castile and Dom Juan I King of  
*History of the* Portugal.  
*Popes.*

(16) Before the foundation of the town, the place was inhabited by  
 a fisher-folk, the "Saletes," who gathered in the shade of the  
 myrobalan trees

(17) These fishermen employed pointed darts called "*soligues*,"  
 with which they transfixed the fish swimming at the bottom of the  
 sea: they used no other devices for catching fish. They were a  
 wild, cannibal race, who inhabited the coast of Ujontana in the  
 southern sea.

(18) In ancient times the narrow isthmus of dry-land which ran  
 (19) from the promontory of Tanjontuan (now called Caborachado) and  
 (20) (21) joined the other promontory of Tanjonbalvala in Samâtta (corruptly  
 Samâttra), extended between two seas, one on the north and the  
 other on the south

(22) It was by this corridor that the natives from the mainland of  
 Ujontana crossed over to Samâtta (which means 'Peninsula' or  
 'Chersonese'), called by Ptolemy "Golden Chersonese": we shall  
 discuss this later

(23) (24) Permicuri selected this spot in the interests of his own safety,  
 for he stood in fear of the ruler of Pam, overlord of the countries  
 of Ujontana, who was making warlike preparations to capture him,  
 in consequence of the treachery which Permicuri had perpetrated  
 (25) (26) in Sincapura, when he assassinated the "*Xabandar*," who was related  
 to the lord of Pam, despite the kindness which the "*Xabandar*"  
 had shown at his house in Sincapura, when Permicuri took refuge  
 (27) (28) there in his flight from his father-in-law the Emperor of Java Major.

[Translator's Note —The figures in the margin refer to the Notes which  
 appear on p. 85 et seq.]

So Permicuri fortified himself on the crest of the hill, where he was safe and free from the fear of being taken and killed. Moreover, he employed the greatest industry and energy in extending the town on both sides of the river and he developed his new state by establishing commerce and traffic with the surrounding peoples who all came to the port for the shad-fishery, since the roes or "turubos" pickled in brine formed a highly-esteemed dish. (29)

Then, when the port was open and frequented, merchants from Choromandel had recourse to it, especially the Chelis with their cloths. (30) (31) (32)

These people assisted in attracting the strangers from the surrounding islands, who peopled the port and popularized it, bringing their merchandise and exchanging their gold and spices for cloths.

This trade made Malaca one of the richest and most opulent States in the world

For at this time the natives owned many "bâres" of gold: and this prosperity continued throughout the reigns of Permicuri's successors and descendants (33) (34)

Permicuri was succeeded in order by Xaquemdarxâ, Soltan Medafarxa, Soltan Marsuse, Soltan Alaudim, and lastly Soltan Mahameth who was overcome by Affonço de Albuquerque.

The latter conquered the state of Malaca a little more than 100 years after its foundation, on the 15th of August, 1511. (35)

After conquering the town of Malaca, the invincible captain built a stone and mortar fort at the bottom of the hill, almost along the edge of the sea-shore, on the south-east of the river mouth, on the same spot where Soltan Mahameth had his palaces and kept the treasures with which he retired up the river into the linterland.

He passed over to Pam on the other side of the peninsula, and thence to Bintan where he gathered strength to undertake expeditions against the fortress of Malaca (36) (37)

After the fortress had been finished and stood complete with its artillery and garrison of soldiers, it created among the Malayos a feeling of intense dread and astonishment which lasted permanently to the great credit and honour of the Crown of Portugal.

For though the fortress was attacked time and again by the Malayo Kings and by other neighbouring peoples, it always proved victorious. (38) (39)

The fortress was in shape a quadrilateral, of which each side measured 10 fathoms: its height was 40 fathoms: on the east there was a circle formed by walls of stone and mortar: there was a well in the middle: so that in times of disturbance or war, the people with their supplies could take refuge inside the circle of the protecting walls. The castle or tower was as high as the hill. (40) (41)

It was not built on the top of the hill because it was preferable to place it at the foot, right on the sea, where it could easily be reinforced in time of war.

This tower constituted a starting-point for the subsequent construction of the earth walls around the habitations of the Malaes about the hill.

- The system began at the point where the land juts into the sea on the west of the hill: nearby were built the Hospitals and the House of Mercy: here two ramparts of stone and mortar ran off at right angles, each skirting the shore: from their starting-point, both the ramparts ran in a straight line, the one northwards for a distance of 130 fathoms to the corner by the river mouth and the bastion of S. Pedro in front of the fortress: the other eastwards for a distance of 75 fathoms to the inward curve of the shore and the gate and
- (42) bastion of Santiago.

- Both these ramparts were constructed of stone and mortar: so too was another one which started from the bastion of San Pedro and the corner by the river mouth and extended for a distance of
- (43) 150 fathoms from the gate of the Custom House Terrace, following the river in a north-easterly direction, as far as the acute angle constituted by the bastion of S. Domingos. From the gateway here an earth rampart extended in a south-easterly direction for a distance of 100 fathoms as far as the obtuse angle constituted by the bastion of the Madre de Deos.

Then, from the gate of S. Antonio, for a further distance of 100 fathoms, another earth rampart extended in a south-easterly direction, past the bastion of the Virgins, as far as the other gate and the bastion of Santiago.

Thus the total circumference of the walls amounted to 655 fathoms of 10 palms to the fathom.

At a later date Joaó Baptista, the Architect-General, by order of the King, re-drafted the plans of the fortress; taking in more ground by a new trace for the wall on the south-east side in the flat lands which extended from the bastion of Santiago to the bastion of S. Domingos, and replacing the earth walls by new walls constructed of stone and mortar for the whole distance: but this defence-work was never executed

In the whole circle of the walls, 4 gates were pierced, but only 2 were in common use and open for traffic, the gate by the Custom House Terrace and the Gate of S Antonio

- Within the circle of the walls were situated the Castle, the Palaces of the Governor of the State, the Palace of the Bishop, the Hall of the Council of the Republic, the Hall of the Brothers of
- (44) Mercy, together with 5 Churches, namely, the Cathedral of Our Lady of the Assumption, with its chapter and episcopal see, the
- (45) Church of Mercy of Our Lady of the Visitation, the Church of Our Lady of the Annunciation in the College of the Company of Jesus at the top of the hill, the Church of S. Domingos in the Convent of the Dominicans, and the Church of S. Antonio in the Convent of S. Augustino: there were also 2 Hospitals.

Outside the walls lay 3 suburbs. the first called the suburb of Upe, on the other side of the river; the second called the suburb of Yler, or of Tanjonpacer, on the same side of the river as the fortress; the third called the suburb of Sabba, extending along the banks of the river. The most important of these suburbs is that called the suburb of Upe. (46) (47) (48) (49)

It obtains its other name of "Tranqueira" from the Rampart: there is a stone bastion constructed on the beach of the seashore, at a point 700 fathoms distant from the mouth of the river in a north-westerly direction: from this point a wall of earth extends in a straight line towards the east for 60 fathoms, past the ordinary service gate of Tranqueira as far as the earth gun-platform: thence, at an obtuse angle, another wall of earth runs in a straight line, in a south-easterly direction, through the marshy and swampy gardens lying inland as far as the gate of Campon China which abuts on the river (50) (51)

So the suburb of Upe with its country-houses and groves is encircled by a wall which protects it from the attacks of the Saletes: nevertheless when war-time organization prevails, it is entirely depopulated and abandoned, the whole population taking refuge within the walls of the fortress

This suburb is divided into two parishes, S Thome and S Estevão. The parish of S Thome is called Campon Chelim: it extends from the Bazar of the Jaos on the beach in a north-westerly direction, and ends at the stone bastion. In this quarter live the Chelis of Choromandel, who ought to be the Chalinges of Pliny, Book 6 chapter 17. (52) (53) (54)

The other parish, S Estevão, is called Campon China: it extends from the above-mentioned Bazar of the Jaos on the beach and from the mouth of the river, in a north-easterly direction, for a distance of 400 fathoms along the bank of the same river to the gate and the earth-wall which forms part of the rampart; and beyond the marsh-land again, as far as the "Nypcias" or Wild Palms beside the stream of Paret China. (55) (56)

In this quarter of Campon China live the Chincheos, descendants of the Tochâros of Pliny, and stranger merchants and native fishermen. (57)

PLINY  
Bk 6 ch 17  
Thocarov or  
Chonos

These two parishes of S. Thome and S. Estevão contain 2,500 Christians, including men, women, and children, in addition to other infidel natives.

All the houses comprised in this area are made of timber: they are roofed with tiles to ensure against risk of fire: the exigencies of war do not permit of stone and mortar buildings here.

A bridge constructed of stone and mortar crosses the mouth of the river, leading to the Custom House Terrace: on this bridge a sentry is posted, and guard is kept at night. (58)

(59) (60) On the beach called the Bazar of the Jaos, at the mouth of the river, every variety of rice and edible grain is sold by the Jao merchants from Java Major: every day at day-break, in their boats or "*champenas*" (which resemble "*bateys*"), they discharge the foodstuffs from the junks and ships to sell them in that market generally.

(61) The second suburb, that of Yler, containing houses of wood with roofs of thatch, lies on the same side of the river as the fortress, towards the south-east: it extends from the stream Aerlele for a distance of 600 fathoms as far as the fields of Tanjonpacer, where there is a "*bangacal*" or guard-house which is its sole protection.

In this suburb of Yler, containing 1,300 Christians besides other infidel inhabitants, is situated the Parish Church of Our Lady of Mercy: and from the stream or rivulet Aerlele another row of wooden houses runs eastward for 500 fathoms to the well of Buquet China providing excellent water which springs from the foot of the hill, on whose summit rises the Church of the Madre de Dios and the Convent of the Capuchins of S. Francisco.

(62) Close by, further to the north, rises another hill called Buquetpiatto.

(63) All around, the fields and swamps extend both south-east and south, as far as Buquetpipi and Tanjonpacer

The last suburb, that of Sabba, extends from the moat at the bastion of S. Domingos: here wooden houses are built right over the water of the Malaca river: the swamps and marshes of the terrain are well suited to the mode of living of the fishermen here: they tie up the boats and the nets which they use for fishing all along the sides of their houses: they also traffic in timber and charcoal from the hinterland.

In this suburb is established the Parish Church of S. Lourenço: there are 1,400 Christians besides a large number of infidels who live in the swamps of "*Nybeiras*" or Wild Palms, from which they make "*Vyba*" wine by distillation

(64) Besides the three parishes just outside the walls, they have three more parishes in the interior of the country, S. Lazaro, Our Lady of Guadalupe, and Our Lady of Hope: stretching along the river bank, they contain 2,200 Christians besides infidel vassals, who live in the Hinterland on their farms where they raise cattle and farmyard animals.

(65) The Christian population, only, in the 8 parishes amounts to 7,400 persons, besides the infidel native vassals in the jurisdiction of Malaca.

(66) The administration of the State is organised as follows; there is a Governor appointed for three years, a Bishop and other dignitaries of the Episcopal See, municipal officers in accordance with the privileges of Evora, Ministers of the House of Mercy, Royal Officials  
(67) for finance and justice, and the native "*Bendara*" having authority over the infidel vassals and strangers.

The State maintains the mendicant Orders, the College of the Company of Jesus with its schools and colleges, the Convents of the Orders of S. Domingos and S. Augustino, and the Capuchins of S. Francisco, with the ministers of the Christian religion.

Within the walls of the fortress live 300 married Portuguese men with their families and a garrison of soldiers for its defence. (68)

*In fine*, they have 4 religious Convents, 8 Parishes, 14 Churches, 2 Hospital Chapels, and some Hermitages and Oratories.

## Chapter 2.

### CONCERNING THE DISTRICT.

The district of Malaca abuts on the sea coast: commencing from the mouth of the River Panagim, it runs from north-west to south-east, a distance of 12 leagues, to the mouth of the River Muar

The north and north-eastern boundary, running inland, forms a semi-circle with a diameter of 8 leagues, till it reaches the mountains of Batan Malaca and the sources of the rivers Panagim and Muar, that is to say, the source of a branch of the River Panagim near Sunecopon and Nany, and the source of another branch of the River Muar, near Jol

In fact, Malaca territory is contained within a semi-circle 20 leagues in circumference running round from the mouth of the River Panagim to the mouth of the River Muar. Midway between the extreme limits along the coast lies the mouth of the fresh river and the happily-situated fortress of Malaca, built on the south-east bank of the river, by its entrance and mouth, at the foot of a hill, 6 leagues distant from the River Panagim and Caborachado, and an equal distance from the River Muar

Between these two rivers Panagim and Muar there is a continuous stretch of coast, with other streams as well thus, distant  $1\frac{1}{2}$  leagues north-west from the mouth of the River Malaca, beyond the promontory of Tanjon Upé, comes the River Batantiga, whose source almost joins a branch of the River Malaca in the hills of Brettão; and further on,  $2\frac{1}{2}$  leagues beyond Tanjon Chelim and Tanjon Bidara, comes the River Sunebaru, whose source is quite close to Sarvarátos, the Royal Orchard, and to the hills where stands the Church of Our Lady of Hope on the River Malaca, 2 leagues further on again from the River Sunebaru comes the big River Panagim, and then Caborachado. Towards the south-east, along the same coast, distant  $1\frac{1}{2}$  leagues from the mouth of the River Malaca, comes the River Doyon, and then the promontory of Pungor, and Tollotmås: and further along, 2 leagues beyond Tanjon Palas, comes the pretty River Cassam with its lizards or crocodiles: and then  $2\frac{3}{4}$  leagues further on, past Tanjon Gadin, comes the River Muar, where the "Descobridor," by order of the King, laid the foundations of the fortress on the 2nd day of February in the year 1604.

Finally, there is the River Malaca which flows into the interior round to a point 8 leagues distant from its mouth as the crow flies.

- The sea coast measures 12 leagues from the River Panagim to the River Muar the territory belonging to the Crown of Portugal is comprised within a semi-circle, whose circumference measures 20 leagues, joining the mouths of these two rivers, together with (23) the islands off this coast, such as the island of Upe, called the Island of Pedra, opposite the promontory of Tanjon Upé, and the island Pulo Malaca opposite to the trees bearing the Myrobalan fruits called "*Malaca*," at the mouth of the stream Aerlele, whence a tongue of dry land extends as far as Pulo Malaca, which, being a hill, retains its insular formation while the tongue of flat land, through disintegration, has become a kind of swampy shoal: lastly, (24) there is the "big island," with 4 islets on the south and another islet on the east, nearly opposite the Point of Pungor

- In the interior, the flat land as well as the mountains is completely covered with flowers and green medicinal plants one finds (25) thick groves containing "*aguila*," "*calamba*," "*bejoim*," "*caminh-*  
(26) (27) *ham*," camphor, dragon's blood, and other aromatics; in particular  
(28) (29) there are so many trees yielding gums and oils that one could fill a  
(30) ship's hold with their products in addition there are orchards of  
(31) cultivated and wild fruits, many of which are very tasty and pleasant-flavoured, not found in other parts of the world, such as  
(32) "*Durocs*," a fruit resembling blanc-mange in taste and flavour, and of about the same consistency there are other very excellent fruits  
(33)-(36) such as "*Mangostans*," "*tampoes*" "*rambês*," "*rambotans*,"  
(37)-(40) "*bachôés*," "*champadas*," "*chintes*" and "*buasdúcos*," besides other fruits which do not occur in India

- (41) The forests, which produce large timber-trees, are the home of  
(42)-(46) elephants, "*badas*," tigers ("*arymos*"), tapirs, large snakes,  
(47)-(49) monkeys with the bezoar-stone, and all kinds of animals and birds of the chase, besides very beautiful singing-birds delightfully melodious

- (50) The land is very fertile and suitable for the cultivation of all kinds of rice and grains the local harvests can provide all the food-stuffs necessary for existence without having recourse to the produce brought by the foreign Jao merchants from Java Major

- (51) These merchants control the trade at Malaca, for the natives are negligent and careless in the matter of husbandry. they do not make the best use of the fertile fields threaded with rivers and streams of good water, which run down from the interior to the sea and irrigate the Hinterland so effectually that it might produce a variety of herbs and plants as marvellous as those of Thessaly.

The natives dwell in their orchards and gardens along the banks of the Malaca River, living contentedly on the produce of the lands and fields, and raising large herds of cattle and smaller animals, besides geese, ducks, and fowls

- (52) The greater part of the country is uninhabited and deserted, except in the district of Nany which is occupied by Monancabos

engaged in the trade in "*betre*," an aromatic plant which is chewed with a mixture of chalk and areca in order to tone the stomach. (53) (54)

These Monancabos with their stocks of "*betre*" come down from Nany to the "*Pancalan*," whence they proceed by boat to the market-place at Malaca (55)

It should be noticed that the River Malaca, running inland from its mouth, flows north and north-east for a distance of 4 leagues as far as the place known as Pulo, where there is the Hermitage of the Capuchins of S. Francisco here it divides into two branches, the one (56)

called Machat, running north-east to Cottot and Ganur, the other called Batan Malaca, running north-west to Pancallan Nany, where live the above-mentioned vassal Monancabos (57)-(59)

It is by the same route past Nany that one proceeds from Malaca to Rombo, head of the Malayo villages in a territory which belongs to the Crown of Jhor. Rombo also is peopled by Monancabos (60)

In the forests of that district live the Banuas, a race as wild as the satyrs of Pliny, Book 1 chapter 2. (61)

These Banuás are soothsayers like the soothsayers of Thuscia and live on the mountain called Gunoledam, where dwelt the Queen Putry, a magician and enchantress like the Thessalian Erichtho, who, by the medicinal virtues of herbs and plants, turned women into the shapes of tigers and other animals and birds.

### Chapter 3.

#### CONCERNING TANJON TUAN.

From Tanjon Tuan, now called Caborachado, on the mainland of Ujontana, runs in a south-westerly direction the narrow Isthmus of land which joins the point of Tanjon Balvala in Samatta (correctly Samattra), a peninsula or Chersonese called by Ptolemy the

PROLEMY "Golden Chersonese" owing to its richness in gold. Table 12

This isthmus was disintegrated under the influence of wind and wave, with the result that this portion of low land has been covered by the sea for a distance of 2 leagues between the point of Tanjon Tuan and the point of Tanjon Balvala; hence, as one sees by (1)

personal observation, to-day Samatta is an island 600 leagues in circumference, whereas in olden times it was a peninsula or Chersonese, (which means a land which is joined to another land by an Isthmus), as in fact was the case in the time of Ptolemy, in the

PROLEMY year 163 after the birth of Christ our Saviour, 1248 years before the foundation of the town of Malaca.

During the whole of that period there were no human habitations on the site of Malaca, which abutted on the sea to the south-east of the isthmus, where the Saletes lived in their boats along the beaches of this coast. Although the isthmus was washed by the seas

on both sides, on the south-east as well as on the north-west, only the sea on the north-west was navigable.

- (2) On this side of the isthmus stood the port of Sabbara, on the coast of the Cannibal-haunted mainland of Ujontana, and to this port came merchants from Choromandel on the Gangetic Gulf, an ancient race mentioned by Pliny in Book 7 chapter 2. Embarking in their rowing-boats, they ran down the coast of Asia from the mouth of the Ganges towards the coast of Ujontana until they reached the port of Sabbara near Parcelar, whence they could effect the further journey to the Golden Chersonese by crossing the sea from one coast to the other,
- (3) from Sabbara to the Port of Tacola, a great trade-centre: judging by PTOLEMY the positions given in Ptolemy's Table, this was
- (4) the trading-centre of Arú or Auro, with its traffic in gold and spices:
- (5) thence by river and mountain they crossed the country to Tico in the district on the opposite coast: it may be, however, that Tacola is the same place as Tico.

- (7) This sea-route from Choromandel to the Golden Chersonese was not very ancient, for it is not mentioned by Pliny, or the other writers, Herodotus, Strabo, Theophrastus, but only by Ptolemy, in whose time, in the year 163, communication was open and practicable with the Golden Chersonese and the other parts of the south.

- (8) The same native inhabitants of Ujontana and the Golden Chersonese appear to have been a most savage and wild race: the majority of them were Cannibals, devourers of human flesh; just as at the present day the Battas of Samattra and the Nicobares of Nicobar retain and practise this evil and disgusting custom.

- (9) They all go naked, without any clothing at all, just like satyrs.
- (10) For the progress of civilization in the South marches hand in hand with the intercourse between Choromandel and the Golden Chersonese.

- (11) This intercourse is not so ancient as the intercourse between Egypt on the Red Sea and Choromandel and Tropobana, as appears from Pliny, Book 6 chapter 22, confirmed by the CHALDAEAN history of the voyage of the Apostle S Thome, who by way of the Red Sea straits and Socottora passed to the port of Cranganor and Meliapor in Choromandel: this sea-route was open in the time of Solomon.

## Chapter 4.

### (1) CONCERNING THE ANTIQUITIES.

- On the sea-coast of the Malaca district there still survive some ancient relics of Permicuri and the descendants who succeeded him:
- (2) for instance, at the place named Panchor there is the so-called "King's Pool": this is a Pool constructed of marble for the King to bathe in: it is fed by an ever-flowing spring of excellent water.

which flows down to the sea between great rocks through woods and groves which are the haunts of deer, hares ("palandos"), and all kinds of animals and birds of the chase. (3)

A short distance away from Panchor in a north-westerly direction are the streams which feed the royal swimming-pool, the Aer Raya and the Aer Patry, and especially the Batugaja, which contains a fossilized marble figure of an elephant, a thing which the natives regard as a great marvel (5)

AVICENA LAGUNA  
Bk 5 ch 4  
Agviena maintains, and even more so does Laguna, Book 5 chapter 4, that it is possible for animals to be converted into stone, especially by means of salts. At the sources of the Suneburu there still remain the traces of the royal orchard of Sarvarrallos which resembled a terrestrial paradise, with plantations of trees bearing delicious fruits of every kind, and with every variety of flower, including fragrant and sweet-scented roses. At the Point of Tanjon Tuan or Caborachado, on the very summit of the Hill, there survives another building, which looks like a basin made of marble blocks or like the ruins of the base of a pyramid, in which Permicuri was buried. this is the origin of the name "Promontory of the Lord" or "Tanjon Tuan" (6)

In Tollot Mâs, south-east from the River Malaca, beyond the Point of Pungor along the same coast, there stands, at some distance from the sea, a great building of stone masonry, square in shape with sides at right angles, and full of trees, like a royal palace or a fortress this structure seems to follow the architectural style of Andaro on the Ganges, as appears from Pliny, (7)  
PLINY  
Bk 6 ch 19

In the quarter known as Tranqueira, on the opposite side of the River Malaca from the fortress, in a place belonging to Raya Mudiliar which later came into the possession of Dona Helena Vessiva, when digging to a depth of about 2 fathoms among the Mango trees, they discovered a decorative cross made of copper somewhat corroded in shape it resembled the cross of Calatrava, the size being about 3 palms it was superimposed upon a square block of marble, of the same size and length as the cross itself: it was found among the ruins of a tiled subterranean house resembling a Hermitage. (8)

It would appear to have been the cross belonging to some Christian from Meliapor, who came to Malaca in company with merchants from Choromandel, and was favourably received into the district under the protection of this Raya Modiliar

## Chapter 5.

### CONCERNING THE FLORA.

The flora of the district may be divided into three different classes, aromatic trees, fruit-bearing and medicinal trees, and wild forest trees: the same applies to the plants and herbs.

Among the aromatic and scented trees there is the "*Aguila*," a tall stout tree with leaves like an Olive: the pith inside is bitter and oily. The "*Aguila*" is differentiated by an extra thin skin on the outside of the bark; if it loses this skin, the tree decays after 3 months through exposure to the weather, and then, owing to this decay, it exhales the scent which comes from the pith.

"*Calamba*" is derived from the oiliest pith of the same tree.

"*Bejuim*" called "*Caminham*" is another tall stout tree: the gum or liquor which oozes and exudes from clefts and holes in the bark we call "*Bejuim*".

It is the same with the camphor tree: it is a tall stout tree, and the camphor-liquor flows from the holes in the bark: the scented wood is much used in the carpenter's craft, for beds and tables of superior grade.

One finds different species both of camphor and of "*bejuim*".

There occur in the country many other scented woods, of which we will not make particular mention here.

- (1) Among the fruit-trees, the "*Doryão*" is a big, very tall tree: the fruit resembles a round head, and is covered with green pyramidal pricks. when ripe, it turns yellow, the skin is all thorny, and it splits open at the point into divisions and compartments like an orange-blossom: within these divisions are the lumps of fruit-substance, sweet and very delicious, having the consistency of blanc-mange, with a stone concealed inside each lump.

One finds many species of this fruit: the best and most creamy is the "*Doryão Tambaça*", which to my mind is the finest fruit in the world.

The "*Mangostan*", a tree of no great height, bears a fruit which is round like the orange, with a thick rind. while unripe it is yellow, and after ripening it turns red: in the hollow interior lie its sweet juicy portions flavoured like the cloves of a head of garlic and containing a stone: this fruit is useful in illness as it is juicy and refreshing.

The "*Tampôe*" is another tree of the same height: it bears a fruit with a thick rind, the colour of cinnamon: in the hollow interior lie sweet portions flavoured like the cloves of a head of garlic and containing a stone: as it is sweet and rather hot they distil from it a wine which resembles Moscatel.

- (2) There are other native fruits such as "*bachoês*" "*rambotans*" "*rambes*", "*chintês*", "*champadês*", "*buasducos*" "*romanyês*", and others so numerous that we cannot now mention them, nor can we mention the other foreign fruits, that is to say, the fruits of India Intra-Ganges: for the country of Indostan and the Peninsula of the Promontory of Chory or Cape Comorin have different natural characteristics from this other country of Ujontana in India Extra-Ganges. For the trees of the one place do not produce fruit in the other place: I mean to say, the trees of Ujontana do not produce fruit in Indostan: more likely are the trees of Indostan to produce fruit in Ujontana.

In the hinterland, moreover, one finds some trees of cinnamon, (4)  
 " *canafistola* ", and " *tamarindi* ", as well as the Cobra wood, which (5)-(7)  
 has such potent anti toxic virtue that it compels the snakes to do  
 obeisance and lower their heads when they see the roots of this  
 same wood

The jungles or woods contain many kinds of big and tall trees  
 for constructing boats and for every requirement, and in particular  
 trees which yield gum and oil of which considerable shipments are  
 made

There is one big tall tree from which the gummy oily liquor (8)  
 flows through cracks in the bark this liquor thickens and coagulates  
 at the foot of the trees where it is collected by the natives

The forests moreover contain some Brasil wood trees, many (9)  
 species of gum bearing trees and numerous cotton trees There are (10)  
 many species of plants both cultivated and wild, particularly  
 aromatic plants round pepper long pepper " *senriuri* " " *lancoas* " (11)-(14)  
 (another and hotter species) " *chonor* " country saffron, (15) (16)  
 " *casumba* " (resembling European saffron) and aromatic " *betre* " (17) (18)  
 besides numerous other plants which cannot be discussed in a short  
 space the wild palms called " *Nypen is* " resemble the palms of  
 India in shape and leaf— (they are somewhat bigger than those date-  
 palms) they have a big stumpy base and grow in the swampy  
 land

At ground level there spring from the trunk of the palm the  
 typical palm branches with sprigs of large flowers among which  
 hang the fruits in clusters like big pine cones from the flowers is  
 derived a liquor from which wine is extracted by distillation this (19)  
 is the best wine in India Sometimes the distillate is as strong as  
 brandy It differs from the wine which is made from the coco-  
 palm and is produced in these parts by a superior process of  
 distillation similar to that in which gruns are soaked in water and  
 cooked is mentioned by Pliny

## Chapter 6.

### CONCERNING THE FAUNA.

Among the animals and birds which ordinarily occur in the  
 district are many elephants, *badas* tapirs, tigers, large snakes, a  
 great number of wolves and jackals besides the animal called the (1)  
 " *lynta* " which the elephant fears as well as a great quantity of (2)  
 hares ( " *palindas* ") stags wild buffaloes, goats, cows, and every  
 sort of cattle and farmyard animal

So too among the birds there are geese ducks, domesticated  
 and wild fowl besides a great variety of birds with beautiful  
 plumage and sweet harmonious songs, and a large number of  
 peacocks

Among the animals, the " *lynta* " appears  
 worthy of mention it is 3 palms long and in  
 shape like a snail this " *lynta* ", having thick hard scales like a

- tortoise, can withstand the elephant and wear it down till it dies of hunger: it merely seizes the trunk and fastens on to it, twining round so tightly that the elephant cannot throw it off and get rid of it, until after several days the elephant is worn out and overcome with hunger, and eventually gives in, is finished, and dies: this is what the natives relate. Among the great snakes or serpents, some
- (3) have in the middle of their forehead the carbuncle or luminous stone. for instance, the Monancabos allege they found a stone in the forehead of a dead snake, which they sold to the merchants of Meca in Arabia. it was a white crystalline stone with colours ranging from blue to red: it was only luminous at night, and emitted but a slight radiance for it was not larger than a partridge's egg in shape.

- The natives are firmly convinced that these stones grow in the forehead of serpents and large snakes in the country of Ujontana: though, properly speaking, the carbuncles are stones growing in the
- (4) forehead of an animal called "*lacocacho*", white in colour, with the shape of a cat or a large rat (but of a different species), which resorts to subterranean places and caves in the mountains, according to the accounts given by the natives of Gilolo and Saquita in Maluco.

In Corya and among the Chincheos are found large centipedes 3 palms long, with a glow which lights up a room: but this light proceeds, not from a stone, but from a luminous secretion

- However, the King of Bâle, adjoining Java Major, had in his
- (5) palace a black grey-hound with 4 eyes, two natural ones to see with, and two others in its forehead, these resembled luminous stones, and illuminated the palace at night, no other light being required.

We do not yet know whether these were luminous stones or a luminous secretion This was observed in the year 1594. Moreover the writers maintain that these carbuncles exist in Lybia in Africa they are mentioned by Pliny in Book 37 chapter 7, and by Aristotle in the *Meteorologica*, Book 4 chapter 9 others consider that the Ruby is a carbuncle

## Chapter 7.

### CONCERNING THE FOODSTUFFS.

- The foodstuffs of the natives comprise rice and grains growing above the ground as well as a variety of yams or tubers growing in the ground: the low-lying terrain of the country produces all these things in great quantity, particularly rice, of which there are many
- (1) varieties. the best kind is the "*girical*", delicate and white: the natives live on it as it were their daily bread: there is a darker rice on which the lower classes live.

This plant resembles corn, and demands the same husbandry to give the same results, the rice is then husked, sifted and washed; it is put in a pot with a certain proportion of pure water; it is then placed over a gentle fire; when softened with boiling, the rice constitutes a nourishing food.

There is also produced another kind of oily rice called "*Puloth*", it is white, dark, or red, it is held in great esteem (2) because this kind of "*Puloth*" rice does not occur in Indostan (3) Intra-Ganges in India.

In addition to several other kinds of grains, there are shoots, beans, and legumes, cooked and spiced according to taste, on which the common people live

Moreover the country produces a great quantity of yams or large tubers which grow in the ground, there are many varieties, resembling the "*amôttas*" of America, these yams, cooked or baked, serve in place of bread, the substance inside the rind and skin is very tasty, like baked chestnuts (4)

In time of want, great famine, and distress, the people live on other roots and wild potatoes these, without any other food, suffice to satisfy their hunger

Although the same land produces this rice and grains, still the great majority of the natives obtain all their rice and grains by trading with the foreign Jao merchants from Java Major with a view to re-sale in times of want and scarcity, which frequently occur in the intermittent warfare at Malaca

Thus the fortress is always well provided with foodstuffs and water, and all the supplies necessary for its defence The rice is cultivated in the swamps and marshy places of the low-lying lands, while every other sort of grain is cultivated on the heights of the hills so that in this way, the whole of the land can be put to profitable use

## Chapter 8.

### CONCERNING THE WINES.

The wine proper to Malaca is that called "*Nypa*", made from (1) the "*Nypas*" or wild palms of the swamps the palm-liquor (or drops from the incised flower), which is called "*tuâca*", is kept in (2) an earthen-ware jar, well corked this "*tuaca*" or sweet liquor is (3) transferred to another larger receptacle also made of earthen-ware, in which, as in a still, it is distilled over a slow fire, and the "*tuaca*" is converted into white "*Nypa*"-wine, which is most highly (4) esteemed among the Malayos Sometimes they make it as strong as fire, and as ardent as brandy, for use medicinally to counteract the cold of "*berbere*" (5)

The fiery wine has this property that when a cloth is soaked in it the wine catches alight or burns without scorching the cloth. (6)  
MARCO POLO This wine is mentioned by Marco Polo the (7)  
Book 2 ch 25 Venetian in Book 2 Chapter 25.

A wine is also made from the cultivated cocos-palm this is the (8) usual wine in Indostan Intra-Ganges in India: these palms predominate in the groves or vineyards of these parts the liquor or sweet juice, treated over a gentle fire, in the same way as the "*Nypeira*", is converted into a mild wine

- (9) Wine is also made from the fruit called "*Tempôe*": speaking briefly, they distil the pieces of fruit over a fire: this is esteemed the best wine of all, for it attains the flavour of Moscatel.
- (10) Lastly, a wine is made from rice, which is softened by being placed in water and then cooked: this method is mentioned by Pliny; it is also employed in America.

## Chapter 9.

### CONCERNING THE NAME "*MALAYO*".

- (1) The name "*Malayo*" does not appear to be derived from "*Malaca*", since to correspond with "*Malaca*" we should call the natives of the country "*Malachezes*" or "*Malacanos*".
- The name "*Malayo*" appears to be of more general application, since it extends to all the natives of Ujontana, whose territory lies between the Tropic of Cancer and the Equator; that is to say, from the Promontory of Ujon Calan in 8 degrees of North latitude as far as Point Romania opposite Pedra Branca in the South
- (2) (3) (4) Throughout all this continental territory of Ujontana the Malay language is used, and the natives describe themselves as "*Malayos*".

- (5) The metropolis used to be the port of Pam, where lived the ruler of this state, a vassal of the empire of Syam. So the name "*Malayo*" does not originate from "*Malaca*": it would appear,

- (6) rather, to be derived from "*Attayos*" or "*Attay*", a race from Seryca of the Scyths, to-day corruptly called "*Cattayos*".

- (7) These people spread from the northern parts towards the south as far as the territory of Ujontana, and therefore the Malayos are descended from the Attayos or Cattayos. This opinion is confirmed by the physical resemblance between the civilized Malayos and the Attayos or Cattayos, although the latter are of a lighter colour than the dark-brown Malayos. The real natives of the country of Ujontana are the cannibal Banûas, negros with curly hair, who resemble the satyrs.

- Although the district contains tail-less apes or monkeys, almost human in shape, living in the tree-tops of the forests, yet, generally speaking, all this country of Ujontana, prior to the advent of the
- (8) Attayos of Scythia, was uninhabited or regarded as uninhabitable because it was in the torrid zone, as is affirmed by the ancients, and

ARISTOTLE 2 by Aristotle, in 2 Meteorologica, chapter 5.  
*Meteorologica*  
 ch 5

So in ancient times this country of Ujontana, as also the peninsula of Samâtta or the Chersonese, was unknown: and therefore no mention of it is made by those writers or by Pliny in his History.

We only have knowledge of the Golden Chersonese in connection with the trade of the emporium of Tacola, mentioned by Ptolemy in the year 163 after

PTOLEMY

[the coming of Christ Our Saviour

Although Indostan and Tropabana were situated in the torrid zone yet intercourse and navigation were practicable there; this

HERODOTUS

PLINY

appears from Herodotus and from Pliny, who mentions the intercourse from Idumea and Egypt

by way of the Red Sea, and it is confirmed by the Scriptures which

mention the voyages of Solomon from the Port of Aziongaber 3 Kings 20, 10, and Paralipomenon 9.

3 KINGS 20, 10

Paralipomenon 9

(9)

The civilized Malayo natives are honey-coloured and of pleasant appearance, with oval face, rather small eyes, and medium nose: the head is covered with an abundance of black, bushy hair round the forehead they tie a silk band or red cloth in place of a turban. (10)

Their bodies are well-built: they wear a thin "baju" or short shirt made of muslin, and round the waist a skirt of Choromandel cloth this is rolled round so as to leave the right leg uncovered. (11)

in the waist they carry a knife 2 palms long: this is a dagger-blade called a "Crys". (12)

They walk with a confident gait they go bare-footed without sandals. (13)

The majority of the Malayos are cheerful, roguish, and very wanton ingenious and intelligent, but negligent and careless about studies and arts they spend their time amusing themselves, and so, as a rule, few literati, mathematicians, or astrologers are to be found amongst them. (14)

The Banuâs of the Hinterland, however, study the magical arts in the caves of Gunoledam, as men once did in the Pythian caves

## Chapter 10.

### CONCERNING THE ARMED FORCES.

The armed forces of the Malayos do not follow the ordered military tactics of Europe they only make use of attacks and sallies in mass formation their sole plan is to construct an ambush in the narrow paths and woods and thickets, and then make an attack with a body of armed men whenever they draw themselves up for battle, they acquit themselves badly and usually suffer heavy losses. (1)

The arms which they ordinarily use in warfare are the sword, shield, lance, bows and arrows, and blow-pipes with poisoned darts. (2)

At the present day, in consequence of intercourse with us, they use muskets and ordnance.

The sword, a blade measuring 5 palms in length, is called "Padan" among them: like the Turkish sword, it has a single edge. The dagger, called "Cris", a blade measuring 2 palms in length, is (3)

made of fine steel, it bears a deadly poison; the sheath is of wood, the hilt is of animals' horn, or of rare stone, or of gold and precious gems

The steel is treated in such a way that every injury is followed by immediate death when the wound draws blood. Iron, being constituted of earthy material, and of a substance which is more malleable than other metals (as Aristotle notes *Meteorologica* ch 6 in 4 *Meteorologica*, chapter 6) yields a large quantity of rust and dross. So the natives soak the iron in water and in muddy pools for some time: they then treat it in the fire, refining it till the iron is clean and pure--a method mentioned by Pliny in Book 34 chapter 14.

Then, after polishing the blade of steel, they smear it with a poison so deadly that death soon ensues after any injury which draws blood, wherever inflicted

So these Malayos use much poison on all their weapons, especially the points of arrows, whether made of iron or wood, or the teeth of animals or fish, or of "nyboés"

(5)

Their bows are larger than the bows of Persia

(6)

The lance called "azaqaya" is 10 palms in length: these lances are much used as missiles

There are other lances, as much as 25 palms long: besides a great number of "soligues" made of "Nyboés" and used as missiles

(7)

Their artillery, as a rule, is not heavy: formerly they used mortars and swivel-guns made of various metals: to-day they employ larger pieces, and battery-cannon, besides many kinds of fire-arms, including small arms and arquebuses. Regarding the employment of artillery amongst the Malayos, we know that on the conquest of Malaca in the year 1511, Affonço de Albuquerque captured much small artillery, esmerils, falconets, and medium-sized sakers: these could not have come from Meca in Arabia where they use larger pieces of the second order, such as battery-cannon: probably these came from Pegú and Syam, where they had an establishment for casting smaller artillery of the first order, and a foundry for every other kind of metal-work, this they had learnt from the Attayos and the Chinas, who first introduced artillery, which was invented after the rebellions against the Empire of Attay or Cattay

(8)

(10)

Thence the invention spread to Germany, and to Europe, and throughout the world, in the year 1378

## Chapter 11.

### CONCERNING THE FORTRESSES.

The fortresses and fortifications of the Malayos were usually structures composed of earth placed between plank uprights: many houses, too, were built in this style, besides stores or "godoens",

(2)

subterranean buildings in which the merchants stored the cloths from Choromandel to ensure against fire, for the houses were covered with thatch.

But we do find some buildings made of shaped stones joined together without mortar or pitch this is the style of work adopted by the people who inhabit the mouth of the River Ganges: Pliny speaks of their buildings as the most ancient in the Indias Extra-Ganges

In this simple style were built the principal fortresses and royal palaces, differing from the new style of architecture of which

VITRUVIUS      Vitruvius treats in Book 2 chapter 7 of his work  
*Bk 2 ch 7*      on architecture dedicated to Caesar Augustus

Usually, however, the natives of Ujontana use fortifications and enclosures and palisades made of big timber, of which there is a large quantity along the River Panagim on the same coast, where one also finds another kind of timber, namely "*Nyboés*" palms, very hard and strong, for constructing defences: they are almost the same shape as the date-palms of Arabia

This tree measures 8 fathoms from the ground to the top of the trunk, where there is a cluster of leaves resembling palm-leaves, it is quite round, massive with a firm heart, rough, hard, and rather prickly the outside bark is as tough as iron

These "*Nyboés*" palms are used for fortifying the centres and towns of the civilized peoples, for as a rule the majority of the wooden houses in Ujontana are built on piles of this timber, especially at the ports in the inhabited areas of Malaca, Batusivar, Oulor, Pam, Patane, Perat, and Queda (3) (4) (7)

In addition to their fortifications, they dig deep pits in front of wooden fences, these pits contain traps and pointed sticks treated with poison, they also make use of holes covered with branches, and of traps set in ambush with which they inflict much damage.

So in olden times their fortresses besides being made merely of earth, were built in a simple form, without the proper military points: nowadays, in consequence of intercourse with us, they have built their fortresses with the proper defences required by the art of gunnery.

## Chapter 12.

### CONCERNING THE COMMERCE.

Intercourse and commerce by sea commenced on the foundation of Malaca in the year 1411

Before that time, the western sea-coast of Ujontana was inhabited only by the "*Saletes*", fishermen who had no other trade or business but fishing for shad, they used the roes, called "*Turahós*", which they pickled in brine. This fish is esteemed more highly than any other by the Malayo nobles.

So under the rule of Permicuri, founder of this state, a begining was made with the trade in spices and metals, which were exchanged for the cloths of Choromandel and of the Ganges, according to the ancient custom referred to by Homer, as noted by Pliny in Book 33 chapter 3

PLINY  
Bk 33 ch 3

- (1) Merchants from those regions came together at the port of Malaca, which was situated on the Sabaric and Perimulic Gulfs: this was after the isthmus had been destroyed and submerged in consequence of the storms, thus allowing the two gulfs to unite in one Malayo sea

The merchants from Choromandel, especially the Chelis, engaged in this trade, and settled in the district of Upé, on the opposite side of the River Malaca from the fortress: from here they carried on intercourse with Choromandel, and from there with Egypt so that Malaca became a big place, with a large population consisting of people from the vicinity and of strangers from the south.

Through the agency of the latter, all kinds of spices, aromatics, metals, precious stones, and pearls found their way from foreign ports to Malaca, where they were exchanged for cloths, and all passed from Malaca to Choromandel and Egypt, where the trade centred in Alexandria.

- (2) It is to be noted that this trade from Alexandria in Egypt to the Promontory of Chory and Choromandel and Tropobana, and thence along the coast to Ujontana and Samatta or the Golden Chersonese, had commenced and was being regularly conducted in the time of Ptolemy, in the year 163<sup>o</sup> but it went to the trading-centre at the port of Tacola in the Chersonese, and not to the port of Malaca belonging to the Saletes

PTOLEMY

- (3)-(5) From Alexandria in Egypt the merchants passed to Cayro, once called Bubalis, and thence to the sea-port of Sues, also called Zuem: here they embarked in "*alfragattas*", "*gelues*", or "*taurins*", and sailed through the Red Sea to Adem in Arabia: thence, following the coasts of Arabia, Persia, and Indosthan past the Promontory of Chory, they put in to port in Choromandel and Tropobana: from here, following the coast past the mouths of the Ganges, they passed to Ujontana, to the trading-centre of Sabbara, which was the most frequented port of Ujontana, situated on the Sabbaric Sea on the near side of the isthmus.

- (6) This may well have been the port of Calam, the centre of a district which extended as far as the Promontory of Ujoncalan: this port, lying at the entrance to the Parcelar Channel, they called Sabbac, because the land was swampy, and therefore Ptolemy calls the place Sabbara and the sea the Sabbaric Sea, because Sabbaro was the principal port. From here, going by land across the Isthmus of Tanjontuan in Ujontana, they passed to Tanjonbaluata in Samatta (or the Golden Chersonese) and to the port of Tacolâ: this should

be Tico, the centre of the trade from the Hinterland of Samatta, now called Samatra.

Moreover, from the port of Sabbara, they sailed across the Sabbaric Sea from Ujontana to Samâtta or the Golden Chersonese, to the port of Arû, in olden times called Auro, whence the name "Golden Chersonese" was derived thence they passed along the rivers of the Hinterland to Tico

From here, with a cargo of gold, aromatics, and spices, they returned to the port of Sabbara. thence, following the coast of Ujontana and the harbours of the Ganges, they came to port in Choromandel, and passed on to Adem in Arabia: after entering the straits of the Red Sea or Mare Rubrum, they disembarked at the port of Cossayr in Ethiopia from here they travelled by land on camels to the canal of the River Nile, and from this point they utilized the favourable current to make the journey in boats as far as the port of Alexandria (8)

In the time of Solomon this trade and commerce was being (9)  
 SOLOMON regularly conducted at Asion Gaber in Idumea, a port on the Red Sea, where king Josaphat's fleet suffered shipwreck,

KINGS as is mentioned in the Scriptures, 2 Kings 9, and  
 Bk 2 ch 9 and 4 Kings 22  
 Bk 4 ch 22

In the time of Gaius Caesar, the son of Augustus, one finds that the navigation of the Red Sea off the coast of Arabia was in operation: as is stated by Pliny, Book 2 chapter 60 In Book 6 chapter 22, also, Pliny mentions (10)  
 PLINY a vassal of Annio Plocanio as one of the farmers of the Red Sea taxes which clearly shows that this traffic was very ancient: according

to Pliny navigation extended along the coast of Arabia and Persia (where Carmanya was) as far as the port of Hipparos in Tropobana or Ceylam

No historian goes on to deal with the sea-route to Ujontana and Samatta or the Golden Chersonese till we come to Ptolemy who mentions the trade of the emporium of Tacola in the Golden Chersonese in the year 163 (11)

The next writer is Marco Polo the Venetian who made his return voyage from Meridional India or Java Minor to Tropobana and the Red Sea straits in the year 1292: his account shows that he had no knowledge of Malaca. for at that time the site of Malaca (12)

was uninhabited, while in the forests of the hinterland lived cannibals who devoured human flesh: these same cannibals spread to Samâtta or the Chersonese, and even to the present day this evil and disgusting practise persists among the Bâtas of Samatra. So (13)

it may be concluded that in those times there were no civilized people in Samatra and Ujontana, except on the other or eastern coast (14)

of Ujontana, where there was intercourse with Attay or Cathay. (15)  
 Hence the general commerce and trade of Ujontana began with (16)  
 Permicuri, on the foundation of Malaca, in the year 1411. Among (17)

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the natives, the principal trade was with India Intra-Ganges and India Extra-Ganges, this being the commerce carried on by the

Pliny.

Bk 6 ch 17

Scyths of Seryca and Attay from Attacôris, as mentioned by Pliny in Book 6 chapter 17.

- (18) These latter were the people who founded the China empire  
 (19) of Attay or Cathay, which lorded it over Asia, including India Intra-Ganges and India Extra-Ganges, as far as Meridional India on the Tropic of Capricorn.  
 (20) For the trade of Attay or Cathay extended throughout every part of the East this is clearly shown by the subsisting traces of  
 (21) China influence, such as the port of Chimlao or Chilao in Ceylam or Tropobana, and the port of Chimdy or Sindi in India, and the port of Cochim, and other ports which are mentioned in their histories as ports of the China trade, and as paying royal tribute to the Emperor of China in token of vassalage

### Chapter 13.

#### CONCERNING THE BOATS.

- (1) The native boats of Ujontana are of no great size  
 (2) The "*bâlos*", used for cargo, are propelled by means of breast-oars: they also have sails which are almost the same shape as the sails of "*alfragattas*"

They use no hard wood except for the hull, all the upperworks being covered with leaves of "*Nypevas*" palms interlaced with cane rods, for preventing the entrance of the sea-water.

- They have 2 masts or poles fitted with rigging made of  
 (3) "*iôttas*" rope, and sails of matting made from another kind of palm,  
 (4) the "*Pongo*".

They have 2 rudders running through the poop of the "*bâlos*", one on each side, to guide the ship.

These "*rotas*" are long, thin plants: the thicker varieties in this country are as thick as sugar-canes, and quite solid, with knots: it is of these that they make the ropes and hawsers of the boats which sail with cargoes of spices and metals along the coast of Ujontana and the Chersonese, and to the neighbouring islands as well: the natives do not, however, venture to navigate the ocean in these boats because they are made of fragile timber.

- In naval warfare they use different boats, smaller ones, about  
 (5) (6) the size of "*lancharas*" and of "*bantis*" propelled by breast-oars: they have 2 rudders and 2 masts

- (7) For service in fishing and for river-traffic they use "*ballôes*"  
 (8) (9) and "*nambangues*", with small hand-paddles worked by mere arm-power: they travel swiftly, singing harmoniously in chorus.

- So the inference is that the Malayos are not accustomed to navigating the Ocean, for they only make coasting voyages along the  
 (10) shores of Ujontana: from a starting-point by the island of Pulo.

Catay in the district of Pattane, situated on the east coast in 8 degrees of latitude, they pass round to the other or western coast of Ujontana, to Taranda and Ujon Calan situated in the same latitude in the district of Queda: this stretch of territory lies within the region of the Malayos and the same language prevails throughout. (11)

It is to be noted that the eastern coast of Ujontana was peopled and frequented before the other or western coast, thus the histories relate that Malayos inhabited Pattane and Pam before the foundation of Malaca

At that time the ruler of Pam governed Syncapura and the monarch who resided in Pathane, the metropolis of the Malayos, was tributary to the empire of Syam, for right down to the present day the Malayos regard the latter as their master: while the Head of the principal empire and administration was the Emperor of Attay, for India Intra-Ganges and India Extra-Ganges and Meridional India were tributary to him, and their ports were frequented by his boats, differing in shape from European boats, in the course of their voyages across the Ocean

For they used "*nunós*" or "*sômas*", tall boats like freight-bearing carracks, with 2 rudders and masts and with sails made of woven palm-leaves and of matting, traversed by bamboos at definite intervals, so that they could fold and gather up the sail with despatch when the wind-storms came on. (12) (13) (14)

These bamboos are usually 5 or 6 fathoms long, and thick round as a man's arm the inside is hollow, the distance from one knot to the next being 4 palms. This country produces great quantities of bamboos, long and short, thick and thin.

These canes are mentioned by Marco Polo the Venetian in Book 2 chapter 36, and by Pliny in his Natural History

They also use smaller boats called "*lorchas*" and "*Jyólvo*" these boats have only two oars, one on each side: these oars serve both to guide and to propel the boats when they traffic on the rivers (15) (16)

But the tall boats, called "*nuncos*" or "*samas*", resembling freight-bearing carracks, voyage across the Ocean and the Manic Sea or Great Gulf, and travel to Meridional India, as is stated by Marco Polo in Book 3 chapter 11, and by Ptolemy in his Table 12 of Asia: whereby it is shown that the Meridional Sea was navigated more frequently on the eastern coast than on the other or western coast of Ujontana by the Attayos and by the people of Java Major and Java Minor: for both these nations used big boats like carracks for their trading-voyages, as our own experience shows (17)

Marco Polo in Book 3 chapter 11, and by Ptolemy in his Table 12 of Asia: whereby it is shown that the Meridional Sea was navigated more frequently on the eastern coast than on the other or western coast of Ujontana by the Attayos and by the people of Java Major and Java Minor: for both these nations used big boats like carracks for their trading-voyages, as our own experience shows

PTOLEMY  
Table 12

Attayos and by the people of Java Major and Java Minor: for both these nations used big boats like carracks for their trading-voyages, as our own experience shows

This navigation of the Ocean was directed by the constellation of Ursa, and not by the navigator's needle, of which Marco Polo had no knowledge during his voyage in Meridional India

- (18) For in point of fact the navigator's needle was invented by the Attayos or Cathayos, who used a seamstress' needle rubbed on a loadstone or magnet: this needle was placed gently upon the surface of the water in a vase of glass or porcelain so that it did not sink to the bottom the needle pointed to the Pole, and was used in their voyages by the Chincheos, the best mariners of Attay, to whom is attributed this invention which has extended throughout the world. this seamstress' needle was called the navigator's needle in the time
- (19) CHRONICLES OF of the Iffante Dom Amrique of Portugal, the PORTUGAL mathematician and the first discoverer, in the year 1450 The Attayos used boats which crossed the Ocean, and they trafficked with the continent of Asia, especially with the place called Simdi, which was their point of embarkation: it was situated on an island inhabited by merchants of Sim. in their language Simdi means "Island of Sim" even down to to-day it is called Tatâ or Cattâ, because of its connection with Catta or Attay.

In olden times this district was called Gedrosia, as Pliny states in Book 6 chapter 20 and the river was called Indo or Sandus, as is stated by Pliny, and pointed out by Ptolemy.

- (21) They also traded with Cochim or Cosim, which means "district of China": and the imperial coronation-stone of the Empire of Malavar clearly shows that the ruling power reposed in the hands of the satrap who was placed in authority and maintained there by the Emperor of Attay.
- (22) They also traded with Simlao or Chimlao in Tropobana, a town inhabited by people from Sim and by Jaos

It was from the former people that it derived its name of Cilaó or Ceylaó, because they held the island and the capital and the court of the State

Not far from the court was the pagoda used as the burial-place of the Kings of Ceylaó, called Tropobana by Pliny in book 6 chapter 22, and by Ptolemy.

PLINY  
Bk 6 ch 22  
PTOLEMY

- (24) These boats from Attay differed from the boats used in the Red Sea straits in the time of Solomon and King Josaphat and in the time of Ptolemy: these latter were "*alfragattas*" or "*gelues*" and "*taurins*" or "*lagueys*", in which they sailed along the coast of Arabia, and Persia, and Indostan, to the promontory of Chory, and to Polybotra on the Ganges, which was a depot for the trade from Attay to Tropobana In those days they used rowing-boats and hugged the coast. this is shown in the Scriptures in the description of the voyage made by the prophet Jonnas, where the sailors were forced by stress of weather to row to land; Book 1.

And so, as the boats were merely rowing-boats and the navigator's needle was unknown, it was difficult to navigate the Ocean at a great distance from land; hence the Red Sea boats usually hugged the coast.

## Chapter 14.

## CONCERNING THEIR OCCUPATIONS.

The usual occupations of the Malayos are as follows.

The nobles, "*Orancayas*", spend their time in pastimes and recreations, in music and cock-fighting, a royal sport in which they stake much money: they have the art of selecting cocks which from the particular nature of their plumage will be victorious. (1) (2)

The bad practice of cock-fighting occurs among all these nations of the Orient.

Young girls called "*rajavas*" are dancers and singers: they have soft, sweet voices, and dance and sing in harmony with the sounds of drums or "*rabanas*". they are highly appreciated by the Malayo nobles: and are to be found at all the merry-makings and royal feasts and solemn banquets. Although wine-drinking is prohibited among the Maumetthanos, it does not prevent the Malayos from drinking the "*Nyipa*" wine from Pulo: and this more than anything else is the chief cause of their indulgence in wanton pleasures. (3) (4) (5) (6)

Very few of them have any inclination for the arts and sciences: and even those who are of a more inquiring turn of mind, content themselves with learning to read and write and to study Arabic with the masters from Meca who proceed to the south.

Others, actuated by self-interest, occupy themselves with trade and commerce in spices and metals.

Only in time of war do they practise with arms and musketry. They do not use horses although they obtain a fair number from Java and Bima, for in accordance with ancient usage they retain the custom of walking barefooted, without sandals or shoes. (7)

The common people have better characters, for they usually occupy themselves with mechanical arts to earn their livelihood: many of them are very accomplished craftsmen at carving and also at alchemy, imparting a fine temper to iron and steel for making arms.

Their servants go in for the cultivation of foodstuffs, for the manufacture of wine from the "*nypevas*", and for fishing, from which they derive great profit.

There are no weavers: they are too negligent, and content themselves with the cloths of Choromandel and Bengala, which are exchanged for the metals and the "*calim*" which this country produces. It is the same with foodstuffs: they neglect cultivation because they can obtain supplies from Java Major. So that the servant classes and the common people are satisfied with maintaining themselves from the profits of their labours: and the money which they obtain, they spend on feasting and amusement and play: they then strive to obtain more money to spend on other feasts, without laying by any store for a future competency in their old age. They (8)

- live only for the day: and the story went of the "*Xabander*" of
- (9) Bencales, that he usually spent the revenues of the port in amusements and wanton feasts.
- It may be remarked that some of the "*rajavas*", the dancing girls, by using certain incantations and words, invoke and call up
- (10) evil spirits, becoming themselves possessed and entranced. They then disclose things which will occur in the future, and things which are now occurring in distant places, and they reveal profits and losses and thefts.
- (11) So they were prohibited in the district of Malaca by the first Bishop, Dom Jorge de Sancta Lucia, either because they communicated with the devil, or because they obtained their powers from the sap of the herb "*Vilca*," which is used in America.
- (12) The women are immodest, and think it a fine adventure to have lovers, whose conversation they seek the whole of the day, and, much better still, during the night.
- (13) They are always using immodest expressions and lewd words in their conversation, to indulge their sensuality.
- This bad practice is commonly tolerated among the Malayos with a view to avoiding unnatural vice: though the king, when away from home, makes use of the "*saronraja*", which means "the king's sheath".
- The practice in regard to marriage customs conforms with the doctrine of Maumetho
- (14) The most diligent of the people are the wild Banuas of the Hinterland these devote themselves to learning magic arts in the caves of Gunoledam, as men did in the Pythian caves, acquiring proficiency in effecting withcraft and sorcery. As herbalists, too, they disclose the virtues of the medicinal plants and herbs to the more curious of the Malayos.

(1) **Chapter 15.**

**CONCERNING GUNOLEDAM.**

- (2) The mountain of Gunoledam resembles Mount Athlante or the  
 PIVOT IN THE SYBILLINE CAVES  
 LIMBUS

It is a lofty mountain half a league in height, and rather more than a league in circumference at the base it rises in isolation, there being no other mountain in the surrounding country

To this mountain (according to the story of the Malaios) retired the Queen Putry, companion of Permicuri, founder of Malaca here the enchanted Putry remains for ever immortal and here she lives to this day by her magic arts.

She makes her home in a cavernous cave on the summit of the mountain, and here she lies on a raised couch decorated with dead men's bones: she takes the form of a beautiful young girl, adorned with silk and gold.

Round about this cavernous cave are planted thickets of imboo, from which proceed harmonious voices and sounds of flutes and other musical instruments, like the music of tambourines in the

MARCO POLO Desert of Lob, mentioned by Marco Polo the (3)  
*Bk 1 ch 44* Venetian, in Book 1 Chapter 44.

Some distance away from the cave and the bamboos are groves of trees bearing delicious fruits of every kind, here are heard the harmonious songs of birds

Farther away from this grove are the forests occupied by tigers (4)  
 LUCAN who guard the Queen Putry, enchanted like  
 another Syrce or the Thessalian.

This story must be a fairy-tale but the natives regard it as true: for they assert that on the mountain of Gunoledam there is a certain cavern, like those Pythian and Sybilline caves, where the wild Banuas learn the magic arts, and hold communication with the devil in the dark caverns, where, without their seeing anyone, they hear the voice which reveals the virtues of the miraculous medicinal plants and herbs, as well as the methods of preparation and the proportions of component substances which are effectual for producing different results, beneficial and harmful.

For these communications they use the sap of the herb "*vilca*" (5)  
 which is found on this mountain of Gunoledam, as well as in America drinking a potion of this, they hold communication with the devil or with this Putry, who, like the  
 LUCAN Thessalian Eritho, magician and sorceress, or like Syrce the enchantress, changed from the form of a woman to that of animals and birds, according to the doctrine of Tages (6)

The wild Banuas in the same manner, and using the same art and formulae, transform themselves from human form into tigers and lizards or crocodiles, and other animals, birds and fishes, besides being sorcerers who know what is remote and distant, like the sorceress of Tuscya who disclosed things which were happening in places far away. (7)

In this connection I will mention the first Bishop of Malaca, (8)  
 Dom Jorge de S Lucia, whose virtues should always be exalted

He wished to stop the great injury done by these wild Banuas from the interior who changed themselves from men into tigers ("arymos"), came by night to the town of Malaca, and killed unresisting children and women. He purposed to excommunicate them, and offered up prayers in public in the Cathedral Church

Then, after the High Mass and after the procession at the Feast of the Assumption of Our Lady Protectress of this fortress, he solemnly excommunicated these tigers ("arymos").

From the moment of the excommunication, the tigers have never again entered the villages nor killed a man, woman, or child

For this the Christians gave thanks to God

The infidels and Mouros were astounded at this miracle, and (9)  
 many Chelias, idolatrous natives of Malaca, were converted, in the (10)  
 year 1560.

## Chapter 16. CONCERNING THE MALAYO SEA.

The Malαιο Sea, properly speaking, is the land-enclosed sea between the mainland of Ujontana and the Golden Chersonese: it is the sea of the gulfs, that is, the Sabaric and the Perimulic Gulfs, mentioned by Ptolemy in his Table.

And because this Malαιο Sea is situated between the two coasts<sup>†</sup> of Ujontana and the Golden Chersonese or Samatra, it is protected from the fierce Ocean waves: for the most part it is smooth and quiet, resembling the level surface of a pond: on the other hand when storms occur according to the position of the planets, this sea waxes furious, and destroys the boats upon the coast, without any possibility of saving them. As a rule these storms come from the north or north-west or north-east, but when they come from the south they are all the more violent.

(1) The tempests which occur are of 2 kinds, Ecnephia, and

(2) ΕΚΥΕΦΙΔΟΣ ΤΥΦΩΝ. Typhon, as Aristotle states in Book 3 of the Meteorologica, chapter 1: the ecnephia being a simple storm, while the typhon is a violent storm accompanied by a whirlwind

ARISTOTELI  
Bk 3 Meteor ch 1

Any movement of this Malαιο Sea is usually a furious disturbance, caused by the winds and tempests, as is remarked by Aristotle in Book 2 chapter 1, in the third part which deals with the movement of the sea: the direction is north-west to south-east, during the flow and the ebb of the tide through the straits lying between the two shores of Ujontana and Samatra.

ARISTOTELI  
Bk 2 ch 1

This Malαιο Sea appears to be the more clear and transparent because it enjoys the heat of the torrid zone: it differs from the thick and dense sea of the frigid zone and therefore pumice-stones and some kinds of coral are produced in this sea

(3) Storms arise with rapidity because the sea is nitrous and windy.

(4) The fishes of this land-enclosed sea are shad, very tasty, dorados, red fish, excellent Tagus-fish, seer-fish, pomfrets, rays, and dog-fish, besides a great quantity of lobsters, prawns, and cray-fish: the most numerous fishes are the "*laramparam*" and small prawns which the common people live in this land-enclosed sea one rarely finds whales, though there is no lack of sharks, nor of lizards or crocodiles.

(5) (10) One species of crab is found here which is not seen in any other part of the world, for this crab has a tail a palm long: it is called "*balancâs*": the shell is in the shape of a half-moon: on the convex side of the shell it has its eyes: underneath on the concave side it has legs like those of a crab: the stomach is full of roe in the form of round grains, of which a dish is made. It has a tail a palm long, resembling a three-sided nail with a point.

One always finds these "*balancâs*" coupled, male and female: they are scattered about the beach where the waves are breaking.

One also finds large turtles, 15 palms in circumference. (13)

When they wish to lay their eggs, they come from the sea to the beaches and sands, and here they deposit their eggs, which resemble the yolks of hens' eggs and have a thin, very soft shell. the eggs occur in large quantities and the people make their meals of them

From the covering of the turtle they obtain plates of turtle-shell as big as one's palm these constitute very valuable merchandise

One finds quantities of coral-branches, white and black, resembling plants growing on the rocks in the sea. (14)

It is said that amber occurs in the Malayo sea. this must be brought up by the flood tide from the ocean off Nicobar: for amber is found in the Nicobar sea, and the native Nycobares exchange it for cloths with the ships which sail through that channel (15)

It is worthy of note that in the month of October the Malayo Sea rises an ell higher than it usually rises during any other lunar month of the year. for this high tide floods the greater part of the country, like the summer flood in Egypt which so astonished Julius

LUCIUS CAESAR in olden times, as Lucan states in Book 10 of his *Pharsalia*

The cause is that in the Mountains of the Moon the Nile has great lakes of water, which, in the winter months of June, July, and August, are frozen up, owing to the cold which prevails on the mountains of such great altitude then comes the heat of summer and melts the ice the result is the flooding of the Nile and the inundation of Egypt

The same cause, namely, the waters from the Belor Mountains of the Scyths and Tartaria, (which are the highest mountains in the world and therefore contain the most water, as PLATO notes in the *Phaedo*), may be partly responsible for the inundation of Malaca, in the month of October, during the Asiatic summer, when the waters flow down through the Ganges (16)

But since the inundation of Malaca depends on the lunar conditions during October, occurring both when the moon is in conjunction and when it is in opposition, it is clear that it is the moon which is the cause of the flooding, since it is the source of humidity

ARISTOTLE at that point of the Zodiac, as is stated by PLINY Aristotle, who is followed by Pliny in Book 2 *Bk 2 ch 10, 2* chapter 10, 2 (17)

And experience shows that particular inundations occur in one area which do not occur in another area only slightly more than a league away, and in a locality where there is no river: which proves that waters issue from caverns in the main or the sea, particularly at the major conjunctions of Saturn and Jupiter, when the three planets begin to close together, as is stated by Alecabicio, Naboth, and other astrologers

## Chapter 17.

## CONCERNING THE NATURE OF THE LAND.

The land of Ujontana has a different nature from other countries in the same, the torrid, zone: as is clearly seen from its producing different trees and fruits.

Although the earth as a whole may be composed of a general terrestrial mass, cold and dry in its nature, that is to say, of a mass composed of small particles, mixed with water, and although there may be more of this mixture than of other elements, as Aristotle declares in the *Meteorologica*, Book 4 chapters 4 and 6, yet the globe as a whole is not entirely composed of a mass with a uniform nature: rather, it contains metallic patches, in some parts of one nature and in other parts of a different nature, varying in colour, and varying in hardness and density according as they contain more or less water, and according as a greater or less number of elements enter into their composition, as is stated by the philosophers.

This truth is exemplified in the difference between the fruits of Malaca and the arboreal produce and fruits of Indostan, India Intra-Ganges, Arabia, and Persia. for the land in each case has a different nature and mass or metallic patch and therefore the fruits of the one part do not grow in the other part which has a different nature, as experience shows.

Difference in zone cannot be the sole reason, because Ujontana, Indostan, Arabia, Africa, and America are all situated in the same, the torrid, zone: and each of these countries produces different fruits and arboreal products, varying in form and nature, according as more or less elements enter into the composition of the earth.

Then, as these mixtures vary, the earth is fruitful in one part and sterile in another.

So that the land of Ujontana, where the mixture is moderate and the heat watery and oily, produces delicious fruits and every kind of rice and grain, and marvellous medicinal plants, and scented sweet-smelling trees such as "*aguila*", "*calamba*", "*bejoim*", and camphor, besides a great quantity of gum and oils.

In places the earth produces a continuous stream of earth-oil, called "*Minhat Tana*", like the fountains mentioned by Piny and (1) the writers on America who describe the fountain or well of Copey in the Island of Lobos.

This land is mineral-bearing, because it contains more water than heat: for the water and its vapours transform themselves into metals, that is to say, metals are generated from the watery vapours, as Aristotle notes in the 4th book of the *Meteorologica*, part 2, chapter 16: and therefore Plato affirms that metal is generated from water.

ARISTOTLE  
4 *Meteor* 2 ch 16  
PLATO  
*Metal aquarum genera*

And as this land, in parts, partakes of a certain degree of hardness and is compressed, it produces stones, in accordance with the

ALBERT views of Theophrastus, Albert, and Aristotle.  
Bk 1, pt. 2, ch 14

So it is clear that the land of Ujontana produces these two kinds of substances in the ground, namely, fossil stones and metals, (as Aristotle declares at the end of the 3rd book of the *Meteorologica*), while the greater part of the country is semi-mineral.

## Chapter 18. CONCERNING THE FRESH CLIMATE OF MALACA.

The air in this district of Malaca is very fresh and healthy, quite the reverse of what was imagined by the ancient writers, (1)  
PTOLEMY Aristotle and Ptolemy, who maintained that the part of the world which lay between the Tropics of Cancer and Capricorn was very hot and fiery, especially the area lying within 12 degrees north and south from the Equator, which was appropriately called "torrid" on account of its fierce heat. This zone of land was regarded by the ancients as uninhabitable and deserted, whereas they did not know anything about it for Julius Caesar, an  
LUCAN astrologer and investigator of nature, was able to extend his discoveries along the Nile from the Tropic of Cancer only as far as the beginning of Ptolemy's first climate on the parallel of Meroe

It is in this zone in a latitude of 2 degrees 12 minutes at the point of the zenith where the Meridian and the Vertical intersect, that there is situated the happy land of Malaca on the continent of Ujontana. and it is our present-day experience of this land which leads us to form an opinion diametrically opposed to that of the philosophers.

For this country of Ujontana is the most fresh and pleasant in the world; we have a climate which is wholesome and vivifying, and suitable for the preservation of health and human life, with a temperate mixture of heat and humidity: but neither of these factors is so excessive as to be harmful or detrimental, for the heat is mitigated by the watery vapours, and, on the other hand, the heat mitigates the humidity caused by the showers and rains which prevail the whole year round, according to the lunations, in this region.

In consequence of this humidity there arise vapours and exhalations which form the rain-clouds which deaden the heat by continual shade: for, as a rule, the sky is covered and overcast with clouds, so that the land is well shaded, humid, quite damp, and fresh, with excellent airs and delicious breezes, as Aristotle remarks in Book 1 chapter 9.

In consequence of this freshness, some people have imagined, without stating it dogmatically, that the Paradise was situated at the Equator.

As the land is nitrous and windy, it is very subject to storms, both minor storms called "Ecnephia" ΕΚΝΕΦΙΛΟΣ and major storms called "Typhon" ( ΤΥΦΩΝ ), the latter we usually call a "Typháo" or furious tempest, and when it occurs, there are always wrecks at sea, and destruction and ruin on land; it travels with such fury and violence that it tears the roofs from the houses and uproots trees, and sometimes the boats are flung from the sea upon the land, on to the fields of the country.

Being almost on the equator, this country enjoys double seasons: there are 2 high solstices at the beginning of Aries and Lybra, and 2 low solstices at the beginning of Cancer and Capricorn.

Consequently it enjoys 2 summers when the sun stands at the equinoctial points and it enjoys 2 winters when the sun stands at the points of the Tropics of Cancer and Capricorn, as is explained by Alfragano. Although there are showers and rains during all the lunations throughout the year, the winter times at Malaca when the biggest rainfall is experienced occur in June and December at the low solstices, and the hottest temperatures occur in March and September at the high solstices

ALFRAGANO Although the philosophers and Alfragano attribute these solar phenomena to the high and low solstices, yet experience shows some variation in the climates of different longitudes at the equator: thus, in Indostan in India Intra-Ganges winter time occurs on the western coast in June, July, and August, while during the same period it is summer time on the other or eastern coast, one coast being separated from the other by a distance of 50 leagues longitudinally.

So the variation cannot be attributed to celestial causes, but is rather due to a terrestrial characteristic, namely, the direction of the wind, for on the western coast winter occurs with the south and west winds, while on the other or eastern coast of Indostan winter comes in with the north and east winds.

Experience shows that at the meridian of Malaca winter begins in the most southerly region with the advent of the southerly winds: for winter is first enjoyed in the region of Tymor situated in 10 degrees of south latitude in March, April, and May: later on winter is enjoyed by the countries on the equator, such as the inhabitants of (2) Malaca, called "Amphicians", in June, July, and August: during this same period winter is enjoyed by the more northerly latitudes as far as the Tropic of Cancer: thence the winter passes to higher latitudes beyond the Tropic in September, October, and November, until it reaches the Arctic Circle and the coast of the Frozen Sea and the Promontory of Tubin in December, January, and February.

The longest day at Malaca is 12 hours and 6 minutes, the day and night being almost equally long.

The Antipodes of Malaca are in Popayana, in that part of (3)  
 [America which is called Peru

## Chapter 19.

### CONCERNING THE MEDICINES.

The ordinary medicines of the Malayos, for use in fevers and (1)  
 other ailments, are the roots of plants, and miraculous herbs, and  
 things taken from birds and animals, especially horns, claws, and  
 stones.

The doctors whom they employ are for the most "*Dayas*," (2)  
 female physicians who are excellent herbalists, having studied in the  
 schools of Java Major

These "*Dayas*" physicians employ these plants and herbs in the  
 form of plasters, and syrups, and poisons, or pills, in order to relieve  
 the distress caused through illness by means of heating or cooling  
 roots.

As a rule they grind or pound these roots or leaves of wild plants  
 and herbs in a mortar, and mix them all up into a paste for plaster  
 or pill that is to say, either a simple paste of one substance or a  
 paste composed of various different substances, both for use as  
 plasters and unguents, and for use as potions and syrups or pills,  
 choosing the nature of the herb with regard to the humour of the  
 infirmity, and with regard to the age of the moon, following the

GALEN doctrine of Galen, Book 3 chapter 6.  
*Bk 3 ch 6*

From the furrows on the face of the patient they recognize  
 maladies which will be fatal

From the throbbing of the temples they distinguish between  
 illnesses which are acute and rapid, and those which are chronic and  
 lingering, and they recognize the crises and the endings of illnesses  
 by the breathing or the weakness of the invalid, following almost

exactly the prescription of the Centiloquio of  
 Ptolemy, and the rules of Galen, Book 3  
 chapter 6  
 GALEN  
*Bk 3 ch 6*

Moreover, certain apprentices of the wild Banuâs act as doctors,  
 for they understand the properties of all the miraculous herbs and  
 plants in curing maladies they make use of incantations, as though  
 their medical treatment depended on magic and diabolical arts, for  
 at the first glance they recognize the interior ailments of the human  
 body.

The plants and herbs which they ordinarily use in their medi-  
 cines are the following. clove, nutmegs, cinnamon, pepper-corns, long (3) (4)  
 pepper, "*betre*", saffron-root, saffron-flowers, ginger, "*lan'oas*", (5)  
 another and hotter kind of ginger, "*conchor*", "*bancalê*" "*dringo*," (6)-(8)  
 "*pulacary*", canaphistola, "*tamarindi*", "*cayoular*", "*cayotay*", (9)-(11)  
 and innumerable other roots about which a special treatise could be  
 written.

Some of these plants are very hot, like the burning "*lancoas*"; while others are only slightly hot, like the aromatic "*betre*"; others again are cool and temperate.

All these they use in their mixtures and concoctions, to allay and mitigate heats or colds, following in some cases the rules of Galen.

- Among the miraculous roots is the "cobra-wood" of Malaca, which has such virtue and excellence that it makes the serpent do obeisance at the mere sight of it: as happened at Malaca; by the river was a serpent or cobra 12 fathoms in length, which came down from the jungle to drink at the river after having swallowed a deer which it had crushed to death at the foot of a tree; on its return it met a Malaio carrying this "cobra-wood" root, when it bent its head in motionless obeisance, then some Monancabos came up, beat it to death, and took it to the Governor at the fortress; 35 sailors (12) carried it on a "*pinga*"; that was in the year 1560.

## Chapter 20.

### CONCERNING THE SORCERESSES.

- The sorceresses make extensive use of herbs, plants, trees, and animals for their enchantments and transformations, in which they
- (1) employ the magic formulae of Tâgos: thereby they inflict a great deal
  - (2) of harm, especially the witches who kill infants before their baptism on the fifth day after birth, or while they are still *en ventre sa mère*, by bewitching them and piercing them with a death-dealing wind.
  - (3) To avoid this harm, the natives are accustomed to hold a feast in the house where the birth took place, summoning parents and friends to keep watch and guard on the fifth day after the birth, as though this day were critical and ominous, pregnant with the germ of future good or evil for the child: for this is usually the critical day when harm or death comes to the child, being prior to baptism which takes place on the eighth day after birth.
  - (4) These sorceresses who are enchantresses, witches, and cheiro-mantists, apprentices of the wild Banuâs from the cave of Gunole-dam, by means of magic incantations compel the obedience of lizards or crocodiles, elephants, tigers, and huge cobras and serpents: and they can capture and kill these animals as did the enchantress from the Hinterland who bound herself by a promise to deliver the town
  - (5) of Malaca from a lizard of the river of Chim, which killed the people, and for so doing she received a reward.

Other enchantresses transform themselves from women into the forms of lizards and other animals and birds, in order to do evil, like the ancient Syrcé.

- Some of these enchantresses were captured and excommunicated (6) by the Bishop of Malaca, Dom Jorge de S. Lucia.

There are other kinds of sorceresses or witches, called "pontcanas", who are usually found hanging in high trees and poplars or "budes": these "pontcanas" are said to be the women who have died in childbirth, and are therefore the enemies of men. these "pontcanas", particularly, ought to the demons, because their backs open out into flames. (7) (8)

This magic art was never approved by the ancient idolaters: in former times, it was punished by the Emperor Nero, and it was particularly discouraged by the Pontiffs of the Church and the Christian Princes, as an abominable art which should be repressed in the commonwealths of the world.

I cannot refrain from mentioning how on two days at the points of the equinox, especially at the equinox when the sun enters the sign of Libra, on the day called "Diváltv", the trees, plants, and herbs possess such power and virtue that they are compelled to speak, disclosing each one its properties as a potent and curative remedy. For this reason some persons lurk in the woods on that night, to learn the virtues of the herbs: and I have been so informed by many persons who found themselves by chance in the woods on that day, how the plants raised their voices at the moment of midnight: but this would appear to be the work of the devil. (9)

## Chapter 21.

### CONCERNING THE MAUMETA FAITH.

The faith adopted by the Malayos is that of Mahameth, corruptly Maffamede, they have all been Mouros from the time of Permicuri, the first king, to the present day. For the faith of

YIAR 617

*Chronicles of  
Arabia*

Mahameth arose in Arabia in the year 604 after the birth of Christ Our Saviour, spread in the following year through Arabia, Persia, Indostan, the Ganges, and part of Africa, and later was preached in India Extra-Ganges and Meridional India in the year 709. Marco Polo the Venetian, during the voyage on which he touched at Meridional India or Java Minor on the Tropic of Capricorn, met Mouros at the sea-port of Ferlech in the year 1295. (1) (2)

Moreover the faith of Maumeth was accepted in Patane and Pam on the eastern coast of Ujontana, and in certain islands of the Aromatic Archipelago, especially at the port of Bantan in Java Major.

Later it was accepted and encouraged by Permicuri at Malaca in the year 1411.

It survives until the present day, but in a debased form and without being strictly observed, among the Malayos of Ujontana, of Jor, and Batusavar.

- (3) These Mouros break the precepts of the Alcoram, for they retain the use of wine and pork, which is prohibited by this faith, and they are little inclined for ceremonies and observances; they are entirely taken up with amusements and luxuries; very few understand Arabic, and they scarcely ever study the writings of the Alcoroés, except it be some "*Mula*" or "*Casis*" from Arabia.

- (4) (5) So that the faith was accepted at the sea-ports, with its veneration of Mahamet, son of Abdala, an idolater, and of Imyna, a Jewess, as Garibay states.

- (6) While in the Hinterland there were idolaters practising the idolatry of the Bragmanes, descendants of the Perumal who was born of a cow: their histories tell of Perumal, from whom are descended the peoples of the world, as from Adam. they assert that the Bragmanes were born from his head, the Rajás from his breast, the Chettis from his stomach, and the common people from his feet.

- (7) It is to be noted that, generally speaking, all the idolaters and heathen in the Indias practise two kinds of idolatry. the first kind is the worship of the heavens and the elements, fire, air, water, earth: the second kind is the worship of statues and tombs, and distinguished persons, and animals, and birds, following the idolaters of Greece, Rome, and Egypt: for at Athens in Greece they worshipped the "*sabbia*", and the raven, and the cock and at Rome in Italy they worshipped Februa the goddess of fevers, and the ram Amon, and the goose of Trapeia and in Egypt they worshipped the dog of Osiris.

The idolaters of the Aromatic Archipelago hold this heresy about souls, that they are immortal because from one dead body the soul passes to another body produced by conception in the womb: this heresy appears to be generally held among the heathen, as the Venerable Bede mentions

This heresy brought luck to a native of Malaca who was at the port of Tymor.

As he bore a facial resemblance to the dead brother of the King of Camanaca, the King welcomed him with tears in his eyes, as though it really was his dead brother maintaining that it actualy was he, because the dead man's soul had transmigrated to him. so he received him like a brother, and gave him what he needed, and made up his cargo of sandalwood, whereby the Malacano was enriched.

And they maintain yet other ridiculous heresies, for they allege that the human race is descended from animals, birds, and plants as for instance that the Perumal was descended from a cow. For their histories maintain that the family of the Kings of Gilolo and Maluco was born from the eggs of a cobra or serpent, and the Kings of Lubo in Macazar from the pith of a bamboo from the clumps, and other people from stones, and from particular things of no consequence. these stories resemble the *Metamorphoses* of Ovid.

So we finish our brief account of the faiths of Mahameth and Perumal.

## Chapter 22.

## CONCERNING THE MINES OF UJONTANA.

So far as our discoveries and our knowledge of the country extend, the mines of Ujontana are as follows.—gold, silver, mercury, tin, iron, precious stones, semi-minerals, nitre, and colours. (1)-(3)  
(4)-(9)

While Pliny in Book 33 chapter 4 deals extensively with gold, and in chapter 12 with other metals, the Scriptures too in the Book of Job, 28, deal extensively with these metals, showing how silver draws certain properties and elements from its veins, and gold has a certain place where it accumulates, and iron is obtained from the earth by mining, and stone when dis-integrated by heat is converted into copper.

For metals are like plants which are hidden and covered in the ground, and there is some similarity in the manner in which they are produced, for one finds branches and trunks from which they extend in large and small veins, having internal connection and correspondence, hence, in a way, it seems that these metals grow like plants, not that they have real vegetative growth and the inner life of plants, except as regards their mode of production in the earth, for under the influence of the planets and with the passage of time these metals increase in quantity they are usually found in barren and rugged lands as though such lands formed the nutriment of metals, while fertile land forms the nutriment of plants. (10)  
(11)

Nevertheless in Ujontana we find metals in a land which is fresh and covered with trees in consequence of the continuous showers and rains, and this fact differentiates it from the mineral lands of Europe for instance, there is the district containing the gold mines in Pam, where the gold appears as grains in the stone, while sometimes gold is found as a thick golden stick, like the gold which the King of Lao offered as a present to João da Sylva, Governor of Malaca, in the year 1590.

For the country of Ujontana is mineral-bearing: and besides mines of gold, silver, mercury, "*calem*", tin, and iron in great abundance, it also contains mines of nitre and red lead and other colours and there is a large quantity of precious stones, topazes, with traces

of diamonds and emeralds, as Pliny points out in Book 37 chapter 5 and Book 3 chapter 4  
Pliny  
Bk 37 ch 5  
Bk 3 ch 4

Moreover, in the neighbouring islands one finds gold in great quantity, besides other metals and minerals and precious stones, for instance in the Golden Chersonese or Sâmatra, in the district of Campar and Priamon where the Monancabos live, also in Macaçar in the Celebes and at Bazarmacem in Borneo, where the most prolific diamond- and topaz-mines exist on the river of Sucadana. (12)  
(13)  
(14)

Finally, a quantity of gold and "*Tombaqa*" is found in Timor. (15)

- (16) The gold occurs in the form of grains, and also in the form of  
 (17) dust in the earth-quarries: these metallic earths are washed with water from the river, when the earth is rejected and the gold is recovered.

The sands of the rivers in Campar are found to contain gold when they are washed.

- (18) Gold also occurs in mines of red stone, such as those of Gelé in Pam.  
 (19) Above all, gold is found in mines of red sand at Sylata: in this case the gold is recovered by a process of smelting and not by washing.

With regard to silver or silver ores, the people do not utilize them, either from ignorance or because of the toil involved in the smelting process as understood in Europe. The same thing applies to mercury: although they do make more use of this, especially in the very prolific "*Calem*"-mines in Perath and Calan, and many other parts.

## Chapter 23.

### CONCERNING THE WATERSPOUT.

- (1) The waterspout, well known to mariners, is a white column-shaped cloud which reaches down from the altitude of the clouds till it drinks in the sea, from which this column by a secret force imbibes the water little by little and draws it up to the heights, swelling and enlarging the column through the part which is full and satiated. when the column is entirely saturated and quite full of water, the columnar waterspout recedes and incorporates itself in the clouds, and the salt water suddenly extends visibly over the film of the clouds, and is dissipated in raindrops, as our experience demonstrates, contrary to the opinion of Aristotle, who  
ARISTOTLE asserts that the rains are derived solely from  
Book 1 ch 9 vapours, Book 1 chapter 9

Others maintain that the rains are caused by winds, because the south winds cause showers and the north winds aridity and drought: we find winds of both kinds in these parts of the Indies.

It cannot be doubted that the saltness or bitterness of rain-water is chiefly due to terrestrial influence: some rain-water is poisonous and death-bearing, causing the death of cattle: these and other differences in the nature of rain-water are due to the differences in the vapours, terrestrial, marine, or mixed, which are raised by the influence of the sun and stars to the heights of the aetherial regions, in the same manner in which, by some secret influence, the water of the sea rises to the heights in the columnar spout of cloud.

One sees clearly by actual experience how the white columnar spout descends from the clouds until it drinks in the sea, and then the spout recedes, black, saturated, and full of water: and afterwards the whole canopy of clouds contracts until there is a big shower of sweet water without the least taste of terrestrial salt inmixed.

I met with these columnar spouts, while making discoveries in Meridional India, right up as far as the gulf of Nicobar and the ocean of Ujontana: they also occur in other parts of the south as usual marine phenomena.

It seems to be a very marvellous thing: it usually happens because at sea there is a deficiency of thin terrestrial vapours; so at one gulp the columnar spout raises the heavy salt water; then this water generates vapours, airs, and clouds till the whole is one heavy mass: thus functions the Carybdis of the waterspout, imitating the Carybdis of the sea who withdraws and sucks the water to the cavern in the centre of the earth.

## Chapter 24.

### CONCERNING THE BORE.

NATIVES                      The bore in the waves is a disturbance of the (1)  
 sea: there occurs, as it were, a seething of the  
 water, in consequence of which the sea breaks into flowery wavelets:  
 it covers the space of an Italian mile and for this distance nothing  
 can be discerned except this flowery effervescence of the sea, while  
 the surface of the ocean all around is as level as a pond, without  
 any flowery waves.

This bore travels from place to place, either carried by the Ocean current or impelled by its own individual motion: at first sight it looks like shoal-water; yet the boats often pass through the bore.

The fables of the Malayos aver that souls are travelling over the ocean from one part to another, or passing, as in "*caffilas*", (2)  
 from the Golden Chersonese or Gunoledam in Ujontana to the River Ganges, whose waters are regarded as sacred: the Ganges is the object of the highest veneration among the people, for they think that at its sources there lies a certain paradise which is the resting-place of souls, like the Elysian Fields sung by the poets and mentioned by Plato. The same thing is maintained by the Bragmanes, (3)  
 magicians, of Bisnagar, who ascribe immortality to the inhabitants of Casin, at the sources of the Ganges, where the head of Ramaraya, Emperor of Canara, is buried, that he may enjoy immortality in that lagoon of ghosts and spectres.

## Chapter 25.

### CONCERNING CHRISTIANITY.

Directly after he had conquered the kingdom of Malaca, and founded the fortress for the defence of the State, in August, 1511, Afonço de Albuquerque began to work for the enhancement of Christianity, and to favour all those who desired to be baptized and to enter the bosom of the Church, as did the faithful "*Bendara*" and his family: from then until now their house has shown great

loyalty to the State and to the Christian religion: and at the present day his son the faithful Dom Fernando serves in this same office of "*Bendara*".

Moreover, baptism was accorded to many Chelis, merchants and farmers, some of whom were worth 10 or 12 "*bates*" of gold, and to many natives and

*Damian De Gocs*

strangers, so that the Christian faith grew strong in Ujontana and the Golden Chersonese, and in the Aromatic Archipelago of the South.

Thus in consequence of commercial intercourse and of this good example neighbouring countries sought baptism and tendered obedience and vassalage to the King Dom Manuel of Portugal.

On his death there succeeded to the throne of Portugal the Prince Dom Joao the Third, who in the course of his administration ordained what was necessary for the service of God and for his royal State.

In particular, for the extension of Christianity in the Indies, he despatched the Very Reverend Master Father Francisco Xavier, of the Order of the Company of Jesus, to be administrator of the Christian organization.

(1)

CHRONICLES AND  
LIFF, 6  
*Father Fr Xavier*

The latter left Portugal for India in the year 1542, in the company of the Governor Martim Affonço de Sousa, and proceeded to the port of Malaca, where he was informed of the desire entertained by the Kings of those parts to receive the baptism

(2)

To that end he took ship and baptized the Kings of Maluco and Ternate, and the neighbouring Monarchs. As he was not able to accede to the call of all, he despatched as apostolic nuncius the Reverend Father Vicente Viegas, administrator of Malaca, to visit and baptize the other Kings and Monarchs of the Aromatic Archipelago, for he himself was on his way to China and Jappaó, where he died in sanctity after performing miracles.

(3)

Father Vicente Viegas set out from Malaca in the boat or junk of Antonio de Paiva: he went from port to port visiting and baptizing until he came to the port of Machoquique in Macazar, where he was well received by the Kings of Machoquique and Supa. they at once granted permission to the Father to build his church in the sea-port of Machoquique; and the Father Vicente Viegas and the Portuguese commenced the establishment of the hermitage of S. Raphael in the month of February in the year 1545.

Here, at a later date, the Kings of Machoquique and Supa, after being thoroughly instructed in the doctrines and catechisms, were baptized with great solemnity: namely, Dom Juan Tubinana, King of Supa, and his Queen, Dona Archangela of Linta, together with all their children, particularly Dona Elena Vessiva.

Moreover, Dom Manuel of Linta and all his royal family, with a view to being baptized, moved from the district of Supa and Lynta to the port of Machoquique, and stayed in the royal palaces of his

cousin Lapituo, King of Machoquique and Tamalina the Queen, who had both been instructed for baptism, in the same year 1545.

To ensure a better understanding of this story, I will give the account of their conversion to Christianity as it appears in the writings of the Reverend Father Domingos Godinos de Eredia, master of the school attached to the see of Malaca, it runs as follows. (4)

I, Father Francisco Luis, Archdeacon, Provisor, and Vicar-General of the see of Malaca appointed by the very Reverend Chapter during the vacancy in the see, &c, certify that among the papers which I received from the archives of the see of Malaca, I found an authentic account of the introduction of Christianity in Macazar, written by the Reverend Father Domingos Godinos de Eredia master of the school attached to the see: this authentic account has since been lost, but I made an accurate reproduction copied word for word as written below this copy I have handed to my brother Manuel Godinho de Eredia, and as he has asked me to authenticate the affair in order that this act of Christianity might prove for the greater service of God, I swear by the most sacred things that this is the whole truth.

Bertholemeu de Martinho, ecclesiastical writer, was instructed to write this at Malaca on the 16th of August in the year 1605.

*Account of the beginnings of Christianity among the Kings of Macazar, established during the Pontificate of Paulo the Third, in the year 1545, written by Domingos Godines de Eredia, Master of the School attached to the see of Malaca*

The Licentiate Vicente Viegas, Sacerdotal Administrator of the Church at Malaca, on the request of the Kings in the Province of Buguis in Macazar, embarked in a junk with some Portuguese and set out from the port of Malaca in the monsoon of January. after a prosperous voyage he reached the sea-port of Machoquique on the first of February in the year 1545: here the Administrator and the Portuguese were well received and treated by the King of Machoquique, Lapituo, and by Pasapio and the other kings in the district of Supa and Lynta, who had betaken themselves to that port to be baptized. By permission of Lapituo the Father Administrator built the hermitage of S. Raphael, where with great solemnity he baptized the Kings of Supa and Lynta, namely, Dom Juan Tubinanga, King of Supa, and his Queen Dona Archangela of Linta, and their children, particularly Dona Elena Vesiva; he also baptized Dom Manuel of Lynta and his royal family: they all stayed in the royal palaces of his cousin Lapituo and of Queen Tamalina, who had both been instructed in the catechisms, in order that they might be baptized after they had been thoroughly taught and instructed in the doctrines.

When the time came for the junk to return to Malaca, at the moment of embarkation, when they had bidden farewell to Lapituo and his royal family, there occurred a disturbance and a riot in

- to the present day: owing to the bad counsels of his younger brother
- (5) Raja Benco, he had quarrels with the Portuguese, and extended a
  - (6) friendly reception to the Hollanders in another town, Batusavar, because the Portuguese, particularly the famous captain Dom Paulo de Lima, had destroyed Cottabatu in the year 1588.

## PART II.

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### CONCERNING MERIDIONAL INDIA.

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## Chapter 12.

### CONCERNING THE CERTIFICATE REGARDING THE CROSS IN THE DISTRICT.

- I, Father Belchior Figueira, Vicar of the Church of S. Lazaro in the district of Malaca, etc., certify that among the natives of the country it is a matter of public notoriety that at 5-30 a.m. on Sunday the 24th of November in the year 1602, the morning prior to the day of S. Catharina Virgin and Martyr, when more than 20
- (1) SUNEPUTAI Christians were on board a rowing-boat journeying from Suneputat to the landing-stage at the parish church of S. Lazaro, in order to hear the obligatory mass, by the just decision of God there appeared to them in the sky a most perfect cross, of a blue colour, deeper than the blue of the clear sky. the cross was perfectly symmetrical, as though it was artificially made judging by its apparent size and proportions, the actual length, including its rounded pedestal at the foot of the cross, would extend to approximately 3 fathoms, more or less: right at the top was the head-piece: from the upper side of the head-piece there sprouted green branches, resembling branches of marjoram. The cross was extended in the sky above the district of Malaca in such a manner that its pedestal lay towards the west and its head-piece towards the east.
  - (2)

This vision lasted for a little more than 2 hours. after 7 a.m., the cross faded before the brightness of the sun, and the figure of the cross disappeared entirely.

This occurrence caused astonishment as well as great devotion among the Christians.

Because this vision appeared in the region of the parish of S Lazaro at the time of the explorations in the district of Malaca, when the " Descubridor " Manuel Godinho de Eredia was making his discoveries, navigating the river in the service of the King, and because this was a notable incident which took place during the course of his enterprise, and because I have been asked by the " Descubridor," I affirm that this is the truth, for the greater glory of God: and I swear by the sacred gospels that it is my signature which appears below.

At Malaca, on the 6th of December in the year 1602.

FATHER BELCHIOR FIGUEIRA.

**PART III.**

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**CONCERNING  
CATAY  
(ATAY).**

*[Translator's Note --Only Chapters 3, 4, and 15 are translated:  
Chapters 1, 2, 9, 10, 13, 14, and 16 are epitomized Chapters 5, 6, 7,  
8, 11, and 12 are omitted ]*

**TABLE OF CHAPTERS  
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## Chapter 1.

### CONCERNING CATHAY.

\*[Cathay or Cattâ (the Attay of Pliny), was the empire of the Scyths (Chimscithas) of India Superior or Serica, today Tays or Oram Tays.

The dependent provinces of Tenduc, Tangut, Tebet, Cottam, Sim, and Mansim.

- (1) Cambalo, the capital, the largest trade-centre in the world.

The boundaries of Cathay. North, Tangut and the Desert of Demons or Stygian Lake, and Tenduc also called Jendu. South, Sim and Mansim. East, Corya and the eastern sea, also called the Mangic Sea or the Great Gulf. West, Thebet and Cottam.

The Indoscithas of India Superior (Serica) ruled by Preste Juan of India, a Christian monarch.

- (2) Chinchis, in 1187 A.D. chosen king by the Tartars of the Province of Tatar about the city of Coromoran, after defeating his overlord Joan Can or Huncan, successor of Preste Juan, subdues the ancient empire of Jendu or Tenduc, and takes tribute from Cathay and nearly all India Superior.
- (3) His successor Cublay the Great Cam sends his generalissimo Abayan Chinsam to conquer the province of China called Mansim or China Major by Ptolemy (today called Nanchim or Nanquim by the natives)

Facfur, king of China, flees to the islands off the coast, abandoning Mansim and its capital, Chinsay, to Cublay in 1268 A.D.

The three provinces of China according to the ancients, first, Sim or Chim; secondly, Mansim or Manchim, called China Major; thirdly, Coc Sim or Cochim, called China Minor.

The nine principalities of Mansim under Cublay: Yanum, Cuicheo, Quansi, Quantum, Unquam, Quianci, Nanquim, Foquien, and Chequean

- (6) Revolt of the Chinas, who not only recover Mansim, but cross the Coromoran River and subdue six principalities, Sienci, Honan, Sanci, Paquin, Xanctun, and Suchuon, in Cathay.

Construction of the Great Wall, 1,200 miles long, encircling Sienci, Sanci, and Paquin.

- (7) Today China is divided into two provinces, Mansim, and Patquin or Taygin: both provinces are governed by a Lord, "*Tutan*," Monarch

The nine principalities of Tanguc: Sachion, Camul, Chintalas, Succur (with its rhubarb), Ensina, Cergut, Ergimul, Singui, and Campion.

- (8) Christianity established in Jendu or Tenduc, where a sandal of S Thome is still venerated.

The five principalities of Tenduc: Gog, Magog (the Azure Country), Cindacui, Cranganor, and Jendu with the silver-bearing mountains of Idiffa.

An easy route from Indostan or Mogor by way of Quiximir,

[Alar, Meiro, the river of northern Tebet, and Lassam, to Cambalo  
This route through Tebet to Cottear or Cottam and Sim, by  
way of Queximir, was used by the Indostanos who travelled from  
Mogor and Queximir to Cathay and Sim and returned to Cambaya  
in 1611 A.D. during the governorship of Xech Abdoraen

The ancient route to Cathay was through Turcastan, the  
Desert of Lop, and Tangut.

Another route through Turcastan, Cascar or Carcan or Hircande,  
and Tebet to Cathay.

The easiest route to Cathay is through Indostan or Mogor,  
Queximir, Tebet, Aranda, and Cottan.

The name Cathay (Cathaio of Appian) derived from Attay, the  
name of a people living near the Attay or Altay mountains.

The ancient civilization and silk-manufacture of the Attayos,  
from whom are descended the Chinas, called by Appian Singi and  
Taygni, whence the names Mansim and Taysim ]

## Chapter 2.

### CONCERNING CHRISTIANITY IN CATHAY.

\*[Christianity introduced into Cathay by S. Thome or his (1)  
disciple in 69 A.D.]

The archives of the Chaldaean Archbishopric of Serra or  
Angamale mention Christians in Jendu (Tenduc) and Sim

The Christian Argones spread throughout Cathay Marco Polo (2)  
(bk 2 ch. 6) says a great part of Athay and Mansim was inhabited  
by Christians, that Mansim or China was governed by a Christian  
governor named Marsarsis or Marsalis, that churches were built in  
1268 A.D., that in the following year, on the request of Cublay the  
Tartar, two priests of Ancona, named Nicolas and Guilhermo, went (3)  
from Rome to Cathay by order of Pope Gregorio X

Garibay in his History of the Popes speaks of Friar Anselmo  
and his brother Dominicans undertaking the journey to Cathay

S Antonio speaks of Christianity in Cathay Christianity (4)  
flourished at Jendu. the bravery of the Christian Alans is proved by  
the fact that they were entrusted by Cublay the Tartar Emperor  
with the conquest of Mansim, as related by Marco Polo (bk. 2 ch.  
62) It was probably the Alans of Scythia, rather than the Goths,  
who entered Spain in 412 A.D.]

## Chapter 3.

### CONCERNING CHINA IN ATTAY.

PTOLEMY China was called Mansim or Mangim by (1)  
Bk 12 Ptolemy.

The province appears in his Table 12 of Asia, under the name  
of "Sinarum regio" or land of the Sinas. Appian in Part 2 of his  
Cosmographia names the Sygni and Taygni of Mangim; indicating  
1930] *Royal Asiatic Society.*

that Mangim or Mansim was divided into 2 provinces, Sim (Sygni) and Mansim (Taygni).

MARCO POLO The same division is made by Marco Polo the  
*Bk 2 ch 70* Venetian in Book 2 Chapter 70, where he describes the two Courts of Mansim, Asi or Quinsay, called "celestial" and Singui called "terrestrial".

Quinsay, or Sim Tay, also called Tay Sim, the Taygni of Appian, is the city today called Nan Sim or Nanquim while Singui is the Signi of Appian, or Sim.

Both these Courts of China derive their names from the fact that they are situated in the land of the Chinas, for "*Sim*" means eye", and the eye is a peculiar feature of this people.

In olden times the principal sea-ports of Mansim were Quinsay, in Nanquim, situated at 26 degrees of north latitude, and Zarten or Zarton, the chief centre of the spice-trade from the Indies, which must probably be identified with Canton, situated at the Tropic of Cancer, for the distance from the port of Zarton to the island of Zipangri or Jappon is 500 leagues, as stated by Marco Polo the Venetian in Book 3 Chapter 3.

The fact that Quinsay and Zarton were the ports from which the fleet of Cublay the Tartar set sail for Jappon indicates that there was no nearer port in the vicinity for the purposes of trade and inter-communication.

Coc Sim or Cochim China, as being a dependency of Mansim (although one might think it was a dependency of Sim), they called Coc Sim or China Minor

As for the province of Sim with its Chaldaean Christians, its existence was not known until it came to the knowledge of the "Descobridor" in recent years: the only known divisions of China were Mansim and Cochim China, and we knew nothing of Sim, situated on the western border of Mansim, until it was discovered in 1611 A.D. by means of a route through the land of the Indostanos. To recapitulate, China, or rather its people, is descended from the Attayos of the ancient Serica in India Superior of the Scyths these

PLINY Attayos are the Thyros and Tocharos spoken of  
*Bk 6 ch 7* by Pliny in Book 6 Chapter 7, and from them are descended the Chinas who are the Sygni and Taygni of Appian

That the Chinas are descended from the Attayos is evidenced by the name Laos or Attaos, a people living in Sim or Simlao, on the western border, or at any rate to the westward, of Mansim: Sim is a great province of which we possess no accounts.

In 1580 A.D., a large body of armed men from Sim, seeking to try their luck beyond the confines of their homeland, travelled along the rivers of that region until they arrived in Camboja, where, however, they met with total disaster, losing their goods and riches, including many pieces of gold.

These Laos or Sim Laos were the people who carried on communication with India Intra-Ganges and India Extra-Ganges, and had trading relations with Trapobana, called Ceylan or Simlao from

the establishment of intercourse with the port of Chinlao or Chilao, a great trading-centre in Attay.

The trade-route ran along the rivers of Tangut, Pegû, and Martavan. (2) (3)

#### Chapter 4. CONCERNING CATHIGARA.

PTOLEMY  
Table 12 Ptolemy in his Table 12 of Asia mentions the sea-port of Cathigara, one of the great trade-centre of the world, situated on the southern continent in a bay of the China region. Up to the present we have no further knowledge of this place, except that there is a certain white people who wear red tunics living on the continent of Lucach in Meridional India, almost at the latitude of the Tropic of Capricorn. (1)

It may well be that the port of Cathigara inhabited by the Chinas is in fact situated in those parts, for Appian in his Part 2

APPIAN  
Pt 2 of Asia shows that there dwelt in that part of the south the Fish-eating Chinas (these were the Athiopes) therefore Cathigara ought to be situated in the south

On the other hand it would appear that the bay belonging to the Chynas of Cathigara really belongs to the Chinas of Attay, who are "the Chinas Proper" of the world. So it may be that Cathigara is either the port of Qunsay or of Zarton

Most probably, however, Cathigara is the port in Coria called Cattacoria or Catticara, which means "Cattars of Coria" for these Corios were the principal merchants engaged in the trade with the Indias it appears from the history of the conquest of Malaca by Affonço de Albuquerque in 1511 A.D. that they came to Malaca in connection with the gold-trade

That trade was carried on from Malaca with Coria, China, Java, Macaçares, Gilolo, Banda, and Tymor, is quite clear from

DAMAO DI GONS  
Chron the writings of Diego Lopez de Siqueira,  
Chron Governor of the State of the Oriental Indias,  
JOAO DE BARROS  
Chron who made the discoveries of Malaca and Samatra  
Chron in 1510 A.D. in the time of the Viceroy Dom

Francisco Dalmeida

But he had no knowledge of the other trade which went southward, nor of the ancient traffic with Java Minor and with the land of Beach.

The port of Cathigara cannot be placed in the great island of Lucaantara in Meridional India, so prolific in gold and spices for while the "Iontares" and annals of the Archipelago of Java Major contain references to this Meridional India and Lucaantara, they do not mention any other trade-centre in the south; moreover, since the trade with the Indias is a matter of universal notoriety among all men both natives and strangers, the conclusion is that the bay of the Chinas and the port of Cathigara are situated to the northward in Attay, for from the northern ports came the ships, pilots, and mariners engaged in this trade.

**Chapter 5.**  
**CONCERNING TARTAR.**

**Chapter 6.**  
**CONCERNING BELLOR.**

**Chapter 7.**  
**CONCERNING THE LAND OF DARKNESS.**

**Chapter 8.**  
**CONCERNING THE DESERT OF DEMONS.**

**Chapter 9.**  
**CONCERNING OPHIR AND THARSIS.**

- (1)        †The situation of Ophir and Tharsis still unsettled after much discussion.

Robertho Stephano (Francisco Botablo) places Ophir in Christovão Colon's island of Hespahola, whence, from Cybao, 450 talents of very fine gold were taken to Solomon. Arias Montan (2) places Ophir in Perú others in various places, such as Sophala in Monomotapa.

More probable is the opinion of Josephus that it was a province of oriental India, founded by Ophir son of Jectan, mentioned in Genesis, Chapter 19.

The Scriptures, too, place Ophir and Tharsis in the far east.

Perhaps they were in the region of gold mentioned by Ptolemy in his Table 12 of Asia near the Ganges, where in his time was one of the great trade-centres of the world; for along the Ganges came the gold-traffic from the very high mountains of Negar Phirin. But I do not know if these were the high mountain called Sephar †

Perhaps the names Ophir and Tharsis are derived from Ophir and Tharsis, the best-known descendants of Sem and Japhet respectively.

Some think that Tharsis comprised Ethiopia, Arabia, and Persia, or Saba, Epha, and Madian (Psalm 44).

In the Second Book of Judges Tharsis is placed in Cilicia, for Holophernes coming from Assyria, reached the high mountains of Ange (perhaps the Taurus), destroyed the famous city of Miletus, and despoiled the sons of Tharsis and also the sons of Ismael, both those who lived on the confines of the desert and those who lived

over against the land of Celon. The conclusion is that Tharsis was situated in Europe, Africa, and part of Asia, while Ophir was situated in the other part of the continent of Asia. Both had a maritime commerce.

It appears from the books of Kings and Chronicles that the fleet collected by Josaphat at Asiongaber was intended for both Ophir and Tharsis.

The gold-mines which were Solomon's chief objective appear to have been in Serica (even today the best gold comes from Paguim)· apparently in Solomon's time, 1039 B.C., Serica and Attay were peopled by an effeminate race from Syria and Palestine.

It may well be that the route to Ophir or Serica ran up the Ganges, for in olden times the Indias traded with the hinterland and with the gold-mines in the mountains of Negar Phirin, mentioned by Pliny and Ptolemy as the Region of Gold

Later there grew up a traffic in the country of Pegu around the trading-centre of Baracura, where the river runs up into Tartaria

It is probable that in Solomon's time the land-route which took 3 years for the return journey was the old route across the Euphrates through Tharsis or Persia (once Pharsis) as followed by the tribes of Israel on their way to Arsareth, while the sea-route went as far as the Ganges, for Solomon had many products of the Gangetic area

The ten captive tribes travelled for more than a year and a half after crossing the Euphrates and came to Arsareth, but its site is not certain, they may, however, have gone to Cayra in the country of Belor. The name Serica appears to be derived from Syria, whose people founded it—most of the names, such as Gog, Magog, and Tyri, are Judæan

In Solomon's time the trade-route ran from Aziongaber in Idumea, along the coasts of Arabia, Persia and Indostan, to Cocho on the Ganges, thence by river to the gold-region, and through there to Serica.

The mariners in their rowing- or sailing-boats appear to have hugged the coast—they did not know of the magnetic needle—they had no astronomical instruments for finding their way across the Ocean

The boats sailing from Cape Chori to Taprobana were guided by the flight of birds—the boats which passed from the Red Sea to the Straits of Gibraltar were guided by the coast of Africa

Even in Pliny's time they did not know how to navigate the Ocean—they had discovered nothing beyond Europe, Asia, and Africa—they still thought that Thule was the farthest limit of the world

*Ptolemy makes it clear that in 163 A D the sea-route extended further, i.e. from the Red Sea along the coasts of Arabia, Persia, Indostan, Choromandel, Cocho on the Ganges, Ujontana, and the Golden Chersonese, until it passed to Meridional India*

Serica, the two Scythias, and India Intra- and Extra-Ganges are the Asiatic countries which have been longest known to Europeans ]

J. V. Mills.

## Chapter 10.

### CONCERNING INDOSTAN.

\*[In ancient times the provinces of Indostan, Turcastan, Astracan, and India Intra- and Extra-Ganges were tributary to Cathay.

Indostan (derived from "Indos" meaning "idolater" and "Tan" meaning "province") is today called Mogul or, corruptly, Mogor, meaning "shepherd", a surname given to the man who founded the monarchy of the Mogores, Tamerland, who conquered Bazacet the Great Turk. Tamerland married the daughter of Soltan Usem, King of Dely, of the tribe of Chacatta of Samarcand, once Turam (*i.e.*, Turca or Turcastan), and succeeded to the throne on the death of Soltan Usem in 1404 A.D. The province acquired the name of Mogor because Tamerland was the first king of the Mogores

The name Tamerland means "Tamer the Lame". From Tamerland descended the following kings, Miraxa (succeeded by Xaroc), Sultan Mahameth (succeeded by Oulogoboth), Sultan Abacayd, Amaxeth, Babor, Hamau, Equebar Zaladin Mahameth, and Nuzadin Mahamet Zanguir Paxagazi, who now, 1611 A.D., reigns over the Mogores

- Indostan or Mogor is separated from Turcastan on the north
- (1) by the mountains of Naugracoth (called by the Latins Imaus or Caucasus) on the south it is separated from the Decan and Orias
  - (2) and Orixa by the mountains of Gatte: on the east it is separated
  - (3) from Tebeth, Sim and Mansim and Cocho Pathanes by the mountains of Negar Pherin and the gold-bearing mountains of Prosonay and the river Ganges. on the west it is separated from Persia by
  - (4) (5) Caracone, Candahar, and the river Indo or Indi.
  - (6)

- (7) Purab, Cabul, Queximir, Bengala, and Sindi besides other districts governed by Rajus or Rajas.

All these kingdoms are at present governed by Nabobs under the authority of Patxa the Mogor king

From Dely, Tamerland's first kingdom, his successors conquered the other kingdoms of Indostan.]

## Chapter 11.

### CONCERNING TURCASTAN.

## Chapter 12.

### CONCERNING ASTRACAN.

### Chapter 13.

#### CONCERNING INDIA.

\*[India Major (Intra-Ganges) and India Minor (Extra-Ganges) are inhabited by Bragmenes,—Magi, idolaters and astrologers

The chief seat of the sect was in the peninsula of Gatte (Bittigo of Ptolemy) in the district of Lae. The Bragmenes' district of Madure was probably in Choromandel. (1)

Twelve families of Baneanes retired to Gozarate and the city of Tanna near Bombayn, where they built splendid pagodas (2) (3)

The Bragmenes also extend further to the east, for instance, to Indostan, and Cocho near the Ganges and Pegu (which means Pagou or Pagoda of Brama), whence Perumal sprang. their original sanctuary was in Tropobana or Ceylon. The Iogues and Veztheas wander round the Ganges region without having a fixed abode. these Iogues are probably the Gymnosophists ] (4) (5)

### Chapter 14.

#### CONCERNING INTRA-GANGES.

\*[India Intra-Ganges (India Major) extends from the Indo to the Ganges and from the Tropic of Cancer in the north to Cape Chori in Choromandel: further south is the island of Tropobana.

The peninsula of Gatte is called Balagate, from the mountains known as Gattes these should be Ptolemy's Bittigo, for names have changed, though the names of Choromandel and Malavar (the districts round Bisnaga and Calicut respectively) still survive: they are mentioned by Pliny and Marco Polo ] (1)

### Chapter 15.

#### CONCERNING EXTRA-GANGES.

India Extra-Ganges or India Minor runs eastward from the point where the tropic of Cancer intersects the river Ganges, as far as Camboja and the Mangic Sea or Great Gulf. In this division of India lay the trade-route, (the river-route to the hinterland of Cattay) with its trading-centres, one at the mouth of the river Ganges and another at the mouth of the river of Cosmim in Pegu (2) for it was along the river of Cosmim that the boats passed up to Cattay in olden times this latter trade-centre was named Baracura by Ptolemy in his Table 12 of Asia, where the district is designated "region of gold" This division of India also comprises the Golder Chersonese or Samatra, the mainland of Ujontana, and the islands of the Aromatic Archipelago

Chorographic tables of these islands have been prepared by Alvaro Pinto Coutinho, cosmographer.

**Chapter 16.**  
**CONCERNING THE CAUSE OF THE FIXATION**  
**AND VARIATION OF THE MARINER'S**  
**NEEDLE.**

\*       \*       \*       \*       \*       \*       \*

\*[Only in recent times was it discovered in Serica (Attay) that the magnetic needle could be used to denote the direction of the Pole Star.

\*       \*       \*       \*       \*       \*       \*

The compass-needle remains fixed at certain spots such as Cape Agulhas (Cape of Good Hope), at the Assores, at Cape S. Augustinho in Brasil, at Cape Chomorim in Indostan, and at Point Romania in Ujontana.

The compass-needle deviates towards the north-east in certain localities, such as off the coast of Spain and Africa in the Atlantic Sea

It deviates towards the north-west on the eastern coast of Africa and in the Indian Sea.

\*       \*       \*       \*       \*       \*       \*

Loadstones are found in large quantities in other places than the Pole, and especially in India Intra-Ganges and India Extra-Ganges

The loadstone can attract the needle not only to the north, but to the east, west, or south. wherever one may be, the loadstone attracts the magnetized point of the needle.

There are many kinds of these stones they are black, white, blue, grey, and cinnamon-colour: the last-named is the best, the white is the least good

The practise of magnetizing the needle to serve as a compass cannot be very old, it is not mentioned by Pliny or Ptolemy or the other writers or historians. Marco Polo had no compass when he made his successful voyage to Java Minor in the Austral Land in 1295 A D The discovery of the compass was made by the Seres of Serica and the Attayos, Chincheo Chinas, the great navigators of the Mangic Sea

This nation has always navigated the Ocean of India Intra-Ganges and Extra-Ganges and of Meridional India, for the whole area was tributary to the empire of Attay or Cathay (Serica)

In ancient times the mariners guided themselves by the Pole Star and Ursa Minor later they used the mariner's compass in a simple form: filling a porcelain or glass bowl with salt water, they placed on the surface of the water a magnetized tailor's-needle, which pointed to the Pole

I have known the Chincheos use such an instrument for navigating the Mangic Sea

It seems then that the discovery was made by the Chincheos: it passed into Europe in the year 1304 A D.]

At Goa, the 24th November, 1613

Finis. Laus Deo Optimo Maximo.

FINIS. LAUS. DEO.

*Journal Malayan Branch* [Vol. VIII, pt. I.

## NOTES ON PART I CHAPTER 1.

CHAPTER 1 Sir W George Maxwell's rendering of chapters (1)  
1 and 15, based on Janssen's French version, has been published in  
*JRASSB*. No. 60. (1911). p. 18 *et sqq.*

The present translation, based on the Portuguese transcript,  
will be found to differ on a number of points, though certain of  
Sir W George Maxwell's felicitous phrases have been preserved.

Town of Malaca. In the *Journal Asiatique*. Tome XI. 1918. (2)  
pp 393 *et sqq*, Ferrand collects the principal accounts of Malacca  
and references thereto in the European, Arabic, and Chinese authori-  
ties: some of the accounts are in French, however

One may also compare the following descriptions —

Eredia (1597—1600) in the REPORT ON THE GOLDEN  
(PERSONESE) p 228 *infra*

Resende (c 1638): *JRASSB* No. 60. (1911). p 3.

Bort (1678) *JRASMB*. Vol V. Pt. I. (1927). p. 9

"Malaca" This word, in the form 'Malākā', first occurs, it (3)  
would seem, in "the 'Kot Monthierabān' - or 'Palatine Law' of  
Siam, enacted in A D 1360"—a source of information "authori-  
tative enough to admit of no question." (Gerini *Researches on*  
*Ptolemy's Geography of Eastern Asia* (1909) pp 531 532).

The date, 1360, is not universally accepted, however The  
Chinese form of the name 'Moa-la-ka' (Amoy Hokkien, 滿刺加)  
dates from about 1403: the Europeans mostly write 'Malaca',  
with variants, 'Melequa', and 'Melacha' (Yule and Burnell,  
*Hobson-Jobson* (1903) p 544) the old maps have 'Malacca',  
'Malaca', 'Mellaca', or 'Mallaqua'

Modern French adheres to the spelling 'Malaca', and uses the  
expression 'presqu'île de Malaca' to designate the Malay Penin-  
sula, or, as it is now often called, 'Malaya' Letters addressed  
from France to 'Malaya' are liable to be despatched to Malaga in  
Spain

The use of the term 'Malaya' as designating the Malay Penin-  
sula dates back, it would seem, to the beginning of the seventeenth  
century, as the name 'Malleya' appears in a letter of Instructions  
(c 1614) from the East India Company (*JRASSB* No 54 (1909).  
p 82) apparently, however, the name was not then in common use,  
for we are told that the employment of the word 'Maleya' by the  
Dutch Governor-General, Van Diemen (c. 1640) was 'unusual'  
(*JRASSB*. No 67 (1914), p. 73), though Manrique (1640) writes  
'Malaya'. somewhat similar names 'Mo-lo-yu', 'Malayur' etc.,  
referring either to a part of the Peninsula or to a part of Sumatra  
occur in much earlier writers (Gerini. *Researches etc* (1909). pp.  
535—538)

The territory later called Malacca was at one time known to  
the Chinese as 'Five Islands' (五嶼 *Wu-hsü*), while the  
capital city of Malacca was "in former times called *Jakola*" (Gerini.  
*Researches etc.*, pp. 501.521).

1930] *Royal Asiatic Society*.

The Malay name is Mēlaka.

- (4) Means. Four derivations of the word 'Malaca' have been put forward.

First. Barros (1553) and Albuquerque (1557) allege a connection between 'Malacca' and 'Malayo' (Malayo), the point being that "in Javanese the word 'Malayu' signifies 'to run away', and the proper name has traditionally been derived from this, in reference to the alleged foundation of Malacca by Javanese fugitives."

Yule and Burnell (*Hobson-Jobson* p 544) quote Skeat as writing "The suggested connection between *Malayu* and *Malaku* appears impossible to me, and, I think, would do so to any one acquainted with the laws of the language."

Secondly. Albuquerque mentions an alternative derivation, which evidently refers to the Arabic 'Mulākāt' 'a meeting' The "*Malay Annals*" (1612) allude to this;

"The Arabs gave it the name of Malakat or the mart for collecting all merchants" (*Leyden's Translation*. (1821). p. 108).

This derivation "may be totally rejected." (Yule and Burnell, *Hobson-Jobson* p. 544).

Thirdly. Crawford is positive that the place was called from the word 'Malaka', the Malay name of the *Phyllanthus emblica*, or emblic Myrobalan. Yule and Burnell (*Hobson-Jobson* p 544) quote Skeat as writing "There can be no doubt that Crawford is right, and that the place was named from the tree" "The fact is that the place, as is so often the case among the Malays, must have taken its name from the Sungei *Malaka*, or *Mal'aka* River"

Fourthly. Gerini cannot credit the derivation from the name for the emblic myrobalan, and prefers to hold "that the name of Malacca is either a modification of *Malayakolam* or *Malavaku* (meaning the 'country of the Malayas'), or that it is identical with *Mālaka*, the name of the Southern Indian tribe mentioned in the Mahābhārata, like many others, on the soil of the Malay Peninsula" (*Researches etc.* p 105)

In connection with the reference to the "Malay Annals", 'Sējarah Mēlayu', above, it may be observed that "the Malay Annals" though dated A.D. 1612, refer to "the late Sultan Aladin Riayat Shah who died in Acheen". This reference shows that the book was revised some years later than 1612" (Wilkinson *A History of the Peninsular Malays* (1923), p 60)

- (5) Myrobalans. 'Myrobalan' is the "name applied to certain dried fruits and kernels of astringent flavour, but of several species which were from an early date exported from India and had a high reputation in the medieval pharmacopoeia" "They are still, to some extent, imported into England, but for use in tanning and dyeing, not in pharmacy" (Yule and Burnell *Hobson-Jobson*. (1903). p 607-8.)

- (6) Aerlele: i.e. 'Ayer Leleh' ('trickling water', Malay): cf. the "*Malay Annals*" (1612), "from Ayer Leleh .. to the entrance

of the bay of Moar was one uninterrupted market place" (p 323). The stream no longer exists, though the name is perpetuated, it would seem, in the present-day 'Ayer Leleh Road' in Malacca town.

Buquet China. *i.e.*, the modern 'Bukit China' (Malay), (7) 'Chinese Hill', called by the Dutch 'Boucquet China', 'Boukit China', and 'Bouquet China', "name of a hill just NE of Malacca town, connected in Malay history with Chinese settlers of the 15th century and now containing many Chinese graves."

Governor Bort says that the Portuguese called the hill St Francisco

The well at the foot of the hill produces water of excellent quality: this may have been the *raison d'être* for the Dutch guard of 13 men. (*JRASMB* Vol. V Pt I (1927) pp 20 31. 209).

The Chinese call the wells 三寶井 'Sampo-cheng' (in Cantonese), "Sampo's wells", in the belief they were dug by the well-known eunuch Cheng Ho (also called Sam Po) of the Ming dynasty (*cf* *JRASSB*. No 42. (1904). p. 159) At Kuala Lumpur and other places in the Peninsula there are said to be temples, known as 'Sam Po Kung' dedicated to the same personage, whose exploits now form the subject of a Chinese cinematograph film

Ujontana "This is the Malay name (nearly answering to (8) 'Land's End', from *ujung*, 'point or promontory' and *tanah*, 'land') of the extreme end of the Malay Peninsula terminating in what the maps call Pt. Romania. In Godinho de Eredia's *Declaracam de Malaca* the term is applied to the whole peninsula [*cf* Part I chapter 9], but owing to the interchangeable use of *u*, *v*, and of *j*, *i*, it appears there throughout as "VIONTANA"

The present translation employs the form 'Ujontana', following the translation published in *JRASSB* No. 60 p. 18.

The name is also applied to (1) "the lower part of the Malay Peninsula", (2) the Kingdom of Johore, as in Marsden's "*History of Sumatra*" (p. 345), where the author refers to "King of Ojong Tana (formerly of Bintang)", (3) in Barros (IV xi 13), the capital city

Pinto (*c* 1539) has 'Jantana', Galvano (*c* 1550) 'Jentana', Barros (1553) 'Ujantana', Botelho (1554) 'Ojantana', Resende (*c* 1638) 'Juntana', and Andrada (*c* 1664) 'Viantata'. (Yule and Burnell *Hobson-Jobson*, p. 950, *JRASSB* No. 60 pp 3, 11, and 18, *JRASMB* Vol. VI pt IV. (1928). p 58)

According to Leyden's translation (1821) of the "*Malay Innals*" (1612), the phrase 'Ujung Tana Besar', 'Great Ujung Tanah', was used to designate the 'Malay continent' *i.e.*, apparently, the Malay Peninsula. (p. 200).

The expression 'Ujong Tanah' would appear to be represented in the 'Ta-na-ki-seu' (答那漢嶼) of the *Wu-pei-pi-shu* chart, and the 'U-tang-ta-lim' (烏丁礁林) of the *History of the Ming dynasty*. (*JRASSB*. No 53. (1909). p. 155: Groeneveldt in *Essays relating to Indo-China*. Second series. (1887). vol. I. p. 254).

- (9) The Permicuri. The transcript has "aquelle Permicuri". Ferrand notes that this is really a feminine designation: in the REPORT ON THE GOLDEN CHERSONESE, however, Eredia speaks of "Parimicura" (p. 229 *infra*); *Permaisura* was "a pretentious Indian title" meaning 'king'. Wilkinson assigns to him the name of Muhammad Shah. (*A History etc.* pp. 29, 30).
- (10) First King of the Malays. In the DESCRIPTION OF MALACA (1613) Eredia refers several times to "Permicuri" as being the first King of the Malays: one concludes that he has abandoned the view which he puts forward in the REPORT ON THE GOLDEN CHERSONESE, that from its inception in the year 3 B.C. the Malay "empire" enjoyed an unbroken continuity, the seat being transferred from Patani to Pahang, Malacca, and Johore successively (*cf.* p. 231 *infra*).
- It is noteworthy that he impliedly repudiates the prior existence of any kings at Singapore.
- Valentyn (1726) alleges that the founder of Malacca reigned for three years at Singapore before commencing a further reign of 22 years at Malacca (*JRASSB.* No. 13 (1884), p. 67)
- According to Blagden, Singapore became independent of Palembang, under its own kings, about the year 1295 (*JRASSB.* No. 81. (1920), p. 25).
- (11) Malays. Eredia usually writes 'Malayos', frequently 'Malaios', and once 'Malaes'. The name is subject to many variations, Linschoten, for instance, writes 'Malayos', 'Malaiens', 'Malayers' and 'Malayen'.
- (12) So famous. The Portuguese called the city "A Famosa".
- (13) 2 degrees 12 minutes. The position of the Trigonometrical station at Bukit China is  $2^{\circ} 11' 55.13''$  N.  $102^{\circ} 15' 30.95''$  E
- (14) In front of the first climate. The Portuguese transcript reads "antes do primeiro clyma". One of the maps, hitherto unpublished, included in Eredia's TREATISE ON OPHIR shows the first climate to commence at  $12^{\circ}$  (South): presumably Eredia held the first climate north of the equator to commence at  $12^{\circ}$  likewise.
- In the 1508 Latin edition of Ptolemy (British Museum Map Department, c 1 d 5) a map purporting to be compiled "from recent observation" places the first climate and the second climate in  $15^{\circ}$  and  $22^{\circ}$  respectively: it is not clearly indicated, however, at what points they begin and end. Incidentally, this map provides an interesting commentary on the knowledge or lack of knowledge possessed by educated Europe about the configuration of India and Further India prior to the capture of Malacca by the Portuguese. not only does the coast of China run due south in true Ptolemaic fashion but a portion of this coast is marked "part of the island of Seylan", while Sumatra is labelled 'Taprobana alias Zoilon' and the real Ceylon is given the name of 'Prilam'.
- Java and Borneo are not indicated. On the Malay Peninsula four names are marked:—
- Malâquilcho*; whatever that may be: (? Ptolemy's *Malenkolon*):

*Malacha*; Malacca:

*Garsyv*, perhaps Grisek in Java, which appears to have been an Arab port of call in the 14th century.

*Gapara*; apparently Japara in Java, which according to Javanese tradition was visited by Chinese traders in the 10th century.

1411. In the REPORT ON THE GOLDEN CHERSONESE (15) Eredia gives the date as 1398 see p. 229 *infra*

The date still remains uncertain.

Ferrand discusses the question in *Journal Asiatique*. (1918). p. 459 *et seq.*; he finds a great diversity of dates given by the early writers, the 8th century in Correa, the first half of the 13th century in Barros, 1252 or 1253 in Valentyn, the first half of the 14th century in Couto, 1411 in Eredia, and 1420 in the Commentaries of Albuquerque he thinks that there is nothing improbable in Correa's statement, though the date cannot be precisely ascertained; and he would identify Malacca with Marco Polo's 'fine and noble' city. Dr. Blagden tells the translator that he thinks Malacca did not rise to be a place of any real significance until after the fall of Singapore (probably about 1377), though it may have been in existence, as a small wayside port, for some period before that time, he doubts whether we can safely follow the "*Malay Annals*" in asserting that Malacca was actually founded after the downfall of Singapore; he distrusts the alleged early references to the place in the Javanese history *Pararaton* and in the Siamese *Kot Monthierabān*

The earliest contemporary reference to Malacca occurs in the *Ying-Yai-Shêng-lan* of Ma Huan who relates that Malacca was visited by a Chinese mission under Cheng Ho in 1409 (Groeneveldt in *Essays relating to Indo-China*. Second Series. (1887). Vol. I p. 243), though the History of the Ming dynasty (1368 - 1643) records a Chinese mission under Yin Ch'ing in 1403. (Groeneveldt. p. 248).

(*f.* Blagden's article on Malacca in the *Encyclopaedia of Islam*. No. 39 (1929) p. 186

Malacca was preceded by Kedah [? Kra] and Pasai as the chief trading port in these seas. (*JRASMB* No. 77 (1917) p. 171)

See also *JRASMB* No. 86 (1922). p. 257. Rouffaer on the early history of Singapore, Johore and Malacca

The translator desires to acknowledge his great indebtedness to Dr. C. Otto Blagden for his invaluable assistance in connection with this paper

"Saletes." The word occurs in the forms 'Cellates' (Albuquerque (1557) and Barros (1553)), 'Celetes', 'Celezes', 'Seletes', 'Selletes', 'Salettes' (in Floris' "Travels"), and among the Dutch, 'Saletters' and 'Zaletters'.

"The name (in various spellings) was applied very early in the 16th century by the Portuguese to the sea-gypsies (Malay *orang-laut*) who wandered in their boats up and down the Straits of Malacca and only made more or less temporary settlements on shore." (*JRASMB*. Vol. V. Pt. I. (1927). p. 228). From

1930] *Royal Asiatic Society*.

Wilkinson's note (*A History etc.* p. 28) "said to mean 'people of the Straits (Selat)", one gathers that he was not convinced about the correctness of the derivation; indeed, he has elsewhere (*Papers on Malay subjects Aboriginal Tribes.* (1910). p. 25) suggested that the word 'Cellates' may be a corrupted form of the expression 'Besisi laut' (i.e., 'Sea-Besisi'). Moreover, Dalgado in his *Glossario Luso-Asiatico* (1919), written in Portuguese, comments that the Malay language, 'does not admit of such derivations' as 'Celetes' from 'Selat'. This is the usually accepted derivation, however.

Ferrand describes the word as 'a Portuguese neologism formed with the Malay word selat, strait'. (*Journal Asiatique* (1918). p 434).

Many of the early travellers comment unfavourably on the piratical tendencies of these folk.

Eredia stigmatizes them here as "a wild, cannibal race", and in the REPORT ON THE GOLDEN CHERSONESE refers to 'fishermen called 'Saletes', or Pirates, and Sea-robbers"; see p. 229 *infra*. Resende (c. 1638) while denouncing them as "evil-hearted and treacherous", accuses them neither of cannibalism nor piracy in his eyes their chief crime was that they acted as spies for the Dutch (*JRASSB.* No 60 (1911). p. 10)

Governor Bort (1678) speaks of Bencalis in Sumatra being visited by "the Saletters, a Malay tribe of very uncivilised people" he calls them "The Saletters or pirates" (*JRASMB* Vol V Pt. I. (1927). pp. 177 and 182)

Bowrey (1669—1679) says "The Saleeters are absolute Piratts and are often cruiseinge about Janselone and Pullo Sambelon" (*Countries Round the Bay of Bengal* (Hakluyt Society 1905). p 237)

They were still active in the time of Alexander Hamilton (1727), "Freebooters, called Salleiters, who inhabit Islands along the sea-coast, and they both rob, and take People for Slaves" (*East Indies.* Vol. II p 68 f)

Forrest does not appear to mention them by name in his *Voyage to Mergui* (1784); apparently at this time the name was no longer in use, the last quotation given by Dalgado is dated 1650

- (17) "*Soliques*". Resende (c. 1638) speaks of the Malays as fighting, among other weapons, with 'saligas': Teixeira writes 'selihles'. "The word is Malay—*seligi*. Malay boys generally make the head of a *seligi* of bamboo, cut to a razor-edge in the shape of a spear-head, and use it for spearing pelandok and napu" (*JRASSB* No. 60 (1911). pp. 4 and 13)

Annandale and Robinson say that the tail-stings of rays, reputed to be very poisonous, are used as dagger-blades by the Orang Laut Islam (Samsams) off the coast of Trang: they also speak of fish spears with a single prong as being in common use. (*Fasciculi Malayenses. Anthropology.* (1903). pp. 55 and 56).

Isthmus. "Biological and geological evidence combined indicate that the Peninsula was in recent times connected to the Archipelago, so that Sumatra, Java, Borneo, and the Peninsula were united to form a continent. The sea level then rose till the Peninsula was a group of islands, and subsequent recession of the sea took place later, which is believed to be still in progress at the present day." (*JRASSB.* No. 86. (1922). p. 256). (18)

Ridley says that Sumatra and the Malay Peninsula were connected by a land area which bore originally one continuous flora. (*JRASMB.* Vol. I. Pt. I. (1923). pp. 49—50).

Whether there ever existed such an isthmus as Eredia describes or whether Sumatra was originally separated from the Peninsula by a narrow river which gradually broadened, cannot be definitely affirmed. The probability is, however, that the separation occurred many thousand years ago, and that no land-connection remained in the time of Ptolemy (about 150 A D) as Eredia alleges in Chapters 3 and 12 of Part I (see pages 23 and 34 *supra*), or even in the time of Solomon (c. 1000 B.C.), as Eredia asserts in the TREATISE ON OPHIR (see p. 125 *infra*). The present-day chart does not suggest any obvious land-passage from Cape Rachado to Pulau Rupa; on the contrary a more probable land-connection appears to be indicated from Tanjong Bulus, or again from the islands off Port Swettenham, to the Sumatran coast: in fact, it has been said that "in the Malacca Straits the sea bottom shelves up by Singapore to the South and by Port Swettenham to the north. It may be compared roughly to the lower half of an Allenbury's feeding bottle."

In a region so close to the earthquake area, however, the present-day chart is perhaps a criterion of no great value.

Tanjontuan (Caborachado). "This Portuguese name apparently means "cloven (*rachado*) headland", Cape Rachado, a promontory on the coast of Sungai Ujong. on the W. coast of the Malay Peninsula, about lat. 2° 25' N. Its Malay name is Tanjong Tuan, "the master's cape". (*JRASMB.* Vol. V. Pt. I. (1927). p. 210). (19)

In Chapter 4 of Pt. I Eredia says it derives its name from the fact that it constitutes the burial-place of 'Permicuri'; he refers presumably, to the founder of Malacca.

It is an old animistic holy place going back to very ancient times and owing its origin to a simple natural phenomenon . . . at this cape two strong and opposing currents meet and cause a dangerous eddy or race in which boats are liable to be upset. Hence, "the Dattu Tanjong Tuan, the elder of Cape Rachado, is a saint of no ordinary celebrity among the sea-faring class of natives". (*JRASSB.* No. 53. (1909). p. 151) *cf.* Dr. Winstedt's paper on *Karamat* in *JRASMB.* Vol. II. Pt. III. p. 264.

The Chinese call the headland (in Cantonese) 'Tan-yung-tün' (丹元纒), or 'Tün-t'au' (纒頭) *i.e.*, 'Tuan headland', or 'Shang-la-t'ok' (生緯箍) *i.e.* 'living Datoh', meaning a

'stone joss'. These 'stone josses' are commonly found on prominent hills.

Designations such as 'Tanjong Tokong' ('Temple Cape'), 'Tanjong Kramat' ('Wonder-working Cape'), or 'Pulau Berhala' ('Idol Island') are common in Malayan waters: compare an interesting paper on Promontory Temples in the Mediterranean and Red Seas in classical times (*The Geographical Review*. 1927. p. 353).

- (20) Tanjonbalvala: *i.e.*, Tanjong Balvala. The word 'Balvala' cannot be explained, possibly it is a corruption of 'Berhala', ('idol', Malay), which the European travellers corrupted into 'Brallas', 'Barala', 'Varella' or 'Varela'. It was hoped that some clue to the word might be provided by the name 'Tokun Bavala Bangku', "a rock awash at low water, lying 2½ miles, 13' true, from the west extreme of Pulo Bunting, and 1½ miles from the shore."

Local enquiries, however, lead to the conclusion that 'bavala' here is not a corruption of 'berhala' but probably the Malay word 'hala' meaning 'direction'.

The translator is indebted to Mr. T. W. Clayton, British Adviser, Kedah, for making these enquiries.

No such name as Tanjong Balvala can be traced on, or in the immediate vicinity of Pulau Rupert on the east coast of Sumatra opposite Cape Rachado.

While speaking of the word 'berhala' one may mention that according to Barros the Portuguese corrupted the name Pulau Berhala into *Pulvoreira*, hence the name as given in Eredia's map (see p. 215 *infra*) is correct, and not a mislection as one might have imagined: Galvano (*c.* 1550) calls the Island *Poluoreira*. (*The Discoveries of the World*. (Hakluyt Society. 1862). p. 107).

The translator of Albuquerque's *Commentaries* designates it 'Powder Island'. (Hakluyt Society. 1885. III. p. 62).

Linschoten's map has Apuluoreira, while other writers have 'Pulo Verela', 'Pulo Verera', 'Pulo Verda', 'Polow Vararah', and 'Pulavearara'.

- (21) Samâtta. Gerini has examined in detail the various forms of the word: the Europeans have 'Samara', 'Samarcha', 'Sumoltra', 'Smohora', 'Sinohora', 'Summöltra', 'Sciamuthera', 'Sumatra', 'Zamatora', 'Camatra', 'Samotra', 'Samatra', 'Zamatri', 'Samotra'; the Malays and Arabs, 'Samadra', 'Sumutra', 'Samatra', 'Shamatrah', 'Samudara'; the Chinese 'Su-mu-tu-la' (速木都刺), 'Hsü-wên-ta-na' (須文達那), 'Su-mên-ta-la' (蘇門答刺).

In all these cases, the word contains the 'r' or a syllable 'la' or 'na' corresponding to the 'r'.

He mentions two exceptions, however: Parker in the *Asiatic Quarterly Review* for January, 1900, pp. 131—2, quoting two forms 'Su-mu-ta' and 'Sü-mên-na'. of the latter Gerini remarks "evidently a contraction of *Su-men-ta-na*" (Gerini. *Researches etc.* (1909), pp. 644—655).

It would seem then that Eredia obtained his information as to the correctness of the form 'Samatta' from Chinese who pronounced the name in this manner. In the eleventh century the Chinese appear to have known the island as 'Sumuta'. (*Journal Asiatique*. (1917). p. 335).

The confusion between Taprobane and Sumatra persisted long: Eredia himself in the REPORT ON THE GOLDEN CHERSONESE falls into this error (see p. 237 *infra*). he recants, however, in the DESCRIPTION OF MALACA when he states that by 'TROPOBANA' the classical writers referred to Ceylon (see p 38 *supra*). Governor Bort (1678) continues the error (*JRASMB*. Vol. V. Pt. I. (1927). p. 9).

Some writers, *e.g.* Newbold, have surmised that the identity of 'Taprobane' may have been obscured owing to the fact that Sumatra was connected to the mainland and formed the southern extremity of the Golden Chersonese

It is noteworthy that in the early writings Sumatra alone, or sometimes the area embracing both Sumatra and Java, is referred to as 'Yava'. (*c.* *Journal Asiatique* 1922. p. 243: *Encyclopaedia of Islam* Fasc I p 551 Gerini. *Researches*, etc (1909). p. 632 *et sqq.*).

"Golden Chersonese". Gerini points out that whereas Eratosthenes, Dionysius Periergetes, and Pomponius Mela (*c.* 50 A.D.) refer to the Malay Peninsula as *Khryse* or *Chryse Insula*, the "Golden Isle", Marinus of Tyre and Ptolemy (*c.* 150 A.D.) speak of it as the "Golden Chersonese" he thinks "that both designations are probably true, each in its own respective time: that is, that the Malay Peninsula, or rather its southern portion, has been an island before assuming its present highly-pronounced peninsular character". . . "the passage across it must have become impracticable soon after the middle of the first century A.D." (22)

Even after this, the trans-peninsular route "was anciently followed by a great part of the trade between India and the Gulf of Siam, in order to avoid the difficulty and dangers of a long sea navigation through the Straits". "the two harbours which formed the termini of the navigation on both sides, as well as the overland route that connected them, must have in consequence acquired great importance. And they must have retained their prominence for a long period until the advent of the Portuguese, and the introduction of more improved methods of navigation. But, notwithstanding all this, we find trade routes across the Malay Peninsula at the Kra Isthmus, and further north at Mergui, much frequented up to the middle of the eighteenth century." (Gerini. *Researches etc.*, pp. 77, 78, 80, 94).

The existence of the trans-peninsular trade-route probably supplies the clue to the activity in these parts during the 8th to the 12th century of the Sailendra kings of Palembang (*Sri Vijaya*) who, after establishing their thalassocracy in the Straits, assumed also to control the trans-peninsular traffic.

The *Ko-lo* (*Kala, Kora*, 哥羅) of the Chinese (Groeneveldt. *loc. cit.* p. 241) and the *Kalah* of the Arabs are probably to be identified with *Kra* (Kĕrah), and the *Tun Sun* (頓遜) of the Chinese (Groeneveldt. *loc. cit.* p. 239) with *Iennaserim*. (Ferrand. *Journal Asiatique*. 1918. Tome XI. p. 399: Tome XII. p. 89).

The political influence of *Srī Vijaya* over the region of *Ligor* and *Jaiyā* is proved by inscriptions (G. Coedès. "Recent Archaeological Progress in Siam" in *Indian Art and Letters*. N. S. Vol. I. No. 1. (1927). p. 64): this Sumatran empire seems to have been in close contact with the old Buddhist centre of *Nalanda* in *India* (W. F. Stutterheim. "Archaeological Research in Java and Bali. 1925—6" in *Indian Art and Letters*" N. S. Vol. I. No. 1. (1927). p. 75).

For the Kingdom of *Palembang* generally see G. Coedès, "Le Royaume de *Crivijaya*" in the *Bulletin de l'École Française d'extrême-orient*. Tome XVIII. (1918). No. 6. p. 1—36 (p. 23 "this Hinduised Malay Kingdom whose influence radiated, from *Sumatra*, over both sides of the Peninsula"), and G. Ferrand, "L'Empire sumatranais de *Crivijaya*" in *Journal Asiatique*. Tome XX. (1922). pp. 1—104 and 161—246 (p. 241 "the creation in *Sumatra* of a centre of Indonesian civilization which in the 8th century was ruled by a king *Cakravartin* whose fame extended until the 10th century as far as the locality of *Nepal*").

In connection with the evidence for the view that the Peninsula was once a series of islands which became connected through elevation of the land above sea-level, one may mention that both *Ligor* and *P'hattalung* which were formerly situated on the sea-beach are now many miles distant from it, and that the designation 'Pulau' ('island') is, or was, applied to places now far inland: for instance, *Pulau Sabang* (*Tampin*), and *Pulau Tunggal* (*Bukit Tunggal* in *Perak*).

It has also been suggested that *Gunong Jerai* and *Gunong Perak* in *Kedah* and *Mt. Ophir* in *Johore* were at one time islands detached from the mainland as *Penang* is to this day. (*JRASMB*. Vol. IV. Pt. III. (1926). p. 290).

It may be added that several of the old maps show waterways crossing the Peninsula (see for instance, the map of *Diegus Homem* dated 1558: British Museum Manuscript Department. Add. 5415 a. 9.): with regard to the water-connection by way of the *Muar* and *Pahang* Rivers it is stated in the *China Sea Pilot* (1916) Vol. I. p. 234 that 'Jempole' is separated from *Sungei Serting* by a strip of swampy land only  $2\frac{1}{4}$  cables wide, and that it is easy to drag canoes from one to the other: compare *JRASSB*. No. 15 (1885) p. 27 "by ascending the *Muar* and *Rumpin* rivers, crossing a few hundred yards of land and descending the *Sempang*, *Mentiga* and *Pahang* Rivers, or *vice versa*, the Peninsula can very easily be crossed in a comparatively short time".

Eredia's map of Malacca district (p. 210 *infra*) shows the 'Panarican', the drag-way (Malay 'tarek' 'drag') between the Muar and Pahang Rivers: it was *viâ* 'Panarigan' that the defeated King of Malacca fled to Pahang on the capture of the town by the Portuguese in 1511. ("Malay Annals". Leyden's translation. (1821) p. 358).

One is tempted to hazard the guess that the rise of Malacca may have been due to the fact that this river-way provided easy communication with the opposite coast of the peninsula and easy means of egress for the valuable products—tin, camphor, eagle-wood, etc., of the hinterland.

Ruler of Pam: *i.e.*, ruler of Pahang.

(23)

This gentleman, apparently, was a Siamese, as the ruler in about 1470 was a Siamese (Wilkinson. *A History etc.*, p. 33). The name 'Pahang' occurs in the various forms 'Pan', 'Pam', 'Paam', 'Paham', 'Pahan', and 'Pahangh': the Chinese called it 彭亨 (*P'êng-hêng*, *P'ang-hêng*), or 彭坑 (*P'êng-k'êng*, *P'ang-hang*)

The old Court name was Indrapura.

It might be worth while to enquire whether there is any connection between *Pangan* (corruptly 'Panggang') the name of an aboriginal tribe inhabiting Kelantan and Pahang, *P'ang-hang*, the Chinese name for the country, and *Pahang*, the Khmer word for 'tin': the Chinese used tin in about 1000 B.C. for their bronze coins, the Malay Peninsula was the nearest foreign country from which to get it: as Blagden points out, a parallel may be found on the western coast of the Peninsula where the Arabs obtained their word *Kala'i* ('tin') from *Kalah*, the name of a place (*JRASSB.* No. 38 (1902) p. 20). | Ferrand denies this connection | See note on "calim". p. 164 *infra*

In connection with the suggestion that the Chinese might have obtained tin from Pahang in early times, it may be noted that in the newly-discovered Indus civilization copper and tin were alloyed to make razor-edges in about 3000 B.C. Childe says this tin came from Khorasan and Burma (*The Most Ancient East.* (1928). pp. 205-207).

Pahang was conquered, according to Malay records, by the Malacca King Mansur Shah (commenced to reign about 1459) who carried into captivity the ruler Maharaja Dewa Sura, "a relative of the King of Siam", and married his daughter, Puteri Wanang Seri. (Wilkinson. *A History etc.*, p. 33: *JRASSB.* Vol. IV. Pt. II. (1926). p. 192).

Overlord of the countries of Ujontana. The Portuguese transcript has "senhor de Pam superior daquelles terras de Viontana" (24) Janssen renders "le chef du pays de Pam, dont le territoire s'étendait plus haut que les terres de Viontana" which is translated in *JRASSB.* No. 60. (1911) p. 19 "the ruler of Pam (Pahang), a territory in the interior of Ujontana". The difference between that rendering and the present translation is of some historical importance.

Ferrand appears to accept Janssen's rendering (*Journal Asiatique*. Tome XI. (1918). p. 449).

The progress of Siamese power to the southward would appear to have proceeded *pari passu* with the decline in the power of the Palembang empire in the 13th and 14th centuries (*JRASSB*. No. 81. (1920). p. 25).

The extent of the Siamese suzerainty has been the subject of much discussion.

On the one hand it is maintained by Gerini (*JRAS*. July, 1905) that Siam conquered the whole Peninsula.

Ferrand supports this view, and quotes from Barros "governors who resided at Cingapura on behalf of the King of Siam" (*Journal Asiatique* Tome XI. (1918). p. 436); again "We know that the first expedition [of the Thai] dates from the end of the 13th century. — — Many expeditions followed and secured a considerable number of prisoners to the victors who had conquered the whole Malay Peninsula. A nautical Arab text of the first half of the 16th century indeed tells us that 'Singapore is the last land of Siam in the South'" (*Encyclopaedia of Islam. Fasciculus G.* (1927). p. 396)

Gerini's view is contested by Blagden: see *JRAS*. Jan. 1906. Dr. Blagden tells the translator that from the earliest Malay inscription in the Arabic character which has so far been found (dating from the 14th century), it is clear that Islam had recently been adopted as the state religion in Trengganu; and that such a thing is unthinkable under a Siamese regime.

For the present purpose, it will perhaps suffice to say that (in the Treaty of 1826) Great Britain recognized the suzerainty of Siam over Kedah, but declined to acknowledge the alleged Siamese suzerainty over Perak. (*JRASSB* No. 67. (1914). p. 83)

Frequent incidental references are to be found regarding Siamese activity in the south of the Peninsula: for instance, according to a Chinese account Singapore (*Tan-ma-hsi*. 單馬錫) was besieged by the people of Siam (*Sien*, 暹) in the early part of the 14th century

(Rockhill *Notes on the Relations and Trade of China with the Eastern Archipelago etc.*, in *T'oung Po*. Vol. XVI (1915) p. 99—100); cf. *JRASMB*. Vol. VI. Pt. 4 (1928) for traces of Siamese occupation in the Pekan district of Pahang.

(25) *Sincapura*. The name occurs in the forms, 'Cincapura', 'Cingapura', 'Singapura', 'Sincapura', 'Singapoera', 'Sincapure', besides certain monstrosities such as 'Simcalura', 'Cingapolo', or 'Sirapura', which are found in some of the old maps.

The usually accepted derivation is from the Sanskrit '*Sinhapura*, 'Lion-city', though Dennys (*Descriptive Dictionary of British Malaya*. (1894).) derives it from '*Singha*' 'a place of call' and '*pura*' 'a city'; and Barros (II. VI. 1) from Malay '*singah*' 'to tarry, halt, or lodge', and '*pora-pora*' 'to pretend', probably referring to the temporary occupation of '*Sinhapura*' before the chiefs

who founded it passed on to Malacca. (Yule and Burnell. *Hobson-Jobson*. (1903). p. 839).

Little is known regarding the early history of Singapore. Clearly it must have been a salient feature on the ancient sea-route between India and China, opened by the Dravidians of South India before the Christian era; though whether this route ran immediately south of the island or immediately north through the Straits of Tebrau, remains a matter of dispute.

Gerini identifies Singapore with the *Betumah* of the Arab navigators, and if this name should be connected with the *Tamus* or *Tamarus promontorium* (Cape Rumenia) of Strabo (c. 19 A.D.) and others, it can boast a fair antiquity. Further examination, however, is required to elucidate the connection (if any) between the Sanskrit *lamara* meaning 'tin', the *Tamarus* promontorium of the Latin writers, the *Betumah* of the Arabs, and the *Bukit Timah* ('tin hill') of the Malays.

The Malay name *Tēmasek*, Javanese *Tumasik*, and the Chinese transliteration *T'am-ma-siak*, apparently belong to a different series derived from *tasek*, 'the sea'.

The dates when Singapore became a port of call and a trading-station cannot be stated.

In the 7th or 8th century the country fell within the sphere of influence of the Palembang kingdom.

In the 9th century the Arabs called at Betumah for camphor, eaglewood, and sandalwood.

The discovery at Singapore of Chinese coins dating from the 10th century suggests the existence at that period of a trading-station, perhaps a Mon-khmer establishment, which, however, must have been abandoned before the middle of the 13th century.

Regular colonisation of the Peninsula by Sumatran Malays commenced in the latter half of the same century. Blagden thinks that the historical Singapore was founded in about 1280: and with the decline of the Palembang power it enjoyed practical independence as a flourishing port ruled by its own kings, who may have been descendants of the Palembang house.

According to Gerini, a king named *Sri Rama Vikrama* reigned at Singapore in about 1320: while one *Raja Chulan* appears to have ruled the southern part of the Peninsula at about the same period.

In the early part of the 14th century Singapore was unsuccessfully besieged, according to Chinese authorities, by a Siamese naval expedition.

The Javanese empire of Majapahit was now becoming the dominant power in the south. The Javanese poem *Nāgarakrētāgama*, dating from 1365, claims Tumasik as a vassal of Majapahit: and Singapore was attacked and destroyed, under circumstances of great brutality, by the forces of Majapahit in about 1377.

The name 淡馬錫 (*Hakka*, *T'am-ma-siak*) appears in the *Wu-Pei-Pi-Shu* chart (c. 1405 A.D.), but this does not prove the presence of inhabitants at that date.

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Superseded by Malacca as a trading-centre, Singapore remained an unimportant port of call, subordinate to the Sultan of Malacca and, after 1511, to the Sultan of Johore.

A certain amount of trade found its way there, however, for it had its *Shahbandar* (port officer): St. Francis Xavier posted letters there in 1551.

[Gerini. *Researches etc.* (1909). pp. 199, 302, 498, 548, 575, 809.

*JRASSB.* No. 60. (1911). p. 25.

*JRASSB.* No. 81. (1920). pp. 25—27

*JRASSB.* No. 53. (1909). pp. 145, 147, 152, 155, 160—1.

*One hundred years of Singapore.* (Blagden. 1921). pp. 1—5.

*Encyclopaedia of Islam.* Fasc. G. (1927). p. 437.

*Miscellaneous Papers relating to Indo-China.* (1887). p. 258.

*JRASSB.* No. 82. (1920). p. 129.]

- (26) "*Xabandar*": *i.e.* 'Shah bandar' (Malay), 'Harbour Master,' from Persian 'Shāh bandar', literally 'King of the Haven'. "This was the title of an officer at native ports all over the Indian seas, who was the chief authority with whom foreign traders and ship-masters had to transact. He was often also head of the customs" (Yule and Burnell. *Hobson-Jobson.* (1903). p. 816).

Forrest calls him "prince's minister" *A Voyage from Calcutta to the Mergui Archipelago.* (1792). p. 39).

The person mentioned by Eredia is referred to by Albuquerque (1557) as "Captain of Singapore named Tamagi" (*The Commentaries etc.* (*Hakluyt Society* 1885). Vol. III. p. 73).

Both the name and the office survived in Portuguese and Dutch times. Albuquerque in 1511 appointed one 'Ninachetu' to be 'Shahbandar and head of the Moors' (*JRASSB.* No. 15. (1885). p. 120): Valentyn (v. 313) gives the names of (Dutch) Sjahbandars of Malacca from 1641 to 1717. (*JRASSB.* No. 13 (1884). p. 58).

The tomb-stone of "Sabandaar Pedel" may still be seen in the ruined church on the hill at Malacca (*cf* Bland. *Historical Tombstones of Malacca.* (1905). p. 38)

Governor Bort (1678) speaks of there being a Shahbandar at 'Rombouw' [Rembau]. *JRASMB* Vol. V. Pt. I (1927). p. 63).

For the duties of the Dutch 'Sabandhaar' in 1786, *cf.* *JRASMB.* Vol. II. Pt. I (1924). pp. 18—19

- (27) Flight. For variant accounts of this episode as given by Albuquerque, Barros, Valentyn and others, see *JRASSB.* No. 17 (1886). pp. 117—8; No. 86. (1922). p. 257).
- (28) Java Major. *i.e.* Java, as commonly understood.
- (29) Shad-fishery . . . . "turubas". The Portuguese word 'Savel', here used, gave rise in India to the name 'sable-fish', now obsolete. (Yule and Burnell. *Hobson-Jobson.* p. 414).

By "turubos" Eredia means the Malay 'Ikan tērubok', *Clupea ilisha*, Day.

Incidentally, it may be stated that Eredia is the first European writer to quote the Malay name, *têrubok*: (cf. also p. 241 *infra*).

Resende (c. 1646) remarks that "great quantities of ["*trubo*"] are exported from Malacca to all ports" (*JRASSB*. No. 60. (1911). p. 10): but as in this passage he is describing Bencalis in Sumatra it would appear that in his time the actual capture of the fish was effected near Bencalis. this was certainly the case in the time of Governor Bort (1678), who, although he does not mention the name of the fish, almost certainly refers to *ikan tērubok*: "the roe is used by us [Dutch] and the Portuguese as a good side dish, for instance with wild boar" he describes how he took steps whereby "the extraordinary great traffic to that fishing village [Bencalis] has been greatly reduced and Malacca's revenue much increased." (*JRASMB* Vol. V. Pt. I. (1927). pp. 177—178). The great shoals of these fish appear to have definitely abandoned the eastern for the western coast of the Straits: "In May and November there is considerable activity around these islands [Pulo Benkalis] for a couple of weeks, when hundreds of craft are engaged in the fishery of "*trubok*", a species of shad whose spawn is a valuable commercial article, greatly sought after by the whole Archipelago. The fish come to Bencalis in shoals at various times of the year". (*China Sea Pilot*. (1916). Vol I p. 130)

It is stated that at the present day the famous fishing village of Bagan Si Api Api is claimed by the Dutch to be one of the largest fishing centres in the world. For the shad-fishing ceremonies in Brewer Strait, and indeed for all matters connected with Sumatra, one may consult Collet's *Terres et Peuples de Sumatra*, 1925.

Choromandel "A name which has been long applied by (30) Europeans to the Northern Tamil country, or (more comprehensively) to the eastern coast of the Peninsula of India from Pt Calimere northward to the mouth of the Kistna, sometimes to Orissa". (Yule and Burnell. *Hobson-Jobson*, p 256).

Chelis "The word is applied by some Portuguese writers to (31) the traders of Indian origin who were settled at Malacca. It is not found in the Malay dictionaries and it is just possible that it originated in some confusion of *Quelin* [Kling] and Chuli [Choolia] . . . or rather of *Quelin* and *Chetin* [Chetty]".

Resende does not appear to use the word 'Chelis' in his account of Malacca, and Governor Bort speaks of 'Moors' or 'Clings', usually called 'Klingers' in the 'Dagregister'.

Cloths. 'Piece-goods' are and have always been extensively (32) imported: Resende (c 1646) remarks "all the southern commodities and merchandise from China and cloths from Cambay and the Coromandel coast are imported" (*JRASSB*. No. 60 (1911). p. 7). Governor Bort points out that "as regards the trade in cloth in competition with [the Moors], [the English] like ourselves, have no chance". (*JRASMB*. Vol. V. Pt. I. (1927). p. 132). It has been said that "it was her wonderful achievements in applied chemistry which enabled India to command for more than a thousand

years (from Pliny to Tavernier) the markets of the East as well as of the West"; the three great discoveries in applied chemistry being (1) the preparation of fast dyes for textile fabrics by the treatment of natural dyes like *manjistha* with alum and other chemicals; (2) the extraction of the principle of indigotin from the indigo plant, (3) the tempering of steel. (Mookerji. *Indian Shipping* (1912). pp. 180—181).

- (33) Many "*bâres*" of gold. The Portuguese transcript has "*muytos bâres de ouro*". This is rendered by Janssen "*beaucoup d'or en lingots*", and translated "*much ingot gold*" in *JRASSB.* No. 60. (1911). p. 19.

The present translator cannot find any authority for the suggestion that a "*bâre*" is a *concrete object* such as an ingot. The reference-books and the quotations to which they refer indicate that a "*bâre*" was not a Portuguese word but a contraction of the Arabic '*bahâr*' (or connected words such as the Malay '*bahara*'); i.e., it was the name of a *weight*.

"Bahara is a certain weight differing in different countries and according to the merchandise it is used for. As gold weight a bahara equals 10 katis". (*JRASMB.* Vol. IV. Pt. III (1926). p. 357).

Dalgado states that it "varies according to the districts and the commodities from 141 to 330 kilograms". and he quotes from *Primor e Honra* (1577) fl. 37 v. "*sete bares de ouro, que são vinte e tantos quintaes*", "*seven bares of gold, which are something more than 20 quintals*". (*Glossario Luso-Asiatico* (1919). I p. 78).

Several of the Portuguese dictionaries do not contain the word '*bare*' at all. the Portuguese word for '*a bar*' is '*barra*'. Correia (c. 1561) speaks of "*ouro em pó e barras*" "*gold in dust and bars*" (*Leidas da India.* Tome XI. p. 264) Barbosa (1516) emphasizing the wealth of the great merchants at Malacca says "[they] do not value their estates nor keep their accounts except in *bahares* of gold, which *bahares* are four *quintals* each." (*The Book etc. (Hakluyt Society 1921) II.* p. 175). Castanheda (c. 1530) also alludes to fortunes being estimated "*by bahares of gold*" "*por bahares douro*".

The fact that "*bare*" does not mean '*ingot*' seems to be conclusively proved by the references in Eredia's REPORT ON THE GOLDEN CHERSONESE, where he speaks of tin being cast "*into large slabs of five slabs to the "bar", or into small slabs, which are called 'lock-slabs', of two hundred and fifty slabs to the "bar"*". cf. p. 235 *infra*. See also the note in *JRASMB.* Vol. V. Pt. I. (1927). p. 208

- (34) Successors. Wilkinson (*A History etc.*, pp. 31—38) gives seven kings of Malacca, viz —

The Permaisura Mōhammad Shah (died c. 1414),  
 Iskandar Shah (c. 1414—1424),  
 Ahmad Shah (c. 1424—1444),  
 Mudzafar Shah (c. 1444—1459),  
 Mansur Shah (c. 1459—?),  
 Aladin Riayat Shah (?—?),  
 Mahmud Shah (?—1511).

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Valentyn (1726) who claims that he "had the opportunity of drawing everything from the personal writings and historical notices made by the kings of Malacca itself" speaks of eight kings, from 1253 to 1511. (*JR ISSB*. No 13. (1884) pp. 66--70: and No. 22. (1890). p. 246.

Valentyn's dates are not usually accepted, however. Eredia, like the other Portuguese writers, mentions six rulers, omitting Ahmad Shah who figures in Chinese records as Sri Mahala. For the Kings as referred to in the History of the Ming dynasty, see Groeneveldt. *loc. cit.* pp. 248—253.

Compare also the account of the Malay Kings in Chapter 26 p. 57 *supra*).

15th August. Wilkinson gives the date as 24th July. (*A History etc.* p.45). (35)

Passed Wilkinson mentions Pagoh, Pahang, Bentan, as his itinerary. (*A History etc.* p. 50). (36)

According to the *Hai-Yu* (1537) the defeated king went to P'o-ti-li ( 陂隄里 ).

This place has not been identified.

A clue to the identification may be contained in the statement that rice was exported thence to Malacca (*cf* Groeneveldt, in *Essays relating to Indo-China*. Second series. (1887). pp. 246. 248).

Ferrand says, read P'ei-t'i-li, *i.e.* Pedir on the north-east coast of Sumatra. (*Journal Asiatique*. Tome XI. (1918). p. 429).

This, however, involves a deviation from the usually accepted route

Bintan *i.e.* Bentan or Bintang, the island about 30 miles south-east of Singapore, identified by Gerini with the *Petam* of Marco Polo (1295) (37)

Attacked Desperate struggles between the Portuguese and the Malays continued almost until the arrival of the Dutch in 1602. (Wilkinson. *A History etc.* p. 54, Danvers. *The Portuguese in India* (1904) *passim*, compare pp. 57 *supra* and 183 *infra*). (38)

In particular, "the first attack was delivered by the king of Java in 1514, the second by the Sultan of Bintang in 1518, the third by the powerful king of Acheen in 1538, the fourth and fifth by his successor in 1577 and 1573, the sixth by another king of Java in 1574, and the seventh by the king of Acheen again in 1575" (Ballard. *The Rulers of the Indian Ocean*. (1927). p. 132).

It is interesting to observe that bulletins regarding the course of the struggle were despatched to Count Fugger, the great Austrian banker: thus, the "King of Gior [Johore] laid siege to the town [Malacca]" in 1588 and "the Governor with 300 Portuguese again tore down the fortress re-built by the people in Malacca" in 1590. (*The Fugger Newsletters*. (1924). pp. 130 and 145).

In 1580 or thereabouts, Portugal kept garrisons only at Malacca, Amboyna and Tidore. (*JRASSB*. No. 67. (1914). p. 60).

(39) Victorious. It has been said that the Dutch would never have taken Malacca in 1641 without help from Johore (*JRASSB.* No. 67. (1914). p. 61): "the Manicabers of Naning and Rom-bouw" also assisted the Dutch. (*JRASMB.* Vol. V. Pt. I. (1927). p. 14).

(40) Fortress. Eredia's large-scale plan is here reproduced: cf. p. 221 *infra*. Compare the descriptions given by Albuquerque (*The Commentaries etc.* (Hakluyt Society. 1885). Vol. III. p. 136), by Resende and Governor Bort (*JRASSB.* No. 60. (1911). pp. 3, 4; *JRASMB.* Vol. V. Pt. I. (1927). pp. 10, 16—26). and the incidental references made by Valentyn when describing Malacca and when relating the capture of Malacca by the Dutch in 1641. (*JRASSB.* No. 13. (1884). pp. 49, 50; No. 22. (1890). pp. 226—232).

It will be noticed that Bort (p. 16) gives names to certain points which are not specifically named in the maps of Eredia (p. 221 *infra*) or Resende (British Museum MS Department. Sloane MS 197 fol. 382): Bort's 'Hospitael del Rey' was probably situated near Eredia's 'Hospital real'; 'Courassa' seems to be the 'Bastion of S. Pedro'; 'Hospital del Povne' must have been situated not far from the Custom House, 'St. Domingo re-named Amsterdam' 'an angle or breastwork . . . along the river', would appear to be a particular point of the Portuguese 'Bastion of San Domingos'.

(41) 40 fathoms This makes the fortress-tower 240 feet high; which has raised suspicions of exaggeration.

Governor Bort says that the "strong square tower" built by the Portuguese was 120 feet in height (*JRASMB.* Vol. V. Pt. I. (1927). p. 39).

Possibly Eredia mistakenly wrote "fathom" for "yard".

(42) Santiago. *Fuit Ilium*. The only relic of the mighty fortress is the curious old gateway (near the Malacca Club); "this is probably what is left of the bastion called "Baluarte Santiago" as marked in the old plates of the fortress". (*JRASSB.* No. 13. (1884). p. 50; No. 15. (1885). p. 138).

The translator is inclined to think that the old gateway is not part of the bastion itself, but represents the gate of Santiago which lay between the bastions of Santiago and the Virgins.

This gate was rebuilt by Governor Bort in 1669; and appears not to have been renovated since: it bears the date 1670 (apparently the date of completion), and Dutch arms, that is, the Batavian lion.

In Eredia's time, as he explains lower down, the two service gates were the Gate of St. Antonio and the gate near the Bridge: the Dutch abandoned the former (in the map denoted as F.M.S. Surveys No. 871/1924 there is no bridge over the moat at this point) and instead used the Gate of Santiago, which in fact became the main gate of the fortress, the gate by the Bridge being used in connection with shipping but otherwise only for the prosaic purpose of putting out the matutinal dustbin. (*JRASMB.* Vol. V. Pt. I. (1927). p. 17).

Custom House. The 'Alfandega' was situated near the present bridge, on the south-eastern side of the river: it is marked in Eredia's map of the fortress: p. 204 *infra*. (43)

Cathedral. It will be seen from Eredia's p'an (page 221 *infra*) that the cathedral was situated next to the fortress, that is, somewhere near the present position of the Hongkong and Shanghai Bank, and not on the top of the hill as is stated in some modern accounts of mediaeval Malacca. (44)

The Church of Our Lady of the Annunciation. Apparently this was the church of which the ruins adjoin the Signal Station on St. Paul's hill at Malacca. The earliest decipherable date on the tombstones seems to be 1562: cf Bland *Historical Tombstones of Malacca*. (1905). p. 18: *JRASSB*. No. 34. (1900). p. 1. (45)

The name would appear to have been changed between 1613 and 1646: for Resende marks it 'São Paulo' in his map (British Museum, MS Department. Sloane MS. No. 197) this map is reproduced in Ballard's *Rulers of the Indian Ocean*. (1927) p. 107. (46)

Upe: *i.e.* Upeh This suburb to-day bears the Portuguese name of Tranqueira, 'the rampart'. (46)

Yer. *i.e.* Hilir now Banda Hilir, the 'Bandailhera' of the Dutch. (*JRASSB* No 22. (1890) p. 195). (47)

Tanjonpacer *i.e.* Tanjong Pasir, 'sand promontory', the expression survives in 'Ujong Pasir' ('sand end'), the name of a *mukim* a mile or so distant from Malacca towards the south-east. (48)

Sabba. This name is obsolete: Bort says the northern suburb was called Banda Malacca. (*JRASMB*. Vol. V. Pt. I. (1927) p. 20). At the present day, the locality north of the town is known as Bunga Raya, and, further westward, Kampong Jav. Bort's *Taypa*, it would seem, was not a suburb but a wall: 'Taipa' is a Portuguese word meaning 'mud-wall', which is exactly what Bort describes, "it is beaten earth mixed with small hard stones." (*JRASMB* Vol. V. Pt. I pp. 20 and 231). Valentyn speaks of a wall called *Tipah*. (*JRASSB*. No. 13. (1884) p. 49). (49)

Earth gun-platform. The Portuguese transcript reads "cavalheiro de mätte" Janssen translates "cavalier de bois", which is rendered "wooden cavalier" in *JRASSB*. No. 60. (1911). p. 21: *i.e.* the word 'matte' is taken as 'matto', 'wood'. (50)

The Reverend Father Coroado of the Portuguese Mission at Malacca informs the translator that 'matte' is a Portuguese word, obsolete in Portugal but still current in Malacca, meaning 'earth' or 'mud'.

The translator desires to express his deep indebtedness to Father Coroado for his invaluable assistance (so charmingly rendered) in the preparation of this paper.

The persistence of the Portuguese language after the cessation of Portuguese rule constitutes a phenomenon of no little interest. Early immigrants from Malacca brought the "Malacca Portuguese" dialect to Singapore, where in the Church of St. Joseph the preaching is conducted in Portuguese at the Low Mass on Sundays. (*One Hundred Years of Singapore*. (1921). Vol. II. p. 258). Forbes

- (1885) notes that at Dilly in Timor—though this was under Portuguese rule—all business was conducted, not in Malay as in the Dutch possessions, but in Portuguese. (*A Naturalist's Wanderings in the Eastern Archipelago*. p. 417).
- (51) Campon China: *i.e.* Kampong China, the Chinese quarter. The Malay word 'Kampong', "an enclosure, a place surrounded with a paling; a fenced or fortified village; a quarter, district, or suburb of a city; a collection of buildings", is probably the derivation of the Anglo-Indian word 'compound' which has spread both to China and to West Africa. (Yule and Burnell. *Hobson-Jobson*. (1903). p. 240—3).
- In Eredia's plans, different parts of the town are marked as 'Campon China', 'Campon Chelim', 'Campon Bendara' *etc.*
- (52) Campon Chelim. *i.e.* Kampong Kling, the quarter of the Klings.
- (53) Bazar. The word, derived from Persian 'bāzār' "has spread westwards into Arabic, Turkish, and, in special senses, into European languages, and eastward into India, where it has generally been adopted into the vernaculars".
- "The word is adopted into Malay as *pāsār*, or in the poems *pāsāra*".
- (54) Jaos: *i.e.* Javanese, the people of Jawa (Java). Linschoten (1598) refers to these people as 'Javens', 'Iaua', and 'Iavers': Lancaster (*c.* 1600) writes 'Jauians'. Bowrey (1669) has 'Javas'. Some modern writers call them 'Javans'.
- (55) "*Nypetas*" or Wild Palms. These are the Malay '*nipah*' (*Nipa fruticans*, Thunb.)
- "The Portuguese, appropriating the word *Nipa* to this spirit [made from the palm], called the tree itself *nipcira*". (Yule and Burnell. *Hobson-Jobson*. p. 626).
- Eredia speaks of nipah-wine in Chapter 8, p. 29 *supra*
- (It may be observed that the Portuguese also applied the designation 'wild-palm', 'palmeira brava', whence the English corruption 'brab', to the Palmyra Tree, or *Borassus flabelliformis*).
- (56) Paret China: *i.e.* Part China, Chinese drain: "a small river about 2 miles E. of Malacca Town". (*JRASMB*. Vol. V. Pt. I. (1927) p. 224).
- (57) Chincheos: *i.e.* "people of Fuhkien" (Yule and Burnell. *Hobson-Jobson*. p. 200).
- (58) Bridge. The bridge near the mouth of the River has remained in approximately the same position since the days of the Malay sultanate.
- (59) "*Champenas*". The authorities regard this word as a form of 'sampan', 'a kind of small boat or skiff'. It occurs as 'chiampana', 'champana', 'champane', 'champan', 'champaigne', 'chapan', 'sampang', 'champoës', 'shampanas' Dalgado (*Glossario etc.* II. p. 570) says that apparently the term was known in India, coming through the Malays, and was given to a certain kind of indigenous

boat before the arrival of the Portuguese and the conquest of Malacca, as appears from the authority of Duarte Barbosa.

He quotes P. E. Pieris for the statement that in 'Singalese' 'sampan' turned into 'hampan' and gave its name to a port 'Hampan-tota', "port of Champanas".

"The word [sampan] appears to be Javanese and Malay. It must have been adopted on the Indian shores, for it was picked up there at an early date by the Portuguese, and it is now current all through the further east. The word is often said to be originally Chinese 'sampan' 'three boards', and this is possible. It is certainly one of the most ordinary words for a boat in China. Moreover, we learn, on the authority of Mr. E. C. Baber, that there is another kind of boat on the Yangtse which is called 'wu-pan', 'five boards'". (Yule and Burnell. *Hobson-Jobson*. p. 789)

It has been stated that "sampan" (champan) which is neither Malay nor Chinese, exists in the language of the Indians of Colombia (*Bulletin de l'Ecole Francaise d'Extrême-Orient*. Tomc XIX. pp. 13-19).

Blagden regards the Chinese origin as improbable and the American origin as still more unlikely. (*JRASMB*. Vol. V. Pt. I. (1927). p. 212).

"Bateys" This word apparently represents the Malay 'banting', "a two-masted cargo boat" (Dalgado *Glossario etc.* I. p. 97). Resende speaks of "bantims, very much smaller than jalcas"; cf. also p. 36 *supra*. (60)

"Bangacal". i.e. Malay 'bangsal', defined by Crawford as "A shed, a store house, a workshop, a porch; a covered passage." The Malay word is probably a corruption of either (a) Bengali *bankasāla*, from Sanskrit *banik* or *vanik*, 'trade', and *sa.ā*, 'a hall'; or (b) Sanskrit *bhāndasāla*, Tamil *pandasālai* or *pandakasālai*, 'a store house or magazine'. (61)

"Bankshall is in fact one of the oldest of the words taken up by foreign traders in India. And its use not only by Correa (c. 1561) but by King John (1524) with the regularly-formed Portuguese plural of words in-*al*, shows how early it was adopted by the Portuguese". (Yule and Burnell. *Hobson-Jobson*. (1903). p. 61).

Buquetpiatto. The modern *mukim* of Bukit Piatu is some 2 miles north-east of Malacca town: Eredia's map (p. 206 *infra*) indicates a hill called 'Buquet Piatu' quite close to Bukit China: there are at the present day three hills in this locality, called Bukit Tinggi, Bukit Tengah and Bukit Gedong. (62)

Buquetpipi. It would appear from his plan (see p. 206 *infra*) that Eredia refers to St. John's Hill, now called 'Bukit Sain Jon' by the Malays. (63)

The name 'Bukit Pipi' is obsolete.

S. Lazaro. Eredia's map see p. 208 *infra* shows a church of S. Lazaro situated about 3 miles, as the crow flies, from the mouth of the Malacca River: at intervals of about 1 mile, he marks what (64)

appear to be other churches, 'Our Lady of Good Tidings' and 'S. Jero'. The first two churches have disappeared: there is a ruined church of San Jeronimo, this however, is only about three quarters of a mile from the mouth of the river.

The Church of Our Lady of Guadalupe is shown (p. 210 *infra*) as being situated on the Malacca River some 10 miles, as the crow flies, in a north-easterly direction from the town.

This is obviously Bort's "Agua de Loupa": "a point on the Malacca River, seemingly about half way between Malacca town and Alor Gajah. There was a chapel there. The name looks like a corruption of Guadalupe, the name of a mountain range in Spain". (*JRASMB* Vol. V. Pt. I. (1927). pp. 53, 77, 205).

This church must have been very well known, for in his map of the Peninsula (British Museum. MS. Department. Sloane MS. No. 197: folio 380) Resende (c. 1646) marks "nosa sen<sup>a</sup> dag<sup>a</sup> delupa" as situated up the Malacca River. The ruins may still be seen near the Tampoi Road.

'Our Lady of Hope' is marked near RIO BATAN on Eredia's plan (p. 208 *infra*): the translator ventures to locate this church near Kampong Tengah (Bukit Beringin) close to the 18th milestone on the road from Malacca to Lubok China.

This church has disappeared.

- (65) Christian population. Resende merely says that "a number of married native Christians live outside Malacca" without giving any number. (*JRASSB*. No. 60. (1911). p. 4).
- (66) Administration. Compare the account given by Albuquerque (1557) in *The Commentaries etc.* (*Hakluyt Society*. 1885) Vol. III. Chapter XVIII.

A detailed account of the Dutch administration is given by Governor Bort (1678), (*JRASMB*. Vol V. Pt. I. (1927). *passim*): the Dutch do not appear to have included any form of Municipal administration, however; (*cf.* the list of public servants on p. 36 thereof).

- (67) "Bendara". "The title of a very exalted Malay State official, usually ranking next to the heir-apparent" The original sense of the word was "store-house", "treasury", "the use of *bendahara* as a title is due to its having been preceded by *dato*' (like our "Lord of the Treasury)"). (*JRASMB*. Vol. II. Pt. III. (1924). p. 263).
- (68) Married Portuguese. In the time of Resende (c. 1646) there were "two hundred and fifty married whites" "whose duty—like that of the colonists of early Greece, it was to populate" the settlement. (*JRASSB*. No. 60. (1911). pp. 4, 12).

The translator uses the modern English word 'Portuguese' to represent Eredia's 'Portugezes', 'Portugueses' and 'Portuguezes'.

## NOTES ON PART I CHAPTER 2.

District. In Governor Bort's time (1678), the "jurisdiction" (1)  
of Malacca extended "about 18 miles on the north side beyond the  
river Pannagie [*i.e.* Linggi] and Cabo Rochado to Callang [Klang],  
on the south side as far as Moar [Muar] about 6 miles and inland  
up to the village of Rombouw [Rembau]". (*JRASMB.* Vol. V.  
Pt. I. (1927. p. 49). Apparently, however, *jurisdiction* must be  
distinguished from *territory*, for Valentyn (1726) says "the territory  
belonging to Malakka extends over a length of 30 miles and over a  
breadth of 10 miles". (*JRASSB.* No. 13. (1884). p. 50).

Panagim: "another name for the Linggi River which forms part (2)  
of the boundary of Malacca territory to the N. W. and is about 21  
miles N. W. of Malacca town". (*JRASMB.* Vol. V. Pt. I. (1927).  
p. 223).

Newbold gives the old "Benua" name for the river as  
'Samawa' (*Political and Statistical Account etc.* (1839). II.  
p. 376).

Both the name and its application have changed during the last  
300 years. The "*Malay Annals*" (1612) call it 'Penajar': Eredia  
(1613) and Resende (c. 1638) say 'Panagim': Governor Bort  
(1678) writes 'Panagie', 'Pannage' and 'Pannagie' Newbold  
(1836) has 'Penagie' the modern name is 'Pēnajeh' or 'Pēnajis'.

The variation of the final consonant is curious: final syllables,  
however, are notoriously erratic: Pedas and Gemas are known res-  
pectively in the immediate locality as 'Pedoi' and 'Gemeh'  
(wrongly printed 'Gemen' in one map of Johore)

The name 'Panagim' has in course of time retired higher and  
higher up the river: down to the time of Governor Bort, it was  
applied to the lower reaches: apparently in Valentyn's time (1726)  
(*JRASSB.* No. 22. (1890). p. 246), and certainly in Newbold's  
time (1836), (*Moor. Notices of the Indian Archipelago* (1837).  
p. 61) the name 'Linggi' was applied to the reaches below, and the  
name 'Penagie' to the reaches above, Simpang (some 5 miles from  
the mouth): at the present day 'Pēnajeh' or 'Pēnajis' refers  
merely to a small tributary which runs into the Sungei Rembau in  
Negri Sembilan.

Regarding the name 'Liassa' which appears in Valentyn's map  
(*JRASSB.* No. 22. (1890) p. 246), the letters *ass* must, the  
translator thinks, represent an erroneous transcription of the letters  
*ngg*.

Both the Dutch and the British bound the people of Naning to  
bring their merchandise down the Malacca river only, instead of  
down the 'Pannagie'.

(*JRASMB.* Vol. V. Pt. I. (1927). p. 59: Maxwell and Gibson.  
*Treaties and Engagements affecting the Malay States and Borneo.*  
(1924). p. 59).

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- (3) 12 leagues. The measure of accuracy achieved in Eredia's calculations can be estimated from the following table:—

|   | Eredia's<br>measurement | Actual<br>distance | Error      |
|---|-------------------------|--------------------|------------|
| Mouth of River Panagim to mouth of River Muar.        | 12 leagues              | 52 miles           | — 10 miles |
| Mouth of River Malacca to mouth of River Batang Tiga. | 1½ leagues              | 4¾ miles           | + ½ mile   |
| Tanjong Kling to mouth of River Sungei Baru.          | 2½ leagues              | 13 miles           | — 4 miles  |
| Mouth of River Sungei Baru to mouth of River Panagim. | 2 leagues               | 6¼ miles           | + ¾ mile   |
| Mouth of River Malacca to mouth of River Duyong.      | 1½ leagues              | 3¼ miles           | + 1½ miles |
| Tanjong Palas to mouth of River Kesang                | 2 leagues               | 8½ miles           | — 1½ miles |
| Mouth of River Kesang to Mouth of River Muar.         | 2¾ leagues              | 7 miles            | + 2½ miles |
| Mouth of River Malacca to Mouth of River Panagim.     | 6 leagues               | 26 miles           | — 5 miles  |
| Mouth of River Malacca to Mouth of River Muar.        | 6 leagues               | 26 miles           | — 5 miles  |

In calculating the error, a league is taken according to the dictionary as 3755.7 geometrical paces of 5 feet, *i.e.* 3½ miles. Distances are measured along the coast line.

It will be noted that Eredia underestimates the longer distances and usually overestimates the shorter distances.

- (4) Muar. "a river and territory bordering on Malacca territory to the Eastward and at its nearest point about 17 miles E. of Malacca town." (*JRASMB*. Vol. V. Pt. I. p. 220).

Eredia and Resende call it 'Muar': Governor Bort has 'Moor' and 'Moar'.

It goes without saying that the old maps have a variety of curious adaptations such as 'Muhar' and 'Mua'—even 'Mubar' though this is probably due to a *lapsus calami*.

- (5) Batan Malacca: *i.e.* modern Batang Malaka.

The so-called mountains are shown on the map of Malacca

District (facing p. 207 *infra*) as extending almost in a straight line from 'Jol' to 'Gamur', a range of hills dividing the Malacca River system from the Muar River system, *i.e.*, such hills as Bukit Cham-para (1158 ft.), Tunkai (664 ft.), Bukit Ayer Kuning (524 ft.), and Bukit Senyun (1900 ft.).

Eredia places 'Gunoledam' (Mt. Ophir) much too far to the north (in fact, Johol, Batang Malaka and Mt. Ophir are almost in a straight line) and on the wrong side of the Muar River: this latter error may be due to the fact that he fails to differentiate between the Muar River and its tributary the Sungei Gemas between Gemas and Asahan these two rivers run almost parallel and are only from 10 to 15 miles apart.

Sunecopon: *i.e.* Sungei Kepong.

(6)

Eredia's map places 'Sunecopon' and 'Lubot copon' (Lubok Kepong) some 5 miles apart: at the present day, both names are applied to the same locality, namely, an area of *kampung* and *sawah* at 20½ mile on the south side of the Simpang Ampat—Brisu road.

The name 'Lubok Kepong' is in common use in the locality: it is also applied to a sub-division of the tribe (*Suku*) *Tiga Basu* centred round the neighbourhood.

Begbie in his list of 'Nanning' villages calls it 'Loofoo Kepong' (p. 149) Newbold writes 'Lubu Koppong' (I p. 245).

The names are not marked on the 1927 map.

The translator is indebted to Mr. C. W. Dawson, Malayan Civil Service, for valuable assistance in connection with the identification of Eredia's place-names

Nany: *i.e.* Nanning, called by Governor Bort 'Naning', 'Nanning' and 'Nanningh', is the name of a territory lying to the N of Malacca which under the Portuguese, Dutch and British was a vassal state until 1832 when it was conquered and brought under direct British administration. The name is derived from Malay '*naning*', a large species of wasp. (7)

"Alone of all the states of the Peninsula, Nanning was definitely a vassal state of the Dutch, just as it had been under their predecessors the Portuguese. At the back of Nanning lay its close connexions, the other little Menangkabau States, which were nominally under the suzerainty of Johor . . . . . The Dutch had their "Naning War" just as we had one about 150 years later, in fact they had several, and they managed them just about as badly as we did ours".

(*JRASMB*. Vol. V. Pt. I. (1927). pp. 4 and 221)

An account of the British operations against Nanning is given by Begbie in *The Malayan Peninsula*. (1834).

Jol: *i.e.* Johol, about 28 miles due North of Malacca; now one of the Negri Sembilan, 'nine states'. (8)

"Johol would appear to be a perfect instance of the Malays of the old Johor (or Malacca) penetrating the fastnesses of Negri Sembilan by ascending the rivers and marrying perforce Biduanda, that is, aboriginal Malay women".

The old name for Johol was *Enjelai*.

The territory covered by Johol and Inas was before the 18th century the ancient state of Jelai: in the 18th century Jelai vanished, and Inas took its place, getting recognition from Johor in 1760 A.D.: later Johol began to forge ahead of Inas, and eventually eclipsed it, probably usurping the title and insignia of its chief. (Nathan and Winstedt. *Johol, Inas, Ulu Muar, Jempul, Gunong Pasir and Terachi*. (1920). p. 9 *et sqq.*)

The rise of Johol is perhaps connected with the growing importance of the trade-route to the hinterland.

It will be noticed that Eredia makes no mention of Tampin: but about 2 miles South of 'Rapath' ('Repah', spelled RUPA in the 1878 map of Malacca) his map shows three tracks converging at or near the present site of Tampin, which is mentioned by name in Governor Bort's (1678) account of Malacca. (*JRASMB*. Vol. V. Pt. I. (1927). p. 60).

- (9) Tanjon Upé: *i.e.* Tanjong Upeh. Eredia's map (facing p. 207 *infra*) shows a pronounced headland opposite the island of Upeh: at the present day there is nothing more than a slight curve in the coast-line at the second mile, Limbongan. The designation 'Tanjong' is not now used: though the old inhabitants in this locality say that their lands formerly stretched seawards a long way towards Pulau Upeh.
- See also the discussion on this point in the paper on Malacca Harbour in *JRASSB* No. 52. (1908). p. 111, and the note in *JRASSB*. No. 9. (1882). p. 169
- (10) Batantiga. *i.e.* Batang Tiga, (Malay) "three trunks (or streams)": a stream and hamlet on the sea-shore, about 5 miles W. N.-W. from Malacca town.
- (11) Brettão: *i.e.* Bertam.
- Ferrand says Bértan or Bértam was the ancient name for the country and for the river, corrupted into Bintão and Beitam by Albuquerque and Barros (*Journal Asiatique*. Tome XI. (1918). p. 435).
- The "*Malay Annals*" (1612) refer to the "river named Bartam" (p. 89).
- (12) Tanjon Chelim: *i.e.* Tanjong Kling, about 7 miles from Malacca, following the coast.
- (13) Tanjon Bidara: *i.e.* Tanjong Bedara, about 15 miles from Malacca, following the coast.
- (14) Sunebaru: *i.e.* Sungei Baru, called by Governor Bort 'Songoe Baroe'; from Malay *sungei* "river" and *baru*, the name of certain plants (*e.g.* *Hibiscus tiliaceus*), a river debouching about 20 miles from Malacca following the coast.

The river rises near the village of Sungei Baru (at the 17th mile on the road from Malacca to Lubok China) in the *mukim* of Sungei Baru Ulu, and passes through the *mukims* of Sungei Baru Tengah, Sungei Baru Ilir, and Kuala Sungei Baru.

Ferrand says, read 'Sūney Bahāru, the new river'; but this is not considered to be the correct name.

Sarvarātōs. spelt 'Sarvarrallos' in Part I Chapter 4 (see p. 25 *supra*). (15)

Father Coroado tells the translator that it is derived from an obsolete Portuguese word, used by Pinto, Barros, and Couto, meaning 'a royal harem'.

Eredia's map appears to locate this place in the modern *mukim* of Sungei Baru Ilir (see p. 208 *infra*): the translator has ventured to place the Church of Our Lady of Hope at the 18th mile on the Malacca—Lubok China road (p. 106 *supra*). The agrees quite well with the present context, since the 1927 map of Malacca represents the river as rising near the 16th mile.

Doyon: the Dutch 'Doedjong' or 'Doejong' (*JRASSB.* No. 22. (1890). p. 204). from "Malay *duyong*, "*dugong*". The name of a river and *mukim* about 3 miles E. of Malacca town". (16)

Pungor. Governor Bort's 'Pangoor', 'Pongoor': from Malay *punggor*, 'a dead tree trunk'; a small river and hamlet about 4 or 5 miles E. S. E. of Malacca town". (*JRASSB.* Vol. V. Pt. I. (1927) p. 223). (17)

Tollotmās: *i.e.* Telok Mas, the name of a village 6¼ miles from Malacca along the coast. (18)

Mr B S Walton, Malayan Civil Service, kindly points out to the translator that to-day the village of Telok Mas is not on the left bank of the Umbei River as stated by Dennys (1894).

Ferrand comments "the text has *Tollot Mās* and the map *Tolot-Mas*. Godinho sometimes replaces the final *k* of Malay words by *t*, compare folio 24 verso, the modern map of Sumatra (*Taboa de Samatra moderna*) where *Perlak* is written *Perlat*, and folio 25 verso where *Perak* is written *Perat*. One can, then, for *Tolot Mas* read *Tolok Mas*—Tēlok Mas, "the bay of gold". (*Journal Asiatique* Tome XI. (1918). p. 451)

It might be worth while to enquire how far the spelling of Malay words and names by Eredia and other early writers really represents 'corruption' or how far it represents the actual pronunciation employed by Malays of the period: one notices that in the modern Kelantan pronunciation it is impossible to distinguish between final *-t* and *-p* (*cf.* Eredia's 'Machat', modern 'Machap') or between final *-ng* and *-m* (*cf.* Eredia's 'Padam', modern 'Padang'). (Brown. *Kelantan Malay*. (1927.) pp. 8, 9).

Tanjon Palas: *i.e.* Tanjung Palas. Apparently Eredia refers to what is at the present day little more than an outward curve in the coast-line at the 10th mile from Malacca at the place called Pulau: the village of Pasal is at the 8th mile-stone, about half a mile from the sea: Bort calls it 'Passaal' and 'Passael' (Malay *pasal*, *Ardisia odontophylla*). (*JRASSB.* Vol. V. Pt. I. (1927). p. 224). (19)

It seems clear, however, that 'Palas' was the former name of this place: *cf.* *JRASSB.* No. 22. (1890). p. 219, "Raja Haji 1930] *Royal Asiatic Society*.

..... established himself near Telok Katapang and built a stockade at Tanjong Palas": (Katapang is the modern name for the village at the 7th mile-stone, quite close to the sea). Newbold (1839) refers to the "Pallas-tree".

Dennys in 1894 calls the village 'Palei'. (*A Descriptive Dictionary etc.* p. 268).

Many of the local names mentioned by Eredia will be found in the above account of the operations carried out against Malacca by the Bugis in 1784.

- (20) Cassam: Governor Bort's 'Cassan', 'Cassang', 'Cassangh': "Kësang, a river about 20 miles E. of Malacca Town and now forming the E. boundary of Malacca Territory: also the region alongside the same and a *mukim* or village higher up the river, N E of Malacca Town." (*JRASMB.* Vol. V. Pt. I. (1927). p. 211).

- (21) Crocodiles. The alligator, inhabiting only fresh water, is not found in Malaya: the crocodile, inhabiting both fresh and salt water, occurs in large numbers: the common species is the *Crocodylus porosus* or Indian crocodile. (Dennys *A Descriptive Dictionary etc.* (1894). pp. 3 and 96).

- (22) "Descobridor". Eredia here refers to himself.

In Part II Chapter 10 (see p. 71 *supra*) he gives further details of his work in connection with the construction of fortifications.

In his map on folio 61 v. Eredia places the fortress of Muar near the river-mouth, on the south bank of the river and immediately to the west of the stream now called Sungei Bentayan.

- (23) Upe: *i.e.* "Pulau Upeh (meaning in Malay "palm flower-sheath island"), which is 3 miles W. of Malacca town" Governor Bort calls it "fishers' island". (*JRASMB.* Vol. V. Pt. I. (1927). p. 216).

Valentyn (1726) says "There are two islets in its vicinity. *Ilha das Naos* within a gun-shot from the Town, and *Ilha das Pedras* from where they got the stones to build houses, etc with, beyond the range of gun-shot. The Portuguese carracks and galleons used to anchor between these two islets in 4 or 5 fathoms of water."

(*JRASSB.* No. 13. (1884). p. 50).

*Ilha das Pedras* is the modern Pulau Upeh. *Ilha das Naos* is Eredia's 'Pulo Malaca' which in his map (see p. 205 *infra*) he describes as "now Ships' Island": it is the modern Pulau Nawa.

- (24) "Big Island". Apparently Pulau Besar, 'big island' (Malay). The "4 islets on the south" are P. Hanyut, P. Dodol, P. Nangka and P. Undan: the "islet on the east" is P. Lalang: at the present day there are two other islands in the proximity, P. Serimbun on the west and P. Burong (near the coast) on the north-east. There is now a granite-quarry on Pulau Besar.

- (25) Flowers. Wallace has pointed out in his *Malay Archipelago* that flowers are not a conspicuous feature of tropical scenery. There are exceptions, however: witness the experience of Swettenham in Pahang "All the trees that do flower seem to have come out in this

dry weather, and we passed many covered all over with a splendid purple bloom, others bright scarlet and yellow, and the *Mémplas*, ... in full flower, a delicate pale yellow blossom with the sweetest scent". (*JRASSB*. No. 15 (1885). p. 13).

"*Aguila*" .... "*calamba*". The name "*aguila*" appears to be derived from Sanskrit '*aguru*', through Malayalam '*agn*' the Portuguese form '*pao* (wood) *d'aguila*' was translated into the French '*bois d'aigle*', and the English '*eagle-wood*'. (26)

The Malays call it '*Gaharu*' or '*Gagahu*'. This is the well-known incense-wood lign-aloës. The best quality is the result of disease in the *Aloexylon Agallochum* Loureiro, growing in Camboja and South Cochin-China.

An inferior kind, of like aromatic qualities, is produced from the *Aquilaria Agallocha*. The variety occurring in the Malay Peninsula is known as *Aquilaria Malaccensis* Lam. It was first described by Garcia da Orta from Malacca in 1534.

Milburn speaks of "*Lignum aloës. Agallochum or calambac*". He distinguishes, I, Eagle-wood; that immediately under the bark . . . called by the Portuguese *pao d'aguila*: II, a light veiny wood: III Calambac, the heart or centre of the tree, the wood so much esteemed in all parts of India. (*Oriental Commerce*. (1813). II. p. 312)

As to "*calamba*" Crawford gives the word as Javanese '*Kalambak*' the Malay is '*Kêlambak*'

According to Foxworthy, the name is given to the best form of aromatic wood (*Aquilaria Malaccensis*), which has a distinctly brownish red colour, often with darker streaks.

(Foxworthy *Minor Forest Products of the Malay Peninsula*. (1922). pp 172—3)

Ridley *The Flora of the Malay Peninsula* (1922) III p. 148

Yule and Burnell *Hobson-Jobson*. (1903). p. 335).

See also *JRASSB* No 35 (1901). p 73 and *JRASSB*, No 18. (1887). p. 359.

*Bejoim* " "*caminham*" The word '*bejoim*' is derived from the Arab name '*luban-Jawi*' i.e. '*Jawi frankincense*'; this became corrupted into such forms as '*Bengioi*', '*Benjamin*', and '*Benzoin*'; from this last form the modern '*benzine*' is derived (27)

Garcia da Orta writes "All these species of benjuy the inhabitants of the country call *cominham*" (apparently a corruption of the Malay '*Keminiyan*').

"This gum is produced by *Styrax Benzoin* L., a common tree in Malaya, known by the name of *Kemenyan* or *Kemayan*. . . . When the bark is cut into, an aromatic odour is given out and the gum exuded. [it is] used in medicine and as an incense in religious ceremonies."

(Foxworthy. *Minor Forest Products etc.* p. 166.

Ridley. *The Flora etc.* II. p. 297.

Yule and Burnell. *Hobson-Jobson*. p. 86).

- (28) Camphor. Eredia here refers to *Dryobalanops aromatica* Gaertn., which grows in the Peninsula, Sumatra, and Borneo.

The English name seems to have come from the Spanish *alcansfor* and *canfoia* through the French *camphre*.

The Malay name is 'Kapur Barus' *i.e.* from Barus (in Sumatra).

Marco Polo (1295) says the camphor of Fansur [*i.e.* Barus] was the best in the world: but both Forrest (*A Voyage to New Guinea*. (1780). p. 382) and Milburn (*Oriental Commerce*. (1813). II. p. 308) report that the Bornean camphor was held in superior estimation by the Chinese

"This is the original source of camphor: the Formosa Laurel-camphor being a discovery of a much later date."

(Ridley. *The Flora etc* I. pp. 210-1. Foxworthy. *Minor Forest Products etc*. p. 168. Yule and Burnell. *Hobson-Jobson*. p. 151).

For the Camphor Tree and the Camphor Language of Johore, see *JRASSB*. No. 26. (1894). p. 25.

- (29) Dragon's Blood: a name given to a red resin used for dyeing purposes; one of the chief sources being the *Calamus Draco* Griff. (*Daemonorops Propinquus*, Becc. in Hook. fil.): the fruits are shaken in a swinging basket with cockle-shells; the resultant resinous powder falls through interstices in the basket and is formed into cakes by hot water. (Ridley. *The Flora etc*. V. p. 42. Foxworthy. *Minor Forest Products etc* p. 157).

- (30) Trees yielding gums and oils. These include gutta percha, wild rubber, and other gums; resins, such as copal and damar, oleo-resins and wood oils, such as *minvak keruing*; fruit and seed oils, such as pongam oil: and essential oils, such as cajeput oil

(Foxworthy. *Minor Forest Products etc*. pp 162—172).

See also Ridley's paper on Dammar and wood oil in *JRASSB*. No. 34. (1900) p. 89; and the paper on gum-producing trees in *JRASSB*. No. 12. (1882). p. 207.

- (31) Fruits. A very large number of forest plants are used for food by the wild people living in the jungle' *cf.* the list given by Foxworthy. *Minor Forest Products etc*. pp 205—214.
- (32) "Durioes". *i.e.* Malay 'durian', *Durio Zibethinus* L. (Ridley. *The Flora etc*. I p. 261) first mentioned by Conti (15th century).

The French translation inserts a gloss 'a species of art'choke': this is apparently derived from Castanheda (1552) "durions, which are fashioned like artichokes."

The "*Doryad Tambaga*"; *i.e.* 'durian tembaga', 'bronze durian' is still held in the highest esteem: Eredia considered it the finest fruit in the world (p. 26 *supra*)

- (33) "*Mangostans*": *i.e.* Malay 'mannugstan' (usually called 'manggis'), *Garcinia mangostana* L. (Ridley. *The Flora etc*. I. p. 172).

Hamilton in 1727 (ii. p. 89) describes it in much the same language as Eredia, "The kernels (if I may so call them) are like cloves of garlick and of a very agreeable taste, but very cold."

"*Tampocs*": i.e. Malay '*tampoi*', *Baccaurea Malayana*, (34)  
Hook. fil., occurring in forests, and in cultivation. (Ridley. *The Flora etc.* III. p. 247).

At the present day it does not appear to be used for the manufacture of wine, cf. p. 30.

"*Rambès*": i.e. Malay '*rambai*', '*rambek*', *Baccaurea motleyana*, Müll. (Ridley. *The Flora etc.* III. p. 250: Foxworthy. *Minor Forest Products etc.* p. 210). (35)

"*Rambotans*": i.e. Malay '*rambutan*' *Nephelium lappaceum* Hiern. (36)

Valentyn (1726) says the Portuguese called it "froeta dos Caffaros", 'Caffers' fruit'.

(Ridley. *The Flora etc.* I. p. 499: Yule and Burnell. *Hobson-Jobson*. p. 756).

"*Bachoés*": i.e. Malay '*bachang*' or '*M'bachang*', *Mangifera foetida*, Lour.; the 'horse-mango'. (Ridley. *The Flora etc.* I. p. 524) (37)

"*Champadas*" i.e. Malay '*chempedak*', *Artocarpus polyphema*, Pers. (Ridley. *The Flora etc.* III. p. 354: Foxworthy. *Minor Forest Products etc.* p. 208). (38)

"*Chintes*". Dalgado (*Glossario etc.* I. p. 275) suggests (39)  
*Sentul* (*Sentol*), *Sandoricum indicum*, Cav., also called *Setui* in Langkawi. (Ridley. *The Flora etc.* I. p. 385: Foxworthy. *Minor Forest Products etc.* p. 209). Eredia is the only writer to quote the word before recent times.

"*Buasdûços*": apparently Malay '*buah duku*', i.e. '*duku* (40)  
fruit', *Lansium domesticum*, Jack., also called '*langsat*' or '*lansat*'. (Ridley. *The Flora etc.* I. p. 411: Foxworthy. *Minor Forest Products etc.* p. 209: Watson. (1928). *Malayan Plant Names*. p. 206).

Large timber trees. Cf. Foxworthy. *Commercial Woods of the Malay Peninsula*. (1921); and Foxworthy. *Commercial Timber Trees of the Malay Peninsula*. (1927). (41)

Elephants *Elephas maximus*, Linn is found throughout the Peninsula. (42)

Governor Bort (1678) records unsuccessful attempts to capture wild elephants.

The name '*Sabrang Gajah*' which occurs in Malacca territory, indicates the existence, formerly, of a ford used by elephants (Malay *gajah*). (*JRASSB* No 53. (1909). p. 35. *JRASMB* Vol. V. Pt. I. (1927). pp. 52-228).

"*Badas*": i.e. rhinoceroses. "*Bada*" is "a word used by old (43)  
Spanish and Portuguese writers for a 'rhinoceros', and adopted by some of the older English narrators. The origin is a little doubtful. If it were certain that the word did not occur earlier than c. 1530-40, it would most probably be an adoption from the Malay *badak*, 1930] *Royal Asiatic Society*.

'a rhinoceros'. . . . . [Otherwise] we should have to seek an Arabic origin in such a word as *abadat*, *âbid*, fem. *âbida*, of which one meaning is . . . 'a wild animal'. [Professor Skeat believes that the *a* in *abada* and similar Malay words represents the Arabic article, which was commonly used in Spanish and Portuguese prefixed to Arabic and other native words]". (Yule and Burnell. *Hobson-Jobson*. (1903). p. 1). The Englishman Barker (1592) uses the form "abath".

Both the smaller One-horned Rhinoceros, *Rhinoceros Sondaicus*, Cuv., and the Two-horned Rhinoceros, *Rhinoceros Sumatrensis*, Cuv., are found in the Peninsula. (*JRASSB*. No. 53. (1909). p. 35).

- (44) Tigers ("arymos"). *Felis Tigris*, Linn., Malay 'harimau', is found throughout the Peninsula and Singapore. (*JRASSB* No. 53. (1909). p. 14).

The French rendering omits to mention the word "arymos".

In the unpublished TREATISE ON OPHIR Fredia alludes to "a variety of monsters of *Aharimou*".

- (45) Tapirs. *Tapirus Indicus*, Cuv., Malay 'tenok' or 'badak himpil', is found throughout the Peninsula (*JRASSB*. No. 53. (1909). p. 36).

The *Ying-yai Sheng-lan* (1416) refers to the tapir, somewhat inappropriately one may think, as the 'divine stag' ( 神鹿 ) (Groeneveldt. *loc cit* p 199), unless these Chinese characters represent, in the Hylam dialect, a transliteration (*tin lok*) of the Malay name, as suggested in *JRASSB*. No. 52. (1908). p. 98.

- (46) Large snakes. Ridley in 1899 records 110 kinds of snakes as occurring in the Peninsula; the largest is the python, specimens of 26 feet being occasionally met with (*JRASSB*. No. 32. (1899). pp. 195-6).

- (47) Monkeys. For the monkeys of the Peninsula see *JRASSB* No. 53. (1909). pp. 3-11: the list includes Macaques, Leaf-monkeys, and Gibbons, with one man-like ape, the 'siamang', *Symphalangus continentis*, Thomas.

- (48) Bezoar-stone. Dalgado quotes from Trigault (1610) a curious etymology from two Hebrew words 'Baal', 'lord', and 'sor', 'poison'.

The usually accepted derivation is from the Persian *pâzah* meaning an antidote for poison, and coming down to us through the Arabic form *bâzah*, Arabic having no *p*.

The word occurs in the forms 'Pajar', 'bazar', 'bezahar', 'bezar', 'besar', 'pazahar', 'bezas', 'pahzer' (*Hobson-Jobson*. p. 90).

According to a note by Von Klarwill in *The Fugger News Letters*. (1924). p. 257, there were 4 kinds of bezoar-stones; (1) Lapis Bezoar Orientalis, found in the stomach of the Bezoar goat in Persia and East India; used as an antidote for poison and for plague and other ailments. (2) Lapis Bezoar Occidentalis, brought from the West Indies and Peru. (3) Bezoar Porci, found in the stomach

of the Indian pig, and brought to Europe especially by the Portuguese. (4) Bezoar Simiarum, monkey-stones, coming principally from Macassar, found in the stomach of baboons and regarded as possessing infallible curing properties. "They are agglomerates, consisting mostly of phosphoric acid salts their worthlessness as medicine has long been recognized"

According to Gimlette, *Malay Poisons and Charm Cures* (1923), the Bezoar-stone called *Batu Guliga* is endowed by Malays with magic properties, the various kinds are well-differentiated, and are derived both from the animal and vegetable kingdoms, from the rhinoceros, snake, sea-slug, and dragon, as well as from coco-nut, jack-fruit, bamboo, and petrified dew.

"A genuine Oriental bezoar is formed like a calculus in concentric layers, it is generally hard and brittle, smooth, round or ovate, and olive-green in colour, but occasionally light like the rare concretions found in the joints of bamboos, inside coco-nuts and in fruit-trees. "The bezoar of organic origin . . . was first discovered in the stomach of the Persian wild goat similar stones are found in the stomach, intestines, and bladder of ruminants, such as the ox, and in the horse and gazelle, but in the East the bezoar is generally found in the intestines and gall-bladder of smaller animals, such as the long-tailed monkey (*Semnopithecus*), especially in the chestnut-red langur of Borneo (*S rubicundus*). A soft brown variety is found in porcupines." "The stones are highly esteemed by Chinese as an antidote to poison and as a medicine" "Bezoar-stones are worn as amulets against disease and evil spirits, and are considered to possess wonderful medicinal virtues, but their principal value is founded on reputation" "The bezoar-stone is also called *buntat* in Malay, and when deemed to possess talismanic properties, it is known as *buntat gemala*"

Resende (c 1638) mentions bezoar-stones as one of the three chief products of the country. (*JRASSB.* No 60. (1911) p. 7): Bort (1678) says that sometimes bezoar-stones are found in the possession of the 'Banuas', "they get them from onkas and apes." (*JRASMB.* Vol. V. Pt I (1927). p. 54): Newbold (1835) speaks of "guligas", "stones extracted generally from the heads of porcupines" (Moor. *Notices of the Indian Archipelago.* p 73): "Pahang is still famous for its porcupines' bezoar-stones." (*JRASSB.* No. 60 (1911). p. 15). See also *JRASSB.* No. 4. (1880). p. 56. On the *Guliga* of Borneo

Linschoten (1598) has a chapter on the "Bezar stone". (*The Voyage, etc. (Hakluyt Society 1885).* II p 142).

Birds. cf. Robinson. *The Birds of the Malay Peninsula,* (49) 1928.

Fertile. The alluvium in Malacca "provides the most fertile ground for cultivation and is mostly utilized for rice-fields." (50) (*JRASMB.* Vol. V. Pt. II. (1927). p. 281).

This natural fertility was not always utilized, however: Valentyn (1726) remarks "The productiveness of this place is very 1930] *Royal Asiatic Society.*

poor, compared to that of the Coast [of Coromandel], Bengal, Ceylon etc., and the surrounding country bears a barren aspect." (*JRASSB*. No. 13 (1884). p. 51).

Fortunately the barrenness of aspect has departed: the scenery of Malacca is delightful, though no doubt the advent of the ubiquitous rubber-tree has impaired the beauty of the picture as seen by Swettenham when he wrote "On either hand there will be rice fields—emerald green when newly planted, golden with ripe grain, or brown when fallow. These are studded by topes of lofty palms shading a few brown huts. The distance is always shut in by hills of a marvellous blue." (*British Malaya*. (1907). p. 6).

- (51) Neghgent. For several hundred years unsuccessful attempts have been made to render the country self-sufficient in essential foodstuffs.

The Dutch company lent money without interest to encourage agriculture "so that some day we may be able by this means to subsist on our own products", but Governor Bort found that in a year "all the rice plantations did not provide more than 38,010 gantangs."

At that time, rice was imported from Bengal, Siam, Java, and the East coast of Sumatra.

Governor Bort wrote to his successor "This country must have a larger population, especially of industrious Chinese, so that the necessary cultivation of the soil may be continued."

(*JRASMB*. Vol. V. Pt. I. (1927) pp. 51, 52, 74, 133, 179).

The Dutch Commissioner Schouten in 1641 attempted to obtain from Batavia "what was most important, some Chinese to cultivate the fields and gardens" (*JRASSB* No. 22 (1890). p. 239).

Valentyn (1726) said of Malacca "The place is not very productive in provisions; everything must be imported from other places, with the exception of fish and some other kinds of fruits"

- (52) Monancabos' *i.e.* "natives of Menangkabau in the W. part of Central Sumatra and their descendants in the part of the Malay Peninsula that lies to the N of Malacca, where many of them had effected settlements long before the end of the 16th century".

Resende (*c.* 1638) calls them 'Monancabos' (*JRASSB*. No. 60. (1911). p. 5); Governor Bort has 'Manicabers.' (*JRASMB*. Vol. V. Pt. I. p. 220).

In 1580, the 'Manencabos' co-operated with the King of Johore by devastating the country-side and cutting off supplies from Malacca. A Portuguese force captured Naning 'with much slaughter.' (Danvers. *The Portuguese in India*. (1904). pp. 69, 70).

- (53) "Betre": "the leaf of the *Piper betel*, L. chewed with the dried areca-nut (which is thence improperly called *betel-nut* . . . .), *chunam* [lime], etc., by the natives of India and the Indo-Chinese countries. The word is Malayalam *vettīla*, *i.e.*, *veru* + *īla* = 'simple or mere leaf,' and comes to us through the Portuguese *betre* and *bette*."

The word occurs in the forms 'vettele,' 'betelle,' 'betele,' 'vitele,' 'bittle,' 'beetle,' 'bettle.' (Yule and Burnell. *Hobson-Jobson*. (1903). p. 89).

The Malay name for this vine is 'sreh'

According to Barbosa (1516) the Portuguese called it 'Indian leaf,' 'Folio Indio.' (*The Book of Duarte Barbosa (Hakluyt Society: 1918)*. I. p. 168).

Areca: "the seed (in common parlance the nut) of the palm (*Areca Catechu*, L., commonly, though somewhat improperly called, 'betel-nut'; the term *betel* belonging in reality to the leaf which is chewed along with the *areca*... The word is Malayalam *adakka* according to Bishop Caldwell, from *ada* 'close arrangement of the cluster,' *kay* 'nut,'... and comes to us through the Portuguese." (Yule and Burnell. *Hobson-Jobson*. p. 35). (54)

While a few writers use the Malay word 'Pinang,' the majority refer to 'areca' or such variant forms as 'arecha,' 'arecca,' 'arequa,' 'archa,' 'arreaes,' 'arequies'

"Pancalan": i.e., Malay *pankalan* "starting point, quay," (55)  
etc.

Governor Bort writes 'Pancalan,' 'Pancelan,' and 'Pankelan.'

The reference is to Pangkalan Naning "a point on the Malacca river within Naning territory and about 12 miles N. by W. of Malacca town, near the Alor Gajah railway station." (*JRASMB*. Vol. V. Pt. I. (1927) p. 223),

Mr. C. W. Dawson, Malayan Civil Service, writes to the translator "Near Alor Gajah Railway Station is a level grassy place on the bank of the Malacca River known to all as Pengkalan. This is certainly the place referred to. It is probably the nearest navigable point on the river at which people coming down from Naning would arrive to embark to Malacca or elsewhere"

Pulo: this may be Governor Bort's 'Poelo' and 'Poulou'. (56)

"Malay *pulau* "island," a hamlet about 6—7 miles due N. from Malacca town." (*JRASMB*. Vol. V. Pt. I. (1927) p. 225).

On the other hand Eredia appears to place his 'Pulo' further to the north-east: it should probably be identified with the 'Pulau' which lies about ¼ mile beyond Sempang Gading.

In Begbie's list of 'Nanning' villages, 'Pooloo' appears between 'Sebang' and 'Gadi.' (*The Malayan Peninsula*. (1834). p. 149)

Machat: Governor Bort's 'Matchap': modern Machap; the name of a *mukim* and of a village in Malacca territory about 14 miles NNE. of Malacca town: there is a very famous shrine here; Skeat describes it as the most celebrated of the Malacca *kramats*. (*Malay Magic*. p. 64). (57)

With regard to the neighbouring 'Buquet dolon' (cf. the map, p. 211 *infra*), Mr. C. W. Dawson writes to the translator, "This is certainly Bukit Dalong, a small steep hill perhaps 100 feet high, situated about one mile from the main Malacca-Tampin road on the right-hand side at the 17¼ mile, across the river. There is a grave with a small building erected over it on the top

of the hill. It is sacred to Chinese and Malays alike and is a favourite place for an ordeal by oath. It is the place where the final meeting and feast is held after a "*berpuah*" ceremony (the driving of the evil spirits from the rice-fields), which is usually performed once in three years."

- (58) Cottot: perhaps the Malay word 'Kota', 'fort'. the place cannot be identified

Eredia seems to place it somewhere near Bukit Batu Tiga, in the middle of the Bukit Senggeh Forest Reserve: he may refer to Bukit *Katong*, which is close to Bukit Batu Tiga.

The translator is indebted to Mr. C. R. Howitt, Malayan Civil Service, for this and other suggestions.

- (59) Ganur: elsewhere called 'Gamur': apparently Gemeh (Gemas): the name 'Gemas' is found over a large area extending from Kampong Kuala Gemas, north of Gemas Railway Station in Negri Sembilan, to the neighbourhood of Mt. Ophir in Johore, a distance of some 20 miles.

Mr. Howitt writes that Eredia places 'Gamur' in approximately the correct position, at the end of the road from Nyalas to Asahan.

- (60) Rombo. Governor Bort's 'Rombouw,' *ic*, "Rembau, a small State to the N. of Naning, founded by Menangkabau settlers from Sumatra and for a considerable period under the nominal suzerainty of Johor. Now a part of the Nēgēri Sembilan." (*JRASMB* Vol. V. Pt. I. (1927). p. 227).

(Danvers glorifies it with the name of 'Bombo').

"[Rembau] and the other States were no doubt at the time of the taking of Malacca by the Portuguese inhabited by aborigines only. These latter assisted in the defence of Malacca with their primitive weapons." (*JRASSB* No. 13. (1884). pp. 241, 252)

Rembau, protesting innocence, submitted without resistance to the Portuguese forces in 1586. (Danvers. *The Portuguese in India*. p. 70).

Governor Bort (1678) says "the jurisdiction of Malacca . . . extends . . . inland up to the village of Rombouw [which] . . . used to be under Johor, and [is] . . . still to some extent subject to it." (*JRASMB*. Vol. V. Pt. I. (1927). p. 49).

Johore, however, ceded Rembau, with Linggi and Klang, to the Dutch in 1757. (*JRASSB*. No. 67. (1914). p. 74). and after 1773 Johore "had nothing more to do with the Negri Sembilan." (*JRASSB*. No. 13. (1884). p. 246).

For the history of Rembau see *JRASSB*. No. 56. (1910). pp. 1—157.

- (61) Banuas. 'Banua' is common Indonesian for "district or inhabited place." In Malay *orang bĕnua*, "people of the country," is "one of the numerous Malay appellations for the so-called aborigines or uncivilized tribes of the Malay Peninsula, particularly applied to those of the South." (*JRASMB*. Vol. V. Pt. I. (1927). p. 209).

Eredia and the other early writers probably did not make any distinction between the Negrito Semang, the lighter-coloured Sakai, and the Proto-Malayan Jakun.

Governor Bort gives an interesting account of a visit to the 'Bonuaes,' whom he describes as "whitish yellow in colour." (*JRASMB*. Vol. V. Pt. I. (1927). pp. 51-55).

*Cf.* the note on the 'native inhabitants of Ujontana', p. 125 *infra*.

Regarding Queen Purty and 'Gunoledam' see the note on p. 165 *infra*.

Regarding the Indo-Chinese affinities in the dialects of the Semang and Sakai *cf.* *JRASSB*. No. 27. (1894). p. 21).

### NOTES ON PART I CHAPTER 3.

2 leagues At the present day the distance is 23 miles from (1)  
Cape Rachado to Tanjong Medang situated on Pulau Medang  
(adjoining Pulau Rupert) off the Sumatran coast.

Sabbara. If Gerini's identifications are correct, Eredia makes (2)  
the fundamental error of imagining that Ptolemy's isthmus, which in  
fact represents the Isthmus of Kra, is an isthmus running from Cape  
Rachado to Pulau Rupert: with the result that he locates in Sumatra  
certain places (such as Tacola) which should be located on the Malay  
Peninsula.

The position of Sabara, a city, is given by Ptolemy as 159° 30'  
E 8° 30' N Gerini corrects this to 95° 55' East of Greenwich and  
16° 18' N. ("the local correction here consisted in shifting these  
stations westward of a quantity equal to the displacement of Cape  
Têmala [Negrais] eastwards, *i.e.*, about 3° longitude"). and  
identifies it with the site of the present Twantê (96' East of Green-  
wich and 16° 41' N.), not far from Rangoon. (*Researches etc*  
(1909). p. 72 and Table III).

On folio 25 recto of the MS. Eredia purports to reproduce  
'Ptolemy's XIth Table of Asia' this plan, however, does not  
correctly represent the relative situations of Sabara and Tacola, for  
it shows Tacola as lying south-west of Sabara, whereas Ptolemy  
imagined it to be east of south, for he gives the longitude of  
Sabara and "Takola (the mart)" as 159° 30' and 160° respectively,

It is unfortunate, too, that Eredia mis-writes 'Sabara' for  
'Sabana': the former is somewhere in Burmah, the latter some-  
where in the Malay Peninsula: Ptolemy gives its position as 160° E  
and 3° N, Gerini corrects this to 99° 17' East of Greenwich and  
3° 13' N, and takes it to be either "the Selangor district or its  
chief town. The corrected latitude resulting for Ptolemy's mart  
would show it to be placed near Kwāla Selangor, [101° 14' E, 3°  
21' N] that is, the mouth of the Selāngor River where there is a  
small harbour. But it may be Kwāla Sembah further east, up the  
same stream. A place called *Sābah* exists at some forty miles  
further to the north near the mouth of the Bernam River." (Gerini.  
*Researches etc.* (1909). p. 100).

The reason for the existence of Sabak Bernam, nearly 20 miles from the mouth of the river and on the way to nowhere, has always seemed somewhat of a mystery. If it really was an ancient mart, this might be the solution, that it was a place of export for the tin and perhaps gold and jungle-products of Ulu Selangor and the interior: even so, we might well expect the port to be nearer the mouth of the river, say at Hutan Melintang.

Rouffaer, again, thinks Sabana "will correspond with the XVIth century Straits of Sabang and with the Karimuns, Hasin, or Galoh." (*JRASSB.* No. 86. (1922) p. 259).

- (3) Parcelar. Through the kindness of Dr R. O. Windstedt, Director of Education, to whom the translator is greatly indebted for his assistance in connection with this paper, the translator has been supplied with an anonymous note, dated 1909, which is worth quoting in full:—

"'Bukit Parcellar' occurs in the *Mohit* (translated by Bittner and published by the Geographical Society of Vienna in 1897). This was a set of sailing directions drawn up by a Turkish Admiral in 1554 from non-Portuguese sources: in fact, the Portuguese borrowed largely from the same sources

One passage is as follows:—

Page 60. "from Fulo Sambilan to the Fulo Jumar islands Southwards: to the South-east-easterly (or as some say East-South-east) of Fulo Jumar lies the mountain of Fulo Pasalar: from Fulo Pasalar to Malacca one goes South-easterly . . ."

Pulau Jumar must be Pulau Jemur (marked on the chart) one of the Aru Islands. Dampier gives the best route from Acheen to Malacca as, bringing the Aru Islands bearing South-east at 3 or 4 leagues distance and then steering away East by South for the Malacca shore about 20 leagues off till Pulo Parcelore is picked up. He adds that if the weather is thick, pilots lay-to till they see the Hill.

It is noticeable that he calls it *Pulo Parcelore*.

As to the name which is obviously pre-Portuguese, I can only offer a guess. On the Malabar Coast at about 13° 50' is a Barsilur Peak; Barcelore was a place of some importance in the old days, and if the peak is a well-known landmark and if it resembles Bukit Parcellar, it is very probable that the early sailors, who are certain to have known the Malabar Coast well, transferred the name to a notable landmark on the Malacca Coast.

The word is not Malay and the name is a seaman's name, unknown on shore. The Malay name of the hill is Bukit Jugra."

So much for the note.

The translator has not been at pains to ascertain if the peak is a well-known landmark or if it resembles Bukit Parcellar, for even if both these enquiries were answered in the negative, the answer would not be conclusive; there are other instances of place-names in

Further India which have been imported from India Proper, "the nomenclature of the valley of the Indus and its affluents . . . was at an evidently very early date transferred to the valley of the Irāvātī and surrounding territory in Further India" (Gerini *Researches etc.* (1909) p. 41)

It is doubtful whether the derivation from 'Barcelore' can be maintained; for 'Barcelore' itself is believed to be a Portuguese corruption of *Busrur* [the Canarese *Basarīru*, 'the town of the waved-leaf fig-tree.'] (Yule and Burnell *Hobson-Jobson* (1903) p. 45).

Moreover, the mere fact of the name occurring in the '*Mohit*' is not convincing, for when this book was written, in 1554, the Portuguese had been nearly 50 years in Malayan waters, and a Portuguese name might easily have slipped in.

That the name was pre-Portuguese, however, seems conclusively established by its occurrence in a work by the Arab writer Ibn Majid, dating from 1462 (*Journal Asiatique* Tome XII. (1918) p. 399)

Ibn Majid calls the hill 'Pulaw Pasalar,' and the Portuguese 'Pullo Praselaa,' with variations 'Praselar,' 'Praçelar,' 'Parcelar' and 'Pracella'

The origin of the name could not have been Arabic, for the Arabs had no 'p'

It is noteworthy how mariners have associated the hill with the shoals, the "South Sands" [which] extend across with but little interruption to the Sumatra coast. The neighbourhood of South Sands may be considered for sailing vessels as 'the most dangerous part of Malacca Strait' (*China Sea Pilot* (1916) Vol. I p. 226)

Ibn Majid (1462) speaks of "Pulaw Pasalar which is with Kafāsi", and again "Pulaw Pasalar is the mountain of Kafāsi" (— 'the shoals of Capacia')

The Chinese, too, called the hill 'Cotton Island' (棉花嶼) and the shoals 'Cotton Shoals' (棉花淺), cf. the account of the *H'u-pei-pi-shu* chart in *JRASSB* No. 53. (1909). p. 158.

Kafāsi' of the Arabs is the 'Capacia' of Albuquerque and Barros, and the 'Capasia' and 'Capacea' of Galvano.

The translator suggests that the occurrence of the forms 'Capasia' etc., and 'Kafāsi,' with the Chinese translation 'Cotton,' implies an original derivation either from the Malay *kapas* or, to go further back, from the Hindustani *kapās*, meaning 'cotton': there is a Pulau Kapas about 10 miles SE of Kuala Trengganu.

It will be noticed that Turkish, Arabic, and Chinese writers call the hill an 'island'. the designation apparently dates from the time when the hill was completely surrounded by water, see note on p. 94 *supra*.

Barros says that the 'Moors' exaggerated the danger of navigation among the shoals of 'Capacia' (*Decades*. II. Book VI Chapter 11. p. 38)

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The forthcoming series of Arabic geographical works, of which M. Gabriel Ferrand is general editor, may throw important light on mediaeval Malayan geography

- (4) Tacola Ptolemy gives the position as  $160^{\circ}$  E,  $4^{\circ} 15'$  N. Gerini corrects it to  $99^{\circ} 17'$  East of Greenwich,  $9^{\circ} 52'$  N, and places this mart "in the neighbourhood of the present Ranōng, and at the mouth, or inside, of the Pāk-Chān inlet," in the district of "*Takūa-pā*, called by Europeans and Malays *Takōpa* or simply *Kopa*; generally noted in maps as *Kopah*," in  $98^{\circ} 22'$  E,  $8^{\circ} 48'$  N. He connects the word with *Kāla* and *Kola*, used to designate tin and appearing in the Arab *al-kali* and the Portuguese *calim* or *calin*.

He considers that the place was well-known from over a century before Ptolemy's time, as evidenced by a reference to *Takkola* in the Pāli work *Milinda Pānhā*.

He identifies it with *Kalah-bar* of Abu-Zaid (9th Century)

Its importance he ascribes to the local tin mines and to the trans-peninsular trade-route (*Researches etc* (1909). pp 85-94)

- (5) Arū or Auro Eredia, with his usual fancy for derivations, connects the name of the place with the traffic in gold ('aurum')

He places it rather less than half way between 'Aracan' (Rokan) and Diamond Point, *ic*, somewhere between the Asahan and Deli Rivers: see p. 213 *infra*.

The reference is to a place on the mainland, not to the Aru (Aroa) Islands

Gerini's map marks 'Haru' further north, between the Basitan and Tamiang Rivers, approximately in the latitude of the modern Aru Bay, about  $4^{\circ} 13'$  N

Ferrand places the ancient state of Haru or Aru (the 阿魯 *Ya-lou* or 阿魯 *Al-lou* of the Chinese) near the mouth of the Rokan River (*Journal Asiatique* Tom. XII. (1918) p 65).

Groeneveldt (*op cit* p 218) connects the State with the Aru Islands and locates the former on that part of the coast which is nearest to them, about the mouth of the Burumon River

- (6) Tico that is, modern Tiku, on the west coast of Sumatra, situated in about  $0^{\circ} 25'$  S

- (7) Not very ancient Modern research, exploring sources other than the authors mentioned by Eredia, inclines to the opinion that it was very ancient.

We are told that "Indians had from time immemorial been active along their own coasts, and had traded with Malay, East Africa, and the Persian Gulf." (Warmington *The Commerce between the Roman Empire and India*. (1928) p. 64). that "the combination in the Burmese rice boats of both laddered A-shaped mast and ribless hull indicates clearly and definitely that Egyptian methods of construction were carried East at a remote period, perhaps between the Third and Fifth Dynasties (2900 to 2600 B.C.) (Forde. *Ancient Mariners*. (1927). p. 32): that "Phoenician sailor-merchants brought timber from Mediterranean countries; silver from Burmah, Mashonaland and Ophir (Malaya), gold from Ophir

woods, fabrics, incense, peacocks, etc. from India and pearls from the Red Sea and Ceylon" in 1000 B.C. when Solomon was building his great temple"; and again "This assumes that the Phoenicians in the period between the Pyramid Age in Egypt and the last few centuries B. C. had traversed the whole coasts of Africa and the Indian Ocean and had even crossed the Pacific Ocean after passing the Straits of Malacca." (Johnstone *A Study of the Oceans* (1926). p. 197).

Finally, Eredia himself soon changed his opinion on this subject, for in the unpublished TREATISE IN OPHIR dated 1616, he writes (in Part II Chapter I, "Concerning the voyages of Solomon").—" [Solomon's fleet] coasted along the Asiatic mainland past the emporium of Baracura, then past Syriam in Pegu and Martavan, as far as the isthmus of the Golden Chersonese or Perimula, Samata (corruptly Samatra) and the western coast of the Chersonese; then the fleet entered the channel between the Chersonese and Java (wherein Bantan is situated) and continued along the eastern coast of the Chersonese as far as the isthmus and passed along the Straits to-day called the Straits of Sabbaō and Sincapura and the coast of Ujontana, till it came to the port of Ophir to-day called the port of Siam, from there it went to the port of Tharsis called Canton in the country of the Chynas of Attai or Cattay, anciently Tharsis (corruptly Thays) "

Native inhabitants of Ujontana cf. *Pagan Races of the Malay Peninsula* (1906) by Messrs. Skeat and Blagden, also Pater P Schebesta's *Among the Forest Dwarfs of Malaya* (1929) which deals with the Semang, and his *Orang-Utan* (1929), written in German, which deals with the Sakai and Jakun of the Peninsula and the Kubu of Sumatra (8)

There are three stocks of 'Orang Utan' (to which the Malays apply the generic name of 'Pangan'), namely - -

1. The woolly-haired Semang, about 2,000 in number,
2. The wavy-haired Sakai, about 10,000 in number,
3. The lank-haired Jakud'n (Jakun), about 10,000 in number

"The Semang are rightly numbered among the pygmy races.

[They] have never reached the stone age - they never emerged from the bamboo age" (Schebesta)

"The first inhabitants [of the Peninsula and Archipelago] were probably a black woolly-haired race, of which pygmy representatives (Negritos) are the Andamanese, the Semang of the Malay Peninsula, the Aeta of the Philippines and the pygmies of New Guinea".

"We may regard the next great migration as that of a Pre-Dravidian stock, relics of which are found in the Sakai of the Malay Peninsula, and in a few tribes in the Archipelago." (Haddon).

"[They] represent the second element among the aboriginal tribes"... "It has been said that they should be connected linguistically with the Mon-Khmer peoples, and physically with the Veddas" [of Ceylon]. (Buxton).

Risley associates with the Sakai, a Scytho-Dravidian type "who live in a belt of country in the West of India extending from Gujerat to Coorg," and suggests that the latter came possibly from China.

"In physique, culture, and partly also in speech the Jakud'n are plainly Malay. I call them Proto-Malays." (Schebesta).

"Haddon has invented the convenient term "Proto-Malays to mean the branch of Pareoan man (Yellow man) from whom the various specialised modern "Malay" peoples are sprung".

"Haddon is very careful to define the Proto-Malays as Mongoloid brachycephals. Most authorities agree with him on this point." "The characters show that the Proto-Malay type is closely connected with the Pareoan from which indeed it is sometimes difficult to distinguish it"

(Buxton finds that "intermediate between these peoples [Sakai] and the Proto-Malays, but more closely allied to the latter, are the Besisi. They have Proto-Malay chiefs and physically seem to be closely allied to this stock")

So much for the peoples of the Peninsula in the Archipelago there is a fourth stock, the "Indonesian", "probably most of the Dravidian tribes can claim kinship with this same race" (Buxton).

"This wave of migration followed--perhaps at a considerable interval--that of the Pre-Dravidian, it probably originated from the lower valley of the Ganges" (Haddon)

"Speaking broadly, there has been a continual movement of peoples from South China, mainly in a southerly direction, which has also affected the East Indian archipelago" (Haddon).

To sum up, the migrations as they have affected the region of the Malay Peninsula appear to have taken place, according to the ethnologists, as follows --

- 1 Negritos (Semang), moving down the Peninsula either by land or sea,
- 2 Pre-Dravidians (Sakai), apparently descending the Peninsula by land
- 3 Indonesians, (not found in the Peninsula), migrating to the islands by sea,
- 4 Proto-Malays, overrunning the Islands by sea either from their settlement in Indo-China (Champa) or else after descending the Peninsula, and as a rule dominating the Indonesians eventually.
- 5 True Malays, 'Orang Malayu', crossing from Sumatra and permanently occupying the Peninsula in the twelfth century A D

It may be added that an admixture of Malay blood has been thought to exist among the Japanese. Buxton, however, tentatively suggests that the third element (in addition to 'yellow' man and a strain distantly akin to 'Alpine' man) is a type which is akin to Proto-Malayan, but which is probably best represented to-day among such people as the inhabitants of the hills of South Fukien.

"It is more than possible that we should say that the Japanese are not the direct descendants of the Southern Chinese, but rather are the descendants of the peoples who are racially akin to them".

[*Bulletin of the School of Oriental Studies* Vol. II Pt II (1926) pp. 270—276). Haddon *The Wanderings of Peoples*. (1927). pp. 17, 18, 33, 34): Buxton. *The Peoples of Asia* (1925). pp 44, 52, 218-219, 236-238) *JRASSB* No 81 (1920), p 27.]

Battas. Gerini argues "an original connection, if not exactly racial, at least social as regards intercourse, customs etc., between the Battas, the Kachins and the Wah people of the Yunnan-Indo-Chinese borders" "For as we have seen, this very form of cannibalism can be traced almost uninterruptedly, and through fully twenty-four centuries, all the way from the Archipelago to Upper Burma. and thence to the original Kachin country, and to the Central Asian homes of the old Kallatians or Kallantians and Massagetes, or *Ta-Yuch-chih* of Herodotean and Sinological fame. The line along which we have traced the custom in question very probably marks also the track followed, in the inverse direction, by the parent stream of emigration from which most of the above-named tribes of the Indo-Chinese mainland and Archipelago are descended, or, at any rate, with which they have become blended" (*Researches, etc* (1909), p. 661)

For a recent account of the 'Batak' see Collet, *Terres et Peuples de Sumatra* 1925

Civilization Eredia grasps the essential fact that 'the Malay Peninsula and Archipelago is indebted for its ancient development to adventurers and colonists from the Coromandel and Malabar coasts', or, as Blagden puts it, "unquestionably Indian influence was by far the most potent of the forces which led the Javanese and Malays to such civilization as they attained" (*JRASSB* No 39. (1903) p 206), so Havell (*Indian Sculpture and Painting*) "From the sea-ports of her eastern and western coasts India sent streams of colonists, missionaries, and craftsmen all over Southern Asia, Ceylon, Siam, and far-distant Cambodia"

The extension of Indian influence in the Peninsula and Archipelago constitutes a subject of its own' one may, however, quote from two recent writers "We know now that the Bengali and Southern Indian Rāmāyanas came to Indo-China and settled there .after having passed through Java and the Malay Peninsula"

"In comparing the bas-reliefs of Angkor with those of the temples of Prambanan and of Pantaran, in Java, one is struck by the analogies between the choice of the episodes and by the similarity of method in representing them. Thus one comes to realize the close connection which existed between the two countries who shared the same traditions and the same beliefs (Karpelès in *Indian Art and Letters* New Series Vol. I. No I. (1927). pp 31, 32); and "The archaeology of Siam embraces the most diverse styles each of which is characteristic of one of the epochs of Indian culture in the countries lying to the East of India". "[The Wat Keo at

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Jaiya] is exactly the plan of the Tjandi Kalasan of Java, which we know was built in A. D. 778 by a king of the Sailendra dynasty which was reigning at the same time at Srīvijaya" [Palembang]. (Coedès in *Indian Art and Letters* New Series. Vol. I. No 1. (1927) pp 58. 65).

The Journal of this Branch contains a number of papers which deal with various aspects of Indian influence in Malaya:—

|        |         |         |        |   |
|--------|---------|---------|--------|---|
| JRASSB | No. 83  | (1920). | p. 88. | (beliefs)                                       |
|        | No. 82  | (1920)  | p 119  | (folk-tales)                                    |
|        | No. 81. | (1920). | p. 37. | (literature and popular<br>mysticism)           |
|        | "       |         | p. 9.  | (magical lore)                                  |
|        | "       |         | p. 6   | (alphabet; pantheism)                           |
|        | "       |         | p. 5   | (tomb: missionaries)                            |
|        | No. 80. | (1919). | p. 29. | (loan-words)                                    |
|        | No 79.  | (1918). | p 105. | (marriage ceremony)                             |
|        | No. 76. | (1917)  | p. 67  | (loan-words)                                    |
|        | No. 38. | (1901). | p 67.  | (Southern India and the<br>Straits Settlements) |

See also *Essays relating to Indo-China* First Series Vol I. (1886) p 50. (language) Winstedt's *Shaman Saiva and Sufi*. (1925). (magic) and Mookerji's *Indian Shipping* (1912). (maritime intercourse).

"Evidence points to the possibility of a connection between India and Java as early as 700 B.C., a regular commerce being maintained between the two countries" (Perry *The Megalithic Culture of Indonesia* (1918) p 3)

(11) Intercourse between Egypt.

"Navigation in the Red Sea dates from very early times, and a definite but mostly indirect trade with India was established by the Ptolemies" [4th century B.C.]

"[Alexander] wrote an account of his voyage which was used by Marinus of Tyre (fl. 2nd century AD) in his description of voyages taken round Cape Comorin into seas round the mouths of the Ganges and to the Malay Peninsula, of which the western part was now visited with some frequency"

(12) (Warmington *The Commerce etc* (1928) pp 6 126)

Tropobana: *ie* Ceylon: *Taprobane* of the Greeks and Romans in Pali *Tambapanni* In the unpublished TREATISE ON OPHIR Eredia gives a more than usually fanciful derivation for the name: 'Tropos or the island Tropobana', he says, 'is derived from the Greek ' τρῶπιος ' meaning 'turn'; but in consequence of the 'bramanas' (brahmins) there, it was called 'Tropobramana' corruptly 'Tropobana'

(13) S Thome "Even if we cast aside as unhistorical every allegation of fact in the stories about St Thomas, we must at least admit that they reflect voyages habitually taken to India during the most prosperous period of the Roman Empire"

(Warmington. *The Commerce etc* (1928) p. 83).

*Journal Malayan Branch* [Vol. VIII, pt. I.

Solomon. "The Phoenicians who voyaged for Solomon came to Southern India at least, and their commercial intercourse with India [dates] from the seventeenth century B.C. . . it must have ceased, in a direct way, full five hundred years B.C., if not more." (Gerini. *Rescarches etc.* (1909) p 598.) (14)

"Hiram, King of Tyre, had navies in the Mediterranean and Red Seas. His ships brought gold and silver from East Africa, fabrics, precious stones, rare woods, peacocks, incense, pearls, etc., from the Far East. Even a thousand years before the time of Solomon and Hiram, sailor-traders sailed between the Red Sea and the Gulf of Persia, whence they brought commodities carried in Arab ships from India, or even further"

(Johstone *A Study of the Oceans.* (1926). p 27)

## NOTES ON PART I CHAPTER 4.

ANTIQUITIES. cf. Evans. *Ethnology and Archacology of the Malay Peninsula*, 1927 (1)

Cf. also *JRASMB* Vol II. Pt. III (1924). p. 289 (likely localities),

|               |                      |   |
|---------------|----------------------|---|
| <i>JRASSB</i> | No 86 (1922) p 386   | } (gravestone of Sultan Mansur Shah)    |
|               | No. 85 (1922). p 1   |   |
|               | No 78 (1918) p 47    |   |
|               | No. 60 (1911) p 37   | (gravestone of Raja Fatimah. 1496 A D ) |
|               | No. 60 (1911) p 35   | (royal cemetary at Pekan)               |
|               | No 49 (1907) p 95    | (old Sanskrit inscriptions)             |
|               | No 48 (1907) p. 97   | (graveyards of the Sultans of Perak)    |
|               | No 44 (1905) p 213   | (coins from Malacca)                    |
|               | No 39 (1903) p 205   | (clay tablets from Kedah)               |
|               | No 39 (1903) p 183   | (coins from Malacca)                    |
|               | No 23. (1891). p 141 | (stone implement from Singapore)        |

No. 18. (1887). p 356 (Siamese work in Perak) and *Essays Relating to Indo-China* Series I Vol. I (1886). pp. 219, 222, 223, 227, 232. regarding inscriptions in Kedah, Province Wellesley and Singapore

Panchor Governor Bort's 'Pantjoor'. "Malay *panchor*, (2) flowing of water through a conduit." The name appears in the 1916 map of Malacca but not in the 1927 map: it is situated on the promontory near the name 'Batu Blah' about 11 miles N. E. of Malacca town: there is a granite quarry on the foreshore.

See Eredia's map of the Malacca district: p. 208 *infra*

Governor Bort (1678) mentions two places of this name (*JRASMB*. Vol. V Pt I (1927) p 50): one is described by

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Blagden as being a hill "about 14 miles N. of Malacca town" (p. 224); this is Bukit Panchor in the Bukit Panchor Forest Reserve: the other is situated "on the North side, along the sea-shore", and is associated with 'Tanna Merah' and 'Aijer Itam' in Bort's account (p. 50). this is clearly the 'Panchor' of Eredia.

The translator is indebted to Mr. F. T. Tree, Malayan Civil Service, for the following account:—

At Panchor I was shown a sea-cliff from which there is a constant trickle of clear fresh water, called locally "*anak ayer pëtri*" ["Princess' Streamlet"]. The freshlet falls into a pool which is referred to as "*pëtri mandi*" ["Princess' Bath"]. A few feet distant, at a small projection of the cliff, there is a large pile of granite boulders. Many of the boulders are rough in shape, but a large proportion of them have obviously been carefully hewn into rectangular blocks. The carved blocks carry small recesses which were probably used for the purpose of bolting the granite into fixed positions. It is quite possible that these blocks had been used for the construction of a bathing pavilion, for at this place it would have been possible to fill adjoining tanks with both fresh water and sea-water. The sea has encroached in this locality, and many of the blocks have fallen into the sea. It must be many years since the building was abandoned, for not even the "oldest inhabitants" know anything about it. There is an ancient "*kramat*" ["sacred place"] on the cliff-summit, about 200 yards distant."

- (3) "*Palandos*" i.e. Malay '*pëlandok*', the Small Mouse-deer or Plandok, *Tragulus (Kanchil) Ravus* Miller, occurring in the Peninsula and Singapore (*JRASSB.* No 53. (1909). p. 44). Newbold (1839) remarks that the flesh tastes a little like that of the hare. The '*pëlandok*' is the 'Brer Rabbit' of Malay folk-lore. (*Skeat Malay Magic.* p. 179).
- (4) Aer Raya                      Aer Patry. The name 'Ayer Raya' (Malay, 'Raja's stream'), is understood but is not commonly used. The name 'Aer Patry', that is 'Ayer Putri', ('Princess' stream') is in current use, the stream is close to Tanjong Putri, marked on the 1927 map.

The word 'Ayer' takes the form 'Air' on several of the British Admiralty Charts (e.g. No. 709, West Coast of Sumatra)

- (5) Batugaja i.e. Malay '*batu gajah*' 'elephant stone': the name is in current use and appears about 1 mile NE. of Tanjong Putri in the 1927 map.

With regard to the neighbouring '*Batu manambuan*' (cf. the map, p. 207 *infra*), Mr C. W. Dawson writes to the translator. "I am informed by the Penghulu of the neighbouring mukim of Sungei Baru Tengah that the name Batu Miniabong is well known in the vicinity and until 5 or 6 years ago there was a famous granite stone on the beach here. The stone was 10 feet high at one end and 2 feet at the other end, and in the middle of the sloping top

was a level smooth area some 6 feet wide. The story is that the celebrated mediaeval warrior Hang Tuah used this as his cock-fighting arena, whence the name arose—Malay, *měnyabong*, to fight (of a cock). At the lower end of the rock, says the Penghulu, was the imprint of a foot, human in shape but superhuman in size, being no less than 2½ feet long. It was a right foot and all the toes were clearly visible. Hang Tuah is said to have made this print while stamping with glee at the victory of some famous gamecock.

The stone was blasted to pieces (incredible vandalism) by the granite-quarry contractor some 5 or 6 years ago, in spite of the protests of the Penghulu and others "

Sarvarrallos *Cf.* Part I Chapter 2, page 21 *supra*.

(6)

The translator is indebted to Mr. F. T. Tree, Malayan Civil Service, for visiting the probable site of the 'Royal Orchard' and writing the following account —

"The Penghulu of S Udang and two Penghulus of the Alor Gajah District, conducted me to the site of an old orchard at Sungei Batu. It is an interesting place. There is a low hill, almost surrounded by a big sweep of the S Baru. The S. Baru is now but a stream, but a local "*orang tua*" ["elder"] told me that in his young days it was a fine river. At this place tradition is more fruitful and the *kampung* folk have definite stories which were handed down from their "*datok neuk*" ["ancestors"]. They were able to point out to me a spot, on the hill-slope, where the Malay king had built his "*Kubu*" ["stockade"]. From the "*Kubu*" his followers commanded the river-approach, and stopped all vessels which came up from the sea. After "*chukai*" ["dues"] had been paid, the traders were allowed to barter their goods in the surrounding country, which was well cultivated with rice-fields and orchards. The king's "*istana*" ["palace"] used to stand on the crest of the hill. After the Malay king had been driven out, the "*kubu*" and "*istana*" were occupied for very many years by "*baba adriang*": (I am told that "*baba*" was applied generally to foreigners, and that "*adriang*" is the Portuguese pronunciation of the name "Adrian"). The hill is now chiefly a Chinese rubber estate, but there are still several wonderfully fine durian trees which, according to the Malays, must be some hundreds of years old."

Andaro. Eredia does not mark this place in any of his maps, (7) and the situation is unascertained. Gerini speaks of "Aindra, the designation for the region to the East of the Ganges" (*Researches etc* p. 29)

Dona Helena Vessiva, *i.e.* Eredia's mother, daughter of Dom (8) Juan Tubinaga, King of Supa in the Celebes: see Chapter 25 of Part I (p. 54 *supra*).

## NOTES ON PART I CHAPTER 5.

- (1) Compartments. The transcript has "peitacas." Garcia da Orta (f. 223 v) says that at Malacca the spaces in the interior of the durian were called *peitacas*. Dom Vieira's *Dicc. Port.* explains the word as meaning the room in a junk. It is Javanese *petak*, which has various meanings, one being "a compartment or subdivision in the hold of a ship." (*The Travels of Pedro Teixeira. (Hakluyt Society: 1892).* p. 178 n.) The corresponding Malay word is *petak* فُتَق
- (2) "Romanyâs". i.e. Malay 'rumeniya', *Bouea microphylla* Griff, the plum mango.  
(Ridley. *The Flora of the Malay Peninsula.* (1922) I p. 519; Foxworthy. *Minor Forest Products of the Malay Peninsula* (1922). p. 210).
- (3) Chory or Cape Comorin Cape Comorin is "the extreme southern point of the Peninsula of India; a name of great antiquity."  
It is the κομαρ of the *Periplus* (c. 80-90), the κομαρὶδ ἄκρον καὶ πόλις of Ptolemy (c. 150), the *Comari* of Marco Polo (1298), and the *Kumhari* of Abdulfeza (c. 1330).  
The Portuguese poet Camoens (1572) "identifies the ancient κῶρυ or κῶλις with Comorin.  
These are in Ptolemy distinct, and his *Kory* appears to be the point of the Island of Râmesvaram from which the passage to Ceylon was shortest" (Yule and Burnell. *Hobson-Jobson.* (1903). p. 238)  
Eredia's map on folio 28 R which purports to be a reproduction of Ptolemy's map of Indostan in Asia marks only 'Chori' and not Komaria: the distinction between the two points is clearly shown in the reproduction of Ptolemy's map of Taprobane in Codrington's *A Short History of Ceylon*, (1926), p. 4.
- (4) Cinnamon The Malay name is "*Kayu Manis*" from which Garcia derives the word 'Cassia'.  
The cinnamon of commerce is the bark of the tree *Cinnamomum Zeylanicum* Bl a native of Ceylon Ridley thinks that the true cinnamon is probably a very aromatic form of *Cinnamomum iners* Bl, which is one of the commonest low-country trees in the Malay Peninsula.  
The bark is mainly used as a spice it is also used in medicine as a cordial and stimulant, and in the manufacture of incense  
Ridley says that *Cinnamomum Zeylanicum* was introduced probably from Ceylon about 1806 and sparingly cultivated.  
(Ridley *The Flora of the Malay Peninsula.* (1922). III. p. 97; Foxworthy. *Minor Forest Products of the Malay Peninsula.* (1922) pp. 195. 208).  
For cinnamon and other spices cf. Ridley's book *Spices* (1912) v.  
(5) "*Canafistola*" This would appear to be the 'Cana fistula' recorded from Malacca by Linschoten (1583).

Garcia da Orta has a colloquy on this tree and its uses. The name *Cana* was no doubt derived from the resemblance of the long stiff pod (sometimes two feet in length) to a stick. (*The Book of Duarte Barbosa*. (*Hakluyt Society*. 1921). II. p. 92 n.)

Ridley identifies it with *Cassia fistula* Linn. or Indian laburnum. (*The Flora of the Malay Peninsula*. I. p. 620).

Regarding the local name 'Bireksa' (Beraksa), Ridley writes "Evidently not a Malay word: the tree is only cultivated here and that not often." (*JRASSB* No. 30. (1899) p. 60).

Other local names are 'Tengguli', 'Raja Kayu' and 'Dulang'. (Watson. *Malayan Plant Names* p. 169).

Watt (*Dict. of Economic Products of India*. II. p. 218) says.

"The name *Cassia Fistula* was first applied to a form of cinnamon very similar to the *Cassia Lignea* of the present day, the name *Fistula* having been given because of the bark being rolled up"

"*Tamarindi*". *Tamarindus indica* L., the *Asam Jawa* of the Malays: the fruit is used in curries it is probably a native of Africa. The origin of the name is supposed to be Arabic *Tamar-u' l-Hind*, 'date of India'." (6)

(Ridley *The Flora etc.* I. p. 636. Yule and Burnell. *Hobson-Jobson*. p. 894).

Cobra wood. Mr Ridley (amongst other kindnesses) writes to the translator "Pao de Cobra in India or Ceylon at least means *Strychnos Nux Vomica*, but Garcia adds two more which are evidently not *Strychnos*, and alludes to one in Malacca of which he gives no description. The only connecting link between these was that the wood was bitter" (7)

According to Dalgado, the name '*pau de cobra*' was given to various plants, such as *Rauwolfia Serpentina*. Bentl., *Strichnos Colubrina* Linn. and *Aristolochia indica* Linn. (*Glossario etc* II. p. 196)

The superstition mentioned by Eredia is still current in Malacca. Big tall tree Mr Ridley tells the translator that this is most probably dipterocarp wood-oil, "minyak keruwing" (8)

The *Dipterocarpaceae* are among the biggest trees of Malayan forests (Ridley *The Flora etc* I 209 et seqq. Foxworthy *Minor Forest Products etc* p. 166)

Begbie (1834) speaks of the "*Kluing*" or oil-tree from which the wood-oil is principally extracted." (*The Malayan Peninsula*. p. 346).

Brasil-wood trees "This name is now applied in trade to the dye-wood imported from Pernambuco, which is derived from certain species of *Caesalpinia* indigenous there. But it originally applied to a dye-wood of the same genus which was imported from India and which is now known in trade as Sappan. The history of the wood is very curious. For when the name was applied to the newly discovered region in South America, probably, as Barros alleges, because it produced a dye-wood similar in character to the Brazil of the East, the trade-name gradually became appropriated (9)

to the South American product, and was taken away from that of the East Indies." (Yule and Burnell. *Hobson-Jobson*, (1903). p. 113).

According to Dalgado, Brasil was known in Portugal before the discovery of India and of Brasil, where the name of "Santa Cruz" supplanted it. Presumably it is derived from 'brasa' [*i.e.*, 'red-hot coals', *cf.* French 'braise'] with reference to its colour. (*Glossario etc.* (1919). I. p. 149).

The wood, now known as 'Sappan', Malay '*Sepang*', constitutes the most valuable dye-wood of the Peninsula. (Ridley. *The Flora etc.* I. p. 649: Foxworthy. *Minor Forest Products etc.* p. 174.)

- (10) Cotton trees. The text has "arvores de panha".

The modern form is 'paina' which, according to the dictionary, is a botanical word meaning 'a sort of very fine Brazilian cotton.

Father Coroado tells the translator that the word 'panha' is still in use at Malacca, meaning 'cotton fresh from the tree'.

The Peninsula contains several varieties of *Malvaceae*, especially *Eriodendron anfractuosum* DC., called by the Malays '*kapok*' or '*kabu*'; besides various cultivated types, chiefly *Gossypium herbaceum* L. known as '*kapas*' (from Sanskrit *karpasa*). (Ridley. *The Flora etc.* I. p. 253).

- (11) Round Pepper *Piper Nigrum* L., Malay '*Lada hitam*': used by the Malays as a medicine in cases of cholera. (Foxworthy. *Minor Forest Products etc.* p. 193: Watson. *Malayan Plant Names.* (1928). p. 226).

- (12) Long Pepper. Two distinct kinds of long pepper are sold in the native markets; namely, the dried fruit spikes of *Piper Longum*, a native of India, and *Piper officinarum*, (C.D.C.), a native of Java.

The Malay names are '*Bakek*', '*Chabai*', '*Kadok*', or '*Sich Kadok*'.

Pepper is used in medicine for indigestion, colic and flatulency, and as an unguent in paralysis.

(Watson *Malayan Plant Names* p. 226: Foxworthy. *Minor Forest Products etc.* p. 193: Ridley. *The Flora etc.* II p. 470).

- (13) "*Renriure*" No such Malay name is known at the present day. If the reading is right, the name is obsolete and the plant cannot be identified. The translator is indebted to the Reverend Father Hosten, S.J., of Bombay, for the suggestion that the correct reading should be "zenzivre", "ginger".

- (14) "*Lancoas*". *i.e.* Malay '*Lengkuas*', *Alpinia Galanga* L.

The aromatic fruit is used in making curries. It is also used in native medicine as a wash. (Ridley. *The Flora etc.* IV. p. 279: Foxworthy. *Minor Forest Products etc.* p. 192).

- (15) "*Choncor*": probably Malay '*Chengkor*', '*Chekor*'; *Kaempferia galanga* L., cultivated as a spice; the root is used as a

carminative stomachic. Eredia is the first writer to quote the name. (Ridley. *The Flora etc.* IV. p. 245. Foxworthy. *Minor Forest Products etc.* p. 192: Watson. *Malayan Plant Names.* p. 205: Dalgado. *Glossario etc.* I. p. 279).

Country saffron. The transcript has "açafrao da terra", a name which the Portuguese applied to *turmeric*. Garcia da Orta identifies 'country saffron' with *curcuma* and gives the Malay name as 'cunhet'. (Dalgado. *Glossario etc.* I. p. 8. Yule and Burnell. *Hobson-Jobson.* p. 780). (16)

Hence Eredia would seem to refer to *Curcuma domestica* Val., the local turmeric, 'Kunyit' of the Malay Peninsula. It supplies the Turmeric used in curries and is also used as a dye (Ridley *The Flora etc.* IV. p. 254). Foxworthy says the rhizomes of *curcuma longa* L. are used as a medicine for dysentery. (*Minor Forest Products etc.* p. 192).

"Casumba". The Malay name 'kesumba' usually denotes *Bixa orellana* L., also known as 'Kunyit Jawa', Anatto, producing a red dye. (Watson *Malayan Plant Names* pp. 72-75: Ridley. *The Flora etc.* I. p. 252). (17)

In medicine the seeds are regarded as astringent and febrifuge. (Watt *The Commercial Products of India.* p. 143).

Milburn speaks of "cossumba" "a red dye much used among the Malays" (*Oriental Commerce.* (1813). II p. 310).

Possibly, however, Eredia refers to the Indian 'Kusumbha' (Malay 'Kesumba'), *i.e.* The Cultivated Safflower, Bastard Saffron, (*Carthamus tinctoricus* Linn., which was introduced into China about the 2nd century B.C. It appears that among almost all nations there has been a certain confusion between Saffron and Safflower.

(Watson. *Malayan Plant Names.* p. 168. Yule and Burnell. *Hobson-Jobson.* pp. 779-780).

Foxworthy says the flowers of *Bunga Kasumba* are used for a wash after confinement (*Minor Forest Products etc.* p. 204).

It is somewhat confusing to find that the Malays while denoting *Bixa orellana* by the name 'Kunyit-Jawa', called it also 'Kusumba-Kling' to distinguish it from 'kusumba-jawa', the name which they applied to *Carthamus tinctoricus* (Crawford. *A Descriptive Dictionary of the Indian Islands* (1856) p. 135).

"Betre": *i.e.* *Piper Betle* L., Malay 'sreh'. There are two cultivated varieties, 'sreh Malayu' and 'sreh China': commonly used for chewing with betel-nut. (18)

The juice of the leaves is used in medicine for wounds in the ears.

(Ridley. *The Flora etc.* III. p. 40: Foxworthy. *Minor Forest Products etc.* p. 193).

Wine. See notes on Chapter 8 of Part I. p. 138 *infra*. (19)

## NOTES ON PART I CHAPTER 6.

- (1) Wolves and jackals In fact wolves are absent from South Eastern Asia, jackals range down into the Malay Peninsula to about 12° North

The translator is indebted to Mr C Boden Kloss, Director of Museums, Straits Settlements and Federated Malay States, for this and other information, as well as for valuable advice on miscellaneous points

- (2) 'Lynta' The text has a marginal note 'Lynta digu Tambahim' and at the end of the chapter there is a picture of the animal in question with the superscription 'Tambolyn como Armadillo'

Fredia here refers to the scaly ant-eater, *Manis javanica*, modern Malay 'tenggiling'

In modern Malay 'lintah' means 'a horse-leech'

Dalgado remarks (*Glossario etc* (1919) II p 503), Senhor Cabaton takes 'lynta' as the Malay 'lanta' 'porcupine', used for pangolin, and explains that the confusion probably arose from the fact that both animals curl when frightened

(In Wilkinson's Dictionary, the word is spelled 'landak')

Yule and Burnell (*Hobson Jobson* (1903) p 668) write of Pangolin, this book name for the *Manis* is Malay *Pangulang*, the creature that rolls itself up Scott says The Malay word is *peng guling*, transcribed also *peng guling* Katingan *penguling* It means roller or, more literally 'roll up'

The word is formed from *guling*, 'roll, wrap', with the denominative prefix *pe*, which takes before *g* the form *peng*"

Mr Skeat remarks that the modern Malay form is *teng-giling* or *scengg'ing*, but the latter seems to be used, not for the *Manis*, but for a kind of centipede which rolls itself up

The word *pangolin* to judge by its form should be derived from *zuling*, which means 'roll over and over' The word *panggu ling* or *pengguling* in the required sense of *Manis* does not exist in standard Malay The word was either derived from some out-of-the-way dialect or was due to some misunderstanding on the part of the Europeans who first adopted it

Marsden's *The History of Sumatra* (1811) contains a representation of this animal with the description 'Langgiling or Pengguling sisek' (Plate XVIII)

It will be noticed that Fredia is careful to avoid responsibility for the accuracy of the story he adds "this is what the natives relate"

Mr Boden Kloss tells the translator that the story is well known and entirely without foundation For this and other stories of the Pangolin, see Skeat *Malay Magic*, p 154

- (3) Carbuncle Gimlette in his *Malay Poisons and Charm Cures* (1923) writing of the bezoar stone, says "A stone of this sort, the *gemala naga*, is said to have luminous properties, and to be used by dragons to light their way in the dark at night Another, the

*gêmala ular*, gives luminosity to the head of the black cobra." "The *bomor* also uses a black stone (*batu ular*) as a "snake stone" it is supposed to have been vomited by the snake and to possess luminosity in the dark" (p. 51 *et seq*).

"*Lacocacho*." Eredia tells the same story in the REPORT ON THE GOLDEN CHERSONESE: (see p. 252 *infra*). It seems that he is the only writer to mention this curious animal. Dalgado suggests that the expression might represent *laku-kuching*, that is to say "manner of cat" (Malay). (*Glossario Luso-Asiatico*. (1919). I. p. 503). (4)

Dr. Blagden points out to the translator that if the word emanates from Gilolo, it may belong to a language which has no discovered affinity with the surrounding Indonesian dialects

The translator is indebted to Mr C Boden Kloss for the suggestion that Eredia refers to the Cuscus (*Phalanger* Species), and to the Director of the Zoological Museum at Buitenzorg for the information that the common name for the Cuscus in the Moluccas is "kookoos" or "kukus", and that no particular name is current in Gilolo.

Grey-hound Compare the account given in the REPORT ON THE GOLDEN CHERSONESE, p 253 *infra*. (5)

Eredia's dog with the luminous eyes, like Edward Lear's dog with the luminous nose, is unknown to modern zoology.

## NOTES ON PART I CHAPTER 7.

"*Girical*" Dalgado (*Glossario etc* (1919) p. 58) writes of this word, that it "is a concani-marata word, *jiresal*, composed of 'jirem' (cummin-seed) and 'sal' (rice), = cummin-seed-rice, *i.e.*, rice which resembles cummin-seeds. It is very fine, white, fragrant, and savoury our writers considered it of the first quality. It is written both 'girical' and 'gerical'" (1)

Other commentators think that the name "cummin-seed rice" is to be attributed to its smell

The word occurs in several of the earliest European writers, such as Castanheda, Coirea and Albuquerque

Barbosa (1516) says this rice is the best sort on the Malabar coast Pyrrard of Laval (c 1560) describes it as "small but the best in the world". Linschoten (1598) writes "This Rice.... is called Girasall, Ryce, which is the best .."

Linschoten makes a curious remark about this word: speaking of the Jack-fruit, he says "the best are called Girasal, and the common and least esteemed, Chambasal. . . By this name Girasal and Chambasal, the Indians doe make difference of their Ryce, and other things: they call the best Girasal and the worst Chambasal."

(*The Voyage of John Huyghen Van Linschoten*. (*Hak'luyt Society*: 1885). II. p. 23).

No such name is known among the Malays at the present day, though it perhaps survives in the name 'giresih padi' given by the Malays to *Macaranga Lowii*, King.

In the time of Dennys (1894) the paddy produced near Gunong Miko in the Naning district was said to be of very good quality. (*A Descriptive Dictionary*. p. 147).

- (2) "Puloth" .i.e. Malay 'pulut', (glutinous varieties of rice), *Oryza Sativa*, Linn.
- (3) Does not occur. Bowrey (1669) speaking of Junk Ceylon remarks, "They have an Excellent Sort of rice here, but scarcely Enough to Subsist with the whole yeare. Yet rice from the Coast or Bengala will not Sell Very well here by reason 'tis not soe fine and good as their owne is". (*A Geographical Account etc. (Hakluyt Society: 1905)*. p. 247).
- (4) "Camottes" .i.e. sweet potato.

## NOTES ON PART I CHAPTER 8.

- (1) Wine "Nypa" 'Nipah' is the Malay name for the palm *Nipa fruticans* Thunb the Portuguese, however, usually called the tree itself *nipeira* and used the word *nipa* to denote the spirit made from the sap. The old travellers represent Tenasserim as the great source of the nipa spirit which is called variously 'nipa', 'nipar', 'annipa', 'nype', 'neepe' and 'nippa' etc, and described as 'vino eccellentissimo' (Caes. Frederici, 1568) 'very strong' (Barber's *Account of Lancaster's Voyage*, 1591).

Forrest (c. 1784) mentions 'Næpa' . which "gives a toddy from which at Queda they distil a spirit" (*A Voyage from Calcutta to the Mergui Archipelago*. p. 127).

In the REPORT ON THE GOLDEN CHERSONESE Eredia speaks of wine called by the natives 'arat' or 'uraca', made from wild palms which are called 'Nipeiras' or 'Nipas': see p. 236 *infra*

Bowrey (1669) mentions a drink commonly called "Nipa de Goa" which he says was made by distilling "Neep toddy" (*The Countries etc* p 78).

Ridley says that a considerable number of liqueurs and other drinks were at one time made from the alcohol obtained from the sugar. (*The Flora of the Malay Peninsula*. (1925). V. p. 71): according to Foxworthy the sap when fermented and distilled furnishes one of the cheapest known sources of industrial alcohol. (*Minor Forest Products of the Malay Peninsula*. (1922). p. 159). According to Crawford, the probability is that the Indian islanders were unacquainted with the art of distilling an ardent spirit until they acquired it either from the Arabs or the Chinese. (*Descriptive Dictionary of the Indian Islands*. (1856) p. 121).

Yule and Burnell think that the slang word 'nip' for a small dram of spirits, is adopted from *nipa*.

Of the 'wines' mentioned in this Chapter it is believed that only the rice-spirit ('samsu') is manufactured at the present day in Malaya: though, perhaps, infinitesimal quantities of other 'wines' are produced in small illicit stills.

Teixeira has a disquisition on Asiatic wines (*The Travels of Pedro Teixeira. (Hakluyt Society: 1892).* p. 198.

"Tuûca": i.e. Malay *tuak*, 'fermented spirit made from palm-juice'. (2)

Earthen-ware. The use of earthen-ware utensils was thought to make the "Arack" "mild and pleasant" (Lockyer. *An Account of the Trade in India.* (1711). p. 266.) (3)

As strong as fire. Bontius (1631) mentions the ingenious idea adopted by the Chinese ("avarissimi simul et astutissimi bipedum") of gingering up their 'arac' with a little sea-slug. (*Hist. Nat. et Med. Ind., Dial. iii.*) (4)

"Berebere". "An acute disease, obscure in its nature and pathology, generally but not always presenting dropsical symptoms, as well as paralytic weakness and numbness of the lower extremities, with oppressed breathing. . . ." (5)

The word has been alleged to be Singhalese *beri* . . . 'debility'. It is also sometimes alleged to be a West Indian negro term: and other worthless guesses have been made at its origin. The Singhalese origin is on the whole most probable."

Eredia himself was attacked by this malady: he explains in Part II Chapter 10 how he was compelled to return from Malacca to Goa in order to get cured. this was in or about the year 1605.

Cloth. "This çura they distil like brandy . . . and the result is a liquor like brandy; and a rag steeped in this will burn as in the case of brandy" . . . . (Garcia da Orta (1563). f. 67). (6)

Marco Polo. According to Yule, the tree here intended is the *Arenga Saccharifera*, called by the Malays *Gomuti* and by the Portuguese *Saguer*. (*The Book of Ser Marco Polo.* (1926). II. p. 297). (7)

Cocos-palm. "The tree and nut *Cocos nucifera*, L., a palm found in all tropical countries, and the only one common to the Old and New Worlds. The etymology of this name is very obscure . . . The more common etymology is that which is given by Barros, Garcia de Orta, Linschoten etc., as from a Spanish word *coco* applied to a monkey's or other grotesque face, with reference to the appearance of the base of the shell with its three holes . . . Medieval writers generally (such as Marco Polo, Fr. Jordanus, etc.) call the fruit the *Indian Nut*, the name by which it was known to the Arabs." (Yule and Burnell. *Hobson-Jobson.* (1903). p. 228). (8)

The Malay name is 'Kêlapa' or 'nyiu'. The old travellers make innumerable references to coco-nut wine or spirit: thus Wang Ta-yuan (1349) writes that in Pahang they "ferment the juice of the cocoa-nut to make spirits" (*T'oung Pao* Vol. 16. (1915). p. 120); Linschoten (1598) says "Likewise there is much wine brought thither, which is made of Cocus or Indian nuttes" and again "This *Sura*, being distilled, is called *Fula* . . . and is an excellent

*aqua vitae* as any is made in *Dort* of their best renish [rennush] wine, but this is of the finest kinds of distillation". (*Habluyt Society*. i. 103 and ii. 49).

Lockyer (1711) states that "Arack" properly so called was the spirit "distilled from the Liqueur that runs from the Coconut-tree without any other mixture". (*An Account etc.* p. 266); cf. also p. 236 *infra*.

- (9) "*Tempôe*". Newbold (1839) speaks of fermented liquor obtained from the fruit of the tampui being drunk at marriage feasts among the 'Benuas'. (*Political and Statistical Account etc.* (1839). p. 407).
- (10) Wine . . . from rice. Rice wine and rice spirit are in common use throughout a great part of Eastern Asia under a variety of names. A very potent spirit made from rice is consumed in large quantities by the Chinese in Malaya: it is both imported and also manufactured locally: the usual name now-a-days is 'samsu'.

Wang Ta-yuan (1349) says in the Langkawi Islands "the people . . . ferment glutinous rice to make spirits" (*T'oung Pao*. Vol. 16. (1915). p. 126).

Rice spirit is also referred to under the name of 'arrack' (and cognate forms): thus Dampier (1687) speaks of "two jars of *Arack* (made of rice as I judged) called by the Chinese *Samsu*".

## NOTES ON PART I CHAPTER 9.

- (1) "*Malayu*" Yule and Burnell quote Skeat as writing . . . "It is probable that [the word] started its life-history as a river-name in the S. of Sumatra, and thence became applied to the district through which the river ran, and so to the people who lived there; after which it spread with the Malay dialect until it included not only many allied, but also many foreign, tribes, all Malay-speaking tribes being eventually called Malays without regard to racial origin. (*Hobson-Jobson* (1903). p. 545). (See also Blagden's paper on the name "*Malayu*" in *JRASSB.* No. 32. (1899). p. 211).

Gerini takes a view diametrically opposite: "From the presence of a stream *Malayu* in this [Palembang] region and the traditions connected with it, related in the "*Sejarah Malāyu*" and other Malay semi-historical works, Valentijn argues that the Malays must have derived their first name. This is, of course, absurd; . . . *Tānah Malāyu*, as far as local tradition goes, was the name of the southern portion of the Malay Peninsula. If such a name was also applied to part or the whole of the Palembang district, it is because it must have been introduced thither by emigrant Malays from the south of the Malay Peninsula, and not the reverse . . . "The name *Malāyu* had then not as yet [A. D. 960], apparently, travelled down so far south or crossed over the Straits to Sumatra; but was still lingering on the southern part of the Malay Peninsula, making ready to cross whenever a favourable opportunity should present itself . . . "  
(*Researches etc.* (1905). pp. 530. 531).

Ferrand places *Malāyu* as well as the *Mou-la-yeou*, (木刺由) etc. of the Chinese and Marco Polo's *Malauir* in the district of Malacca.

(*Journal Asiatique*. Tome XII. (1918). pp. 89. 91. 99).

Ujon Calan: *i.e.* "Ujong Salang, commonly Junk Ceylon, an island off the West Coast of Lower Siam (the long isthmus which leads down to the Malay Peninsula) in about lat. 8° N The name is Malay from *Ujong*, *hujong*, "point", and *salang*, which has various meanings but in the present case is probably only a corruption of the Siamese name for the island, viz. Chalāng, with the variant Thalāng" (*JRASMB*. Vol. V. Pt. I. (1927). p. 218). (2)

The name appears as 'Juncalan' (Pinto, 1539), 'Junsalaom' (Barker, 1592), 'Jonk Ceyloan' (Hamilton, 1727) 'Jan Sylan' (Forrest, 1784): and many similar forms, see Begbie, the *Malayan Peninsula* (p. 428), and the Hakluyt Society's edition of Thomas Bowrey.

Governor Bort (1678) has 'Jonghsalangk', 'Oedjan Salangk', 'Oedjang Salangk', 'Oedjang Salong', 'Oedjangsalangk'.

Yule and Burnell quote Skeat as writing "There is at least one quite possible alternative *i.e.*, *jong salang*, in which *jong* means 'a junk', and *salang*, when applied to vessels 'heavily tossing'. Another meaning of *salang* is 'to transfix a person with a dagger' .." (*Hobson-Jobson*. (1903). p. 473).

Gerini calls attention to the possible connection of the term *C'hā-lāng* or *Salāng* (wild tribes living near Bal-Angwe, the ancient Cham capital of Lower Champā) "with *C'halāng* or *Salāng*, the name of the island which lies off the west coast of the Malay Peninsula, with *Selangor*, the appellation of a district further to the south of the above, and eventually, also with *Selung*, the designation borne by the descendants of the primitive population of the Mergui Archipelago". (*Researches etc.* (1909). p. 274).

One might also mention two other similar names, Oedjang Salang placed in South Kedah in Valentyn's map (*JRASMB*. No. 22. (1890). facing p. 246) and K. Salang (denoting probably Kampong Salang) shown as situated in Johore about 10 miles up the Scudai river in the map dated 1904 published in Veitch's *Life of Sir Andrew Clarke*.

The Selung of the Mergui Archipelago, who call themselves Mawken, are known variously as 'Selone', 'Salong', 'Selung', 'Silong' and 'Salon'. Water Hamilton (1828) calls them 'Chalomes'. They speak a Malayan language which is "probably the residuum of a tongue spoken at an extremely remote period by a prehistoric race on the continent of Further India". It has also been said of them that they represent "the northernmost of the Orang Laut or sea tribes of the Malayan race". Some of them are called 'orang laut'. (White. *The Sea Gypsies of Malaya*. (1922). pp. 56, 155-7, 160-1).

No convincing derivation has been suggested for the name 'Selangor', which also appears in the forms 'Salengore', 'Calangor' 1930] *Royal Asiatic Society*.

'Salangor', 'Solongor', 'Sorlangor', 'Solungor', 'Selomgor', 'Sara hangor', and 'çaranguor'.

It might provide a satisfactory explanation of the name if we could suppose it arose from a Tamil appellation 'Salong-ur' *i.e.*, 'village of the Sa'long'.

On the other hand Barbosa's appellation 'Sara hangor' (apparently for 'Sara langor') suggests that possibly the derivation may be 'sarang lang' (Malay), 'hawk's nest': this name is borne by a locality not far from the mouth of the Selangor River.

Newbold (1839) suggests that 'Salangore' may be a corruption of 'Calang' (Klang). (*Political and Statistical Account etc.* II p. 30).

- (3) Romania: also called Roumania, Ramenia, Ramunia, or Rumania; about 23 nautical miles from the town of Singapore: "the name of Roumania, or whatever it is, is based on a misconception. There is an island called Pulau Rumënia about two miles West of Tanjong Penyusok and opposite to it on the main land is a large *kampung* called Kampong Rumënia. The name applied to the point—Ramunia, Roumania, or Rumania—is evidently a corruption of Rumënia, and the name has been applied to a place to which it never belonged. Rumënia is the well-known fruit-bearing tree *Bouea microphylla*" [the plum-mango].

- (4) Pedra Branca: *i.e.* Portuguese 'White Rock', the 'Batu Puteh' of the Malays situated about 32 miles due East from the town of Singapore.

In 1852 a light-house was erected on the rock in memory of Horsburgh, the well-known hydrographer. 'Horsburgh Light' is a leading mark on the voyage from Singapore to China and the Further East (Dennys. *Descriptive Dictionary of British Malaya.* (1894). pp. 156. 280).

- (5) Malaya language. Valentyn (1726) says that the *Bahâsa Malâyu*, *i.e.*, the Malay language "was not only spoken on that coast, but was used through the whole of India, and in all the Eastern countries, as a language understood everywhere and by every one, it being used and understood in Persia, nay even beyond that country on that side, and also as far as the Philippines." (*JRASSB.* No. 13. (1884). pp. 52-3).

Magellan found that his Malay interpreter could make himself understood from Madagascar to New Guinea.

The interpreter or "linguist" was often known by the Malay expression '*juu bahasa*' which was duly corrupted into 'Jerry Bassa' (Forrest); in much the same way in which the Hindustani 'Râm jâni' (dancing-girl) was corrupted into 'Rum-johnny'; one of Forrest's seamen rejoiced in this appellation.

At the present day, the Malay language constitutes a convenient 'lingua franca' for the 20 or 30 races which are to be found in Singapore and the big towns of Malaya and obviates the necessity for two Chinese to converse in 'pigeon English' as is the case in Hongkong.

The translator has heard Malay spoken in the streets of Canton. Derived from "*Attayos*". Exactly how Eredia derived (6) 'Malayo' from 'Attayos' it would be interesting to know. At any rate, in regarding the Malays as having originated in China, Eredia anticipates more or less what is becoming the usually-accepted theory as to the original cradle of the Malay race.

Cabaton thinks their ancestors were Mongolian nomads from Central Asia. (*Java, Sumatra, and the Dutch East Indies*. (1911). p. 6).

Haddon defines the Proto-Malays as 'Mongoloid brachycephals,'—a branch of Pareoan (yellow) man, and indicates that before overrunning the islands they lived in Indo-China. (*The Wanderings of Peoples*. (1927). p. 34).

Spread. If the modern definition of Proto-Malays as 'Mongoloid brachycephals' is correct, there is an element of truth in Eredia's statement that the Malays are descended from the 'Attayos' of China, though Eredia does not indicate whether the 'Attayos' were Mongols, Chinese, or pre-Chinese. (7)

The origin of the 'Malay' race is obscure, and an account of its diffusion difficult to obtain.

A study of the authorities indicates that the most probable course of events was as follows:—

The ancestors of the Malays belonged to the Mon-Annam stock and in B.C. 1200 or 1000 occupied what is now called Kwei-Chou and the neighbouring territory in South China.

During the next thousand years they descended to Indo-China, and formed States of considerable power under Indian princes. They also spread south and east to the islands.

About the beginning of the Christian era, adventurous voyages were undertaken by the 'Javanese' who colonized Madagascar and sailed as far as the Cape of Good Hope (Ferrand)

About the sixth century the Indo-Malayan kingdom of Palembang in Sumatra began to grow in power; it became an empire and extended its control along both coasts of the Malay Peninsula in the seventh or eighth centuries

Sumatran Malays permanently occupied the Peninsula in the twelfth century.

The Javanese Empire of Majapahit overthrew Palembang in 1377, and was in turn overthrown by a confederacy of States headed by Demak about the time when the Portuguese arrived.

To the east, 'Malays' expanded as far as New Guinea.

To the south, it is certain that they visited the north Australian coast.

In some places the presence of Malays is partly due to deportation, for instance, in South Africa, Siam, and Ceylon: in this last place they are chiefly fishermen concentrated near the town of Hambantota, 'the village of the hambans' (sampan).

[Gerini. *Researches etc.* (1909). pp. 129, 252, 272-3, 301 etc.

Haddon. *The Wanderings of Peoples*. (1927). pp. 31-36.

Ferrand in *Journal Asiatique*. 11th Series. Tome XII. (1918). pp. 113, 121, 123.

JRASSB. No. 81. (1920). pp. 27, 28.

*Bulletin de l'Ecole Francaise d'extrême-orient*. Tome XVIII. (1918). No. 6. p. 23.

Schelten. *Monumental Java*. (1912). p. 114.

Wood. *The Discovery of Australia*. (1922). p. 23.

*Le Monde Oriental*. (1926). pp. 34, 72, 77, 80, 82.

*Indian Art and Letters*. N. S. Vol. I. No. 1. (1927). p. 74.

JRASSB. No. 77. (1917). p. 251.

JRASSB. No. 76. (1917). pp. 70-1, 126.

*Journal Asiatique*. 11th series. Tome XV. (1920). p. 330.

*Anthropos*. Tome XXII. Parts 1, 2. pp. 80-124].

- (8) Uninhabited. In all probability, Eredia is quite wrong on this point: if the southern migration of the 'Proto-Malays' from Indo-China is to be ascribed to pressure by the Tibeto-Burman and Tai peoples, their entry into the Islands and the Peninsula must probably be placed within the last three thousand years. (cf. Haddon. *The Wanderings of Peoples* (1927). pp. 31, 34): whereas the Negrito occupation of these places must have preceded the migration to Australia of the Pre-Dravidians who exterminated or amalgamated with the earlier woolly-haired peoples of that continent, and "how long ago that happened we cannot even conjecture" (cf. Haddon: *op. cit* p 34, and Forde. *Ancient Mariners* (1927). p. 1).

Some writers have thought that the primitive inhabitants once enjoyed a civilization considerably superior to that represented by their present-day condition: according to De Quatrefages "In the Malay Peninsula, as in India, conquest has destroyed States that were considerable and flourishing once upon a time, but of which even recollection has been lost, driving back to the jungles and mountains the races, more or less Negroid, which had founded them" (Cf. Gerini. *Researches etc* (1909). p 254: JRASSB No. 13. (1884). p. 11).

- (9) Aziongaber: *i.e.* Ezion Geber. The transcript has 'Arion gaber'.
- (10) Appearance. Valentyn (1726) describes the Malays as "of a rather pale hue and much fairer than other natives of India".
- (11) Band. Valentyn calls it "a turban rolled round the head".
- (12) "Baju". Eredia gives the correct Malay spelling of the word: other writers have 'badjoe' and 'badjoo'.

Marsden (1784) says it "resembles a morning gown, open at the neck, but fastened close at the wrist, and half-way up the arm". (*History of Sumatra* p. 44).

Dennys (*Descriptive Dictionary of British Malaya*. 1894) describes many varieties of this Malay jacket

- (13) Skirt. Eredia refers to the Malay 'sarong' (from Sanskrit 'sāranga' meaning, 'variegated' and also 'a garment'): "the cloth or sarong which has been described by Mr. Marsden to be 'not

unlike a Scots Highlander's plaid in appearance, being a piece of party-coloured cloth, about 6 or 8 feet long, and 3 or 4 feet wide, sewed together at the ends, forming as some writers have described it, a wide sack without a bottom. With the Maláyu, the *sarong* is either worn slung over the shoulders as a sash, or tucked round the waist and descending to the ankles, so as to enclose the legs like a petticoat" (Raffles. *Java* (1830). i. p. 96).

Valentyn (1726) says "The Malay men are generally dressed in a pair of trousers, with a broad blue, red or green garment, worn as a blouse" (*JRASSB.* No. 13 (1884). p. 53).

Eredia on folio 21 R gives a sketch of a Malay.

"*Crys*": *i.e.* Malay *Kēris*, 'a kind of dagger which is the characteristic weapon of the Malay nations' (14)

For an account of three '*Kēris*' which date from the early sixteenth century, *cf.* *JRASSB* No 62. (1912). p 22.

Cheerful. Valentyn (1726) says "The Malays are the most cunning, the most ingenious, and the politest people of the whole East. They are also much kinder, more polite, neater in their manner of living, and in general so charming, that no other people can be compared to them. They are commonly of a very lively nature" (*JRASSB.* No 13 (1884) p. 53) (15)

Amusing themselves Valentyn (1726) gives a better impression, "the Malays are accustomed to study [the language], trying their utmost to enlarge their knowledge of it and to learn also the Arabic. even some among them the Persian language too, and those who are more studious still strive to obtain the knowledge of the Sanskrit, the mother-language of most of the idioms of the East". (16)

(*JRASSB* No 13. (1884) p. 53).

## NOTES ON PART I CHAPTER 10.

Sole plan *Cf.* Newbold (1839) "in short, their plan is one of incessantly harassing the line of communication, stockading, and retreating." (*Political and Statistical Account, etc.* I. p 245) (1)

Blow-pipes. The Portuguese transcript has 'Zarvatanas' a word which according to Dalgado (*Glossario etc* (1919). II. 440) is used by the Portuguese writers with special reference to Malacca (2)

Yule and Burnell remark "The resemblance of this to the Malay *sumpitan* is curious, though it is not easy to suggest a transition if the Arabic word [*Zabatāna*] is, as it appears, old enough to have been introduced into Spanish. There is apparently, however, no doubt that in Arabic it is a borrowed word. The Malay word seems to be formed directly from *sumbit*, 'to discharge from the mouth by a forcible expiration'. (*Hobson-Jobson* (1909). p. 795).

The blow-pipe is still used by aboriginal tribes as a weapon, but among the more civilized Malays is abandoned to children. (Dennys. *A Descriptive Dictionary etc.* (1894). p. 373).

For an account of the weapons used by the Malays see Newbold, *Political and Statistical Account of the British Settlements*. (1839). II. p. 194 *et seq.*

- (3) "Padan": *i.e.* Malay 'pědang', 'a sword'. "The sword is said to have been introduced about the year 1580 which is near 70 years after the Portuguese conquest of Malacca". (Dennys. *A Descriptive Dictionary etc.* p. 7).
- (4) Fish. Annandale and Robinson state that the tail-stings of rays, reputed to be very poisonous, are used as dagger-blades by the Orang Laut Islam off the coast of Trang. (*Fasciculi Malayenses. Anthropology*. (1903). p. 55).
- (5) "Nyboés" *i.e.* Malay 'nibong', *Oncosperma pilamentosa*, Bl., the well-known palm used for building, pig-spears etc. (Ridley. *The Flora etc.* V. p. 16).  
Governor Bort (1678) calls them 'nybooms' 'nyboomen'; and Forrest (1784) 'aneebong'.
- Some account of the palm and its uses is given by Eredia in the next Chapter.
- (6) "Azagaya". "An African throwing-spear. Dozy has shown that this is Berber *zaghāya*, with the Arabic article prefixed . . . . . Those who use it often seem to take it for a South African or Eastern word. So Godinho de Eredia seems to use it as if Malay (f. 21v). Mr. Skeat remarks that the nearest word in Malay is *seligi*, explained by Klinkert as 'a short wooden throwing-spear' which is possibly that referred to by Godinho de Eredia". (Yule and Burnell. *Hobson-Jobson*. (1903). p. 38).  
Dalgado remarks that the word was adopted by the Arabs and Portuguese to designate lances different from their own. (*Glossario etc.* (1919). I. p. 71).
- The word has been Anglicized in the form 'assegai'.
- (7) Artillery. According to Barros 3,000 pieces of 'great-cannon' were found in the city, 5,000 having been carried off. (*JRASMB*. No. 17. (1886). p. 126; Barros. Bk. 2 Ch. 6).  
Albuquerque says that 2,000 pieces were of brass and the rest of iron; he adds that "All the artillery with its appurtenances were of such workmanship that it could not be excelled, even in Portugal."  
Crawford says that it was "certainly the Mahomedan nations of Western Asia, and most probably the Arabs" who introduced the knowledge of fire-arms among the Malayian nations, about the middle of the fifteenth century.  
(*A Descriptive Dictionary etc.* (1856). pp. 22-3).
- (8) Casting. Compare *JRASMB*. Vol. VI. Pt. IV. (1928). pp. 68-70 for an account of a "Siamese" settlement where cannon were manufactured, at Jeram Kwi on the Tembeling River in Pahang.  
According to Crawford, on the first arrival of the Portuguese, the Javanese appear to have been the great manufacturers of arms of all descriptions. (*A Descriptive Dictionary*. p. 23).  
Barros (Dec. II. Bk. ix. ch. iv. p. 354-5) relates that the Javanese army of 12,000 men which came to attack Malacca in 1513,

possessed some formidable artillery manufactured in Java: he adds that the Javanese excelled in the art of casting, which they learnt from India.

(Cf. *Journal Asiatique*. Tome XII. (1918). p. 113. *JRASSB*. No. 17. (1886). p. 131).

Chinas. Eredia uses a pluralized form of the Malay name, (9) (*orang*) *China*: the word suffers much from early travellers: Barbosa has 'Chins', Mendoza 'Chinos', Acosta and Mundy 'Chinois', Linschoten 'Chynen', 'Chinaes' and 'Chinars', Roe 'Chinoyes', Mundy and Saris 'Chineses'.

Invented. "The date of the invention of cannon and their (10) country of origin is uncertain. Some writers credit the Chinese or the Arabs with the discovery. Cannon were known in Europe early in the 14th century". (*JRASMB*. Vol. VI. Pt. IV. p. 68).

## NOTES ON PART I CHAPTER 11.

Stores. The Portuguese transcript has 'armenyas'. This word (1) is not to be found in Dalgado or the other dictionaries but the meaning is clear from the context.

Possibly the word may be connected with the name 'Armenians,' "till quite recently the Armenians were the chief traders in India and the farther East". (*The Voyage of Huyghen Van Linschoten*. (*Hakluyt Society*: 1885). I. p. 223 note). The tombs of several Armenians are to be seen at Malacca. (Bland. *Historical Tombstones of Malacca*. (1905). pp. 6. 28 etc.)

Eredia's plan of Malacca fortress on p. 7R (see p. 204 *infra*) shows the ALMAZEM: this word which means 'warehouse, magazine, store-house' is stated to be derived from the Arabic '*al-makhem*'. (*Novo Dicionario da Lingua Portuguesa*. (1913).

*Hobson-Jobson* (p. 536) gives the origin as the Arabic *makha-zin*, plural of *al-makhzan*, whence, *inter alia*, the Portuguese *almazem*, *armazem*, (plural *armazens*), French *magazin*, and English *magazine*.

Possibly in the present context 'armenyas' is a mislection for 'armazens'.

"*Godovens*": i.e. a pluralized form of Malay '*gudang*', 'a store-house, a godown'. (2)

"A warehouse for goods and stores; an outbuilding used for stores; a store-room. The word is in constant use in the Chinese ports as well as in India. The Hindustani and Bengali *gudām* is apparently an adoption of the Anglo-Indian word, not its original. The word appears to have passed to the continent of India from the Eastern settlements, where the Malay word *gadong* is used in the same sense of 'store-room', but also in that of 'a house built of brick or stone'. Still the word appears to have come primarily from the South of India, where in Telugu *gidangi*, *giddangi*, in Tamil

*kidangu*, signify 'a place where goods lie', from *kidu*, 'to lie'. It appears in Singhalese also as *gudāma*. It is a fact that many common Malay and Javanese words are Tamil or only to be explained by Tamil. Free intercourse between the Coromandel Coast and the Archipelago is very ancient..".

"Bluteau gives the word as *palavra da India*, and explains it as a "logea quasi debaixo de chão" ("almost under ground"), but this is seldom the case". (Yule and Burnell. *Hobson-Jobson* (1903). p. 381)

Regarding the subterranean nature of the buildings, Eredia confirms Barros (1552) who writes "Gudams, which are rooms almost under ground for fear of fire". (Decade II. Bk vi. ch. 3)

- (3) Batusavar: *i.e.* Batu Sawar, Malay, 'fish-weir rock': Governor Bort's 'Batusawer' and Valentyn's 'Batu Sawar' and 'Batoe Sabar'.

The place is usually identified with Kota Tinggi, about 24 miles up the Johore River measured from Pulau Tekong Besar at the mouth.

Gold coins (e.g. Achehnese) are from time to time still found on the hill at Kota Tinggi

See Valentyn's account of Batu Sawar and its sister fortress Kota di Sabrang in *JRASSB* No. 16. (1885). pp. 292-3.

- (4) Oulor: unidentified, perhaps Eredia intended to write 'Johor'.

In his maps of Johore (see p 219 *infra*) Eredia places 'Cotta batu' about half way up the Johore River between the mouth and Kota Tinggi, in the position of Johore Lama. Wilkinson, however, says that Kota Batu was situated at Seluyut, higher up the river: he adds that when Sultan Mudzafar retired to Seluyut about 1550. "villages sprung up gradually on both sides of the river from Padang Rayang Rayang to Kangkang" (Wilkinson. *A History etc.* (1923) p. 54)

Wilkinson does not tell us where these places were situated and they have not been certainly identified: in all probability they were quite close together, they may have been at modern Sungei Layang and Sungei Kong Kong

- (5) Patane: *i.e.* Patani; Bort's Patania, Patanij, Pattani; formerly a Malay State, now a Siamese province, and also the name of a particular district within it, on the East coast of the Malay Peninsula

Eredia makes it the first seat of the Malay empire, in B. C. 3 (*cf.* p. 231 *infra*).

According to Gerini, however, it was founded in about A. D. 1500. (*Researches etc.* p. 490).

For a short contemporary (c 1614) description of 'Patania' see the Letter of Instructions from the East India Company. (*JRASSB*. No. 54. (1909). p. 80).

- (6) Perat: *i.e.* Perak, Governor Bort's Pera, Perach; Malay *perak*, 'silver', the name of the largest of the States on the West coast of the Peninsula.

"According to the "*Malay Annals*", Perak, or part of it, was formerly called *Manjong* and was an ancient and great country, that gave Achin its first king." "According to native tradition, the district of Brūas, on the coast of Lārut, was the place where a kingdom and a rāja were first established in Pêrak" Gerini thinks that "some important settlement existed here from a very early period" and identifies Perak with Ptolemy's Palanda. (*Researches etc.* (1909). pp. 98. 99. 757).

For the history of Perak from native sources, see *JRASSB* No. 9. (1882). p. 85.

Quedâ: Kêdah, a State on the West coast of the Malay (7) Peninsula, of which the modern capital lies in about 6° 7' N on the river that gives its name to the State. The name, according to Crawford, is Malay *Kaddh*, 'an elephant-trap': Skeat doubts this, "the coralling of elephants is probably a Siamese custom, the method adopted on the East coast, where the Malays are left to themselves, being to place a decoy female elephant near a powerful noose" (Yule and Burnell. *Hobson-Jobson*. (1903) p. 750).

It was formerly thought that Kedah was the *Kalah* of the Arabs and the *Ko-lo* of the Chinese. (Groeneveldt in *Miscellaneous Papers relating to Indo-China*. (1887). p. 243) Some modern writers deny this (cf. Gerini *Researches etc.* (1909) p. 91); and Ferrand identifies *Kalah* and *Ko-lo* with the modern Kra, "the part of the Malay Peninsula contained between the isthmus of Kra and of Ligor appears to me to agree with the situation of *Lang-ya-sieou*. of *P'an-p'an* and of *Ko-lo*". (*Journal Asiatique* Tome XII. (1918) p. 141)

*Lang-ya-sieou*, *Ling-ya-sz-ka*, Malay *Langkasuka*, the fairy-land of Malay romance, is usually taken to be situated in Kedah (Gerini *Researches etc.* p. 825) Rouffaer, however, places it in Johore (*JRASSB* No. 86. (1922) p. 258)

For a history of Kedah, see *JRASSB* No. 81 (1920). p. 29 et seq

## NOTES ON PART I CHAPTER 12.

Sabaric and Perimulic. It has been pointed out elsewhere in (1) these notes (cf. p. 121 *supra*) that if Gerini's identifications are correct Eredia mistakes the isthmus of Kra for an ancient strip of land which he says connected Cape Rachado with the opposite coast of Sumatra. According to Gerini, the Sabaric and Perimulic Gulfs are the Gulf of Martaban and the Gulf of Siam respectively. (*Researches etc.* (1909). pp. 70 and 761) Ferrand points out that whereas the Greek text of Ptolemy has  $\kappa\omicron\lambda\omicron\sigma \Sigma\alpha\rho\alpha\beta\alpha\kappa\omicron\sigma$  the Latin edition has *Sinus Sabaricus* (*Journal Asiatique*. (1918). p. 438) It would appear, then, that Eredia studied a Latin edition.

Gerini says the more correct reading is *Sarabaric*, and derives this word from *Saravari* the Pāli classical name for the Salwīn River

(*Researches etc.* p. 71). Eredia uses the forms 'Sabarico' (Sabbarico), and 'Perimulico' (Perimulco).

- (2) Trade from Alexandria. "After the conquest of Tyre by Alexander the Great, and the foundation of Alexandria, the Egyptians came into the field, and after the successive decline of the Jewish, Phoenician, and Persian powers in Western Asia, they retained with the Arabians a monopoly of this commerce for about 900 years between Alexander's death and the conquest of Egypt by the Muslims in the year 640 A.D." Alexandria became the chief emporium of trade between East and West; the principal carriers being the Egyptian Greeks.

Augustus Caesar successfully stimulated trade with India and the Far East, chiefly through the port of Alexandria, where Indian wares destined for the West were concentrated after transport from the Red Sea and even from Antioch.

The direct trade of the Roman Empire with India reached its acme between 50 and 100 A.D. It received a severe blow in 215 A.D. when Caracalla massacred the Alexandrians and the traders in their port, thus destroying the local Hindu colony. Alexandria suffered, moreover, from the activities of the Nabataean Arabs who received goods from Leuce Come (E1 Hamra) and passed them on to Rhinocolura (? E1 Arish) on the Mediterranean.

A still more severe blow was dealt to the trade of Alexandria when the Saracens closed the town to Europeans and founded Bussora in 635 A.D. at the head of the Persian Gulf, rivalling Alexandria as the centre of the Eastern trade.

When Islam prohibited direct trade between Christian and Muhammadan, the Jews seized the opportunity to trade with both sides, and within two centuries after the foundation of Islam, the Jews appear to have almost monopolized the trade between Europe and Asia; the spice trade in particular appears to have been almost entirely in their hands.

A passage in the "*Book of Ways*" written about 817 by Ibn Khordadbeh (ed. De Goeje, in "*Bibl. Geog. Arab*". vi. 114) gives the routes of the Jewish merchants called Radanites, who travelled from Europe to China, by sea from Kolzum (Suez), by land and sea *viâ* Antioch and the Persian Gulf, and by land from Damascus *viâ* Bagdad and Persia, or else *viâ* Balkh.

With the rise of Venice and the establishment of closer intercourse between Christians and Muhammadans the old channel of commerce with India by Egypt was again laid open, and Venetian merchants became the distributors of Indian produce over the west of Europe. At the beginning of the fifteenth century the cities of Venice, Genoa, Amalfi, Pisa, and Florence entirely engrossed the Indian trade, entering by three routes, namely, Constantinople, Syria, Egypt; and these termini retained the monopoly of the eastern traffic until the Portuguese explorations, culminating in the discovery of the Cape route to India by Vasco da Gama in 1498, enabled the

Portuguese to circumvent the strangle-hold exercised by those who controlled the eastern Mediterranean.

[Mookerji. *Indian Shipping*. (1912). pp. 95. 120. 186. Barnett in *Bulletin of the School of Oriental Studies*. (1917). pp. 103-4].

Warmington. *The Commerce between the Roman Empire and India*. (1928). pp. 5. 12.

*The Jewish Encyclopedia*. (1925). Vol. IV. p. 188.

Danvers. *The Portuguese in India*. (1894). pp. 26-7.]

"*Alfragattas*". François Pyrard (c. 1610) speaks of 'great Galiotes, which they call *Fregates*, holding a hundred men.' According to the New English Dictionary the ultimate etymology of the word "frigate" is unknown. The form used by Eredia appears to indicate an Arabic origin. (3)

"*Gelues*". Dalgado (*Glossario etc* (1919). I. p. 428) describes a "gelba" as a small Red Sea bark, from Arabic *jalba* (vulg. *jelba*). (4)

Yule and Burnell speak of *jalba* as a small boat used on the shores of the Red Sea—and called by the Portuguese *gelua*. (*Hobson-Jobson*. (1903). p. 361). It must be distinguished from the word *jalía*, which Dalgado (*Glossario etc*. I. p. 478) connects with the Malay *jalur*, 'a river-boat of shallow draft', while according to Yule and Burnell it "looks like an Arabized adoption from a Mediterranean tongue". (*Hobson-Jobson*. p. 361).

"*Taurins*". Dalgado (*Glossario etc*. I. p. 363) describes a 'taurim' as a passage-boat in Concan (on the west coast of India): he derives the word from Guzerati *tāri* (*tār* in Concani) coming from Sanskrit *tara*. (5)

In Chapter 13 of Part I Eredia speaks of "*taurins* or *lagueys*" (see p. 38 *supra*).

Calam: *i.e.*, the town now commonly known as Klang about 12 miles from the mouth of the Sungei Klang, in the State of Selangor. (6)

As usual the name takes a variety of forms: the *Wu-Pei-Pi-Shu* chart of about 1400 A. D. (*JRASSB*. No. 53. (1909). p. 158) has 吉令港 (*Keih-ling-kiang*, *Kit-leng-Kong*) for the name of the Klang River. Leyden's translation of the "*Malay Annals*" (1612) has 'Calang'; Resende's map (c. 1646) marks 'Calan'; Governor Bort (1678) writes 'Calang', 'Calangh', 'Callang', 'Callangh' (p. 210). Valentyn's map (1726) marks 'Soengei CALANG' in 'SELOMGOR' (*JRASSB*. No. 22. p. 246); Newbold (1836) spells it 'Colang', 'Callang', and 'Kalang' (Moor. *Notices of the Indian Archipelago*. (1837). pp. 62. 77. 256); Horsburgh (1843) has 'Callam' or 'Colong' (*The India Directory*. (1843). p. 247); and the same alternative forms are shown in the Surveyor-General's map of 1875 (Veitch. *The Life of Sir Andrew Clarke*. (1905)).

At the present day the Chinese distinguish between the southern portion of Selangor which they call 吉令 (Cantonese *Kat-leng*, *i.e.*

'Klang') and the northern portion which they call 師牙岳 (Con-  
tonese *Sz-nga-ngok*, i.e. 'Selangor'): Gerini speaks of "the  
former State of Klang, the foundation of which is claimed by the  
Benūa (Banawa or *Vānava*) tribes. *Kalang*, according to Newbold,  
means 'tin', and the country about Selangor was called *Negri  
Kalang*, i.e. 'Land of Tin'. After the foundation of Malacca  
(c. 1350—1400) *Kalang* became one of its dependencies, being  
governed by the chief of Pêrak." (*Researches etc.* (1909).  
p. 489).

There is no such Malay word as 'kalang' meaning 'tin' at the  
present day, though Thomas Bowrey in his list of Malay words  
(1701 A.D.) translates 'tin' as "cālang, cāly, tema pootee".

*Karang* is said to be "a term used by the Chinese to express  
the principal tin-bearing drift". (*JRASSB.* No. 16. (1885). p.  
315).

Gerini thinks that the Malay *kalang* and its congener *karang*  
are loan-words, or, at any rate, derived also from *kola*, *kāla* etc., a  
Sanskrit word meaning 'black' and designating also a black  
metallic ore, more especially of lead or tin; that *kāla* spread all over  
the East under the form of *kālin* out of which the Arabs made *al-kalī*  
and the Portuguese writers *calim* or *calin* (*Researches etc.* pp.  
87-8).

Blagden thinks that 'Kēlang' may possibly be of Mon-Khmer  
origin (*JRASSB.* No 53 (1909). p 152) Newbold (1839) says  
'Calang' "is supposed to be Ptolemy's Malaion *Colon* and the  
*Malaya Calam* of the Hindoos" (*Political and Statistical Account  
etc.* I p. 426).

Another, but now obsolescent, name for the place was Pengka-  
lan Batu (*JRASSB.* Vol. III. Pt. I (1925) p 80). The Malays  
call, or recently called, a part of the town by the name of 'Pasang',  
and the Chinese have adopted this (吧生) as a name for the place  
(*JRASSB.* No 42. (1904). p. 191).

Newbold (*Political and Statistical Account etc.* II. p. 30)  
says the name 'Salangore' is not to be found in the earlier Malayan  
records, and may possibly be a Bugis corruption for the old native  
term *Negri Kalang* (Land of Tin), by which this part of the penin-  
sula was anciently known.

In the REPORT ON THE GOLDEN CHERSONESE Eredia  
connects the names 'Calan' and 'Ujoncalan' (Junkceylon) see p  
229 *infra*

It will be noticed that Eredia does not mention 'Selangor': but  
the name was in use long before his day: it appears as 'Sara langor',  
presumably for 'Sara langor', in one MS of Barbosa (1516), as  
'Callangor' in a *Mappemonde* of 1542 (British Museum Map  
Department, 149 e 20: xix 6), and as 'Solungor' in Barros (1553)  
(I ix. 1)

Newbold's theory that the name arose with the Bugis at the  
commencement of the 18th century is untenable.

Klang was formerly one of the Negri Sembilan, the confederation of 'nine states' which later amalgamated into the single State of Negri Sembilan as it exists today.

Governor Bort (1678) speaks of 'Callang' as being previously under 'Johor', and "still to some extent subject to it" (*JRASMB*. Vol. V. Pt. I. (1927). p. 49.

Sabbac. Eredia indicates some word meaning 'swampy': he may possibly refer to Malay 'sawah,' an irrigated rice-field; a variant of which might approximate to 'sabbac' in the same way in which Valentyn refers to (Batu) Sawar as *Savar* and *Sabar* (7)

Cossayr: *i.e.* Kosseir, "the age-old port on the Red Sea on the site of the modern Kosseir to which the Wadi Hammamat leads from Koptos". (8)

For an account of the Egyptian trade-routes see Warmington. *The Commerce between the Roman Empire and India*. (1928) pp. 6-8.

Solomon. For King Solomon's naval activity see *The Jewish Encyclopedia*. (1925). Vol. XI. pp. 437. 446. Eredia makes a big leap from Solomon to Gaius Caesar; the fact being that the Phoenicians, Arabs, and other Asiatic trader-mariners jealously guarded their knowledge from the European peoples, and the western world heard only the tales brought by incidental voyagers such as Iambulus or Alexander's captains, Nearchus and Onesicritus (Johnstone. *A Study of the Oceans*. p. 64: Gerini. *Researches etc.* pp. 595-598). (9)

For a popular account of early navigation in the Indian Ocean, see Ballard. *Rulers of the Indian Ocean*. (1927). Chapter 1.

Annio Plocanio. "Pliny records that in the reign of Claudius (A.D. 41-54), a freedman of Annius Plocamus, who had rented the customs of the Red Sea, while sailing round Arabia was caught by the north winds and driven past the coast of Carmania (Mekran) to Ceylon, where he made land on the fifteenth day at the port of Hippuros, presumably on the south-west coast of the Island". (Codrington. *A Short History of Ceylon*. (1926). p. 5). (10)

The king much admired the constant weight of the Roman denarii, and sent back to Claudius (obviously for business reasons) four ambassadors led by a Rachias (a Raja)

Warmington thinks that the freedman's voyage was probably made in October. (*The Commerce etc.* pp. 43. 342).

No historian. See Warmington's account in *The Commerce between the Roman Empire and India* (1928):—"When Mela wrote, the Malay Peninsula (Chryse) began to come, at least by report, within the view of Roman subjects, and to the author of the *Periplus* was a real country, but he regarded it, as Mela had done, as an island east of the Ganges and south of the Chinese empire, sending excellent tortoise-shell. Josephus regarded Malay as belonging to India, Pliny as a headland—" (p. 71) "By the time Josephus wrote at least one merchant had reached perhaps the Malay Peninsula, called Chryse or Chryse Chersonesos, with particular reference to the Irawadi delta". (p. 125). (11)

- "Alexander wrote an account of his voyage which was used by Marinus of Tyre in the first half of the second century in his description of voyages taken round Cape Comorin into seas round the mouths of the Ganges and to the Malay Peninsula, of which the northern part was now visited with some frequency" (p. 126).
- (12) Next writer. "Between the time of Ptolemy, the astronomer, and Prince Henry the Navigator, the study of geography.. languished, almost to the point of extinction. Civilization was again being remade from the crude materials". "With the decadence of the third and fourth centuries this trade [between Rome and China] languished and practically ceased. Then when Byzantium became the centre of the civilized world, trade with China went mostly overland, much in the same way as Marco Polo travelled in the thirteenth century. The sea route had to be redeveloped and this.. was left for Portugal, after the Dark Ages had passed, and when geographical enterprise had again been revived". (Johnstone. *A Study of the Oceans*. (1926). pp. 64. 203).
- (13) Meridional India or Java Minor. For Marco Polo's voyage see Yule's *The Book of Ser Marco Polo*, third edition edited by Cordier, 1926.
- The identification of Java Minor (in this case Sumatra) with 'Meridional India' in the Southern Ocean is due to an error in Marco Polo's itinerary: see p. 223 *infra*.
- (14) No knowledge of Malacca. The usual view is that Malacca did not exist or only existed as an unknown village in Marco Polo's time. This view provides no explanation of Marco Polo's "fine and noble city" of Malaur, or else locates that city in Sumatra.
- Ferrand on the other hand argues that Malaur was not in Sumatra, because in the first place it is not mentioned in Marco Polo's description of the Sumatran kingdoms, and in the second place because Marco Polo alludes to two distinct journeys, one from Petam (Bintang) to Malaur and the other from Petam to Sumatra, and it is maintained that if Malaur had been in Sumatra, Marco Polo would not have started twice from the same point.
- Ferrand does not hesitate to identify Marco Polo's *Malaur* and the Chinese *Ma-li-yu* with the district of Malacca wherein was situated the "fine and noble city", to which, however, Marco Polo gave no name. (*Journal Asiatique*. (1918). pp. 99. 100). Gerini, again, places *Mo-lo-yu*, *Ma-li-yü-èih* or *Malaur* at the southern end of the Malay Peninsula, and precisely on the north shore of the Old Singapore Strait, this being, in his judgment, the route taken by Marco Polo's junk. (*Researches etc.* (1909). pp. 533-4).
- (15) Cannibals. Gerini traces references to the practice of cannibalism in Burma, Camboja, Cochinchina, Annam, Tonkin, China, Formosa and Java. (*Researches etc.* pp. 827-8).
- (16) Eastern coast Unfortunately very little is known about the eastern coast: Ptolemy locates here only one town, Koli, which Gerini identifies with the modern Kelantan, "Kalantan is, no doubt, a very ancient foundation, early referred to in the Malay annals as

a powerful kingdom, while its abundance in natural resources and mineral wealth places it in a prominent position among the Malay States. Hence it must have been from a very ancient period one of the principal resorts of trade on this coast". (*Researches etc.* pp. 105-6).

(Gerini's estimate of Kelantan is far from correct at the present day, when Kelantan cannot claim anything higher than seventh place in the list of the nine Malay States.)

Eredia states that the Malay empire was founded at 'Pattane' in B. C. 3 (p. 231 *infra*) and that its seat was later moved to Pahang (p. 233 *infra*) where, he imagines, was produced the gold which found its way to Alexandria.

General commerce and trade. Information regarding the early trade of the Peninsula is scanty; but it seems most unlikely that its potentialities would not have been recognized by the Arabs, who systemized the trade between China and the West in the third century B. C. (Johnstone. *A Study of the Oceans*. p. 201): "In the 2nd century B. C. the trade with Ceylon seems to have been wholly in their hands" in the 8th century Arab traders were to be found in great numbers in China". (Van Ronkel in *Encyclopaedia of Islam*. Fasc. I. (1927). p. 551). Ptolemy (1st century A.D.) refers to 'Palanda', a city, 'Tharra', a town, 'Sabana', a mart, and 'Koli', a town, on the Peninsula. (Gerini. *Researches etc.* (1909) pp. 97 99 100. 105). 'Bêtumah', the Arab rendezvous of the 9th century, is located by Gerini in or near the island of Singapore (*op. cit.* p. 200). It seems probable, too, that in view of the gold, eagle-wood, camphor etc., which the Peninsula was known to produce, the foundation of the Malay settlement of Singapore in the thirteenth century was connected with this trade. Eredia's phrase "general commerce and trade" lacks precision. if he means that the Malacca of the historic Malay Sultanate was the first Malayan "world-port", he may be correct. (17)

Founded "Chinese culture, in the sense we now understand the word, arose in the valley of the Yellow River about 2,500 years ago, or possibly 500 years earlier" (*China Journal of Science and Arts*. Vol. III. No 6. (1925). p. 346). (18)

Lorded it. The history of Chinese suzerainty in the Indian Ocean has yet to be written: a brief note on this subject, therefore, will perhaps not be out of place. On land the Chinese armies did not descend below Champa; and when the Chinese first came to the Archipelago by sea in about the fifth century A.D. they adopted a policy of non-interference dictated by their traditional attitude of Olympian superiority, "the civilized rule of China is not fit for these benighted barbarians, therefore they are suffered to arrange their government as they like best, and even if they fail to recognize the superiority of China, and abstain from doing homage to the Emperor, it is not necessary to compel them"; but many Chinese emperors were not (19)

wholly indifferent to these tokens of respect from distant countries, and gradually it became the custom, on the accession of a new dynasty, to send envoys to the different countries which were in the habit of presenting tribute, informing them of the change that had taken place and inviting them to continue their allegiance.

When the Mongol prince Kublai Khan had made himself undisputed master of China in 1280, he at once adopted the Chinese tradition of universal dominion, and accordingly sent envoys all over the world, so far as he was aware of its existence, informing the various princes that a new family had ascended the throne of the world, and asking them to renew their allegiance.

But the prince of Tumapel in Java seems not to have recognized these claims: he cut or tattooed the face of the imperial envoy and sent him away in this ignominious state.

Kublai Khan was furious, and in 1293 despatched a fleet of 1000 ships with 30,000 soldiers to avenge the insult. After some preliminary successes, the Chinese generals realized the difficulty of carrying on guerilla warfare in these parts, and some 4 months later returned with a loss of 3,000 men.

After the unsuccessful expedition against Java the Mongol dynasty did not further occupy itself with the southern countries: and it was only after its expulsion from China that the former official intercourse was resumed.

Ch'êng-tsu (1403-1424), the Ming emperor, reversed the former policy of splendid isolation, and inaugurated a display of military force "in order to show that China was rich and strong".

From this time until the arrival of the Portuguese, China interfered continually in the affairs of the countries in the south seas, and issued orders to everybody; obedience in some cases being compelled by force of arms.

Thus in about 1404 the emperor of China appointed the king of 'Sumatra' (*i.e.*, the north coast of the island).

The principal display of Chinese imperialism begins with the expeditions of Cheng Ho (Sam Po) in 1405.

In 1405, according to a Chinese authority, the emperor appointed the king of Malacca; and we are led to suppose that the emperor's intervention put a stop to molestation by the Siamese.

In 1407 the emperor instituted the office of Pacificator of Ku-Kang (Palembang), and made an appointment thereto. In 1408 he ordered Java not to demand its annual tribute from Pu-ni (on the west coast of Borneo).

In 1412 and 1415 Cheng Ho's troops were engaged in north Sumatra.

But these activities were not limited to the Malay Archipelago: Cheng Ho visited 30 countries, proceeding as far as Magadoxu in East Africa.

In 1411 the king of Ceylon had the misfortune to deal unfairly with a Chinese mission, whereupon Cheng Ho retaliated by carrying off the king with his wives and children to China.

Ceylon paid tribute in 1436, 1445, and, for the last time, in 1459.

Yule says that one of the Chinese expeditions "seems actually to have brought Ceylon under a partial subjection to China which endured half a century."

In 1416, Calicut in India, among eighteen other countries, paid tribute to China.

Mendoza (1585) remarks that many of the trees and fruits in the kingdom of Calicut were "brought thither by the Chinos, when that they were lords and governours of that country".

On one occasion the Chinese, taking umbrage, "inflicted no small slaughter on the inhabitants" of Calicut, and thereafter ceased to visit the place.

Perhaps, however, on the whole the countries in the southern seas were fortunate to suffer as lightly as they did: for there seems little doubt that the emperor of China, if he had wished to undertake the labour and expense, could have conquered these countries in the same way in which he conquered central Asia from Turkestan to Pesia, we hear of a Chinese expedition, bound for Ormuz, calling at Sumatra in 1432 and again, on the return journey, in 1433.

The circumstances attending the emperor's last order are in the nature of an anti-climax, "the emperor Shih-tsung. issued a decree upbraiding the Franks, told them to go back to their own country, and ordered the kings of Siam and other countries to assist their neighbour in his need, none of these obeyed, however, and so the kingdom of Malacca was destroyed".

[Groeneveldt in *Miscellaneous Papers relating to Indo-China*. (1887) pp. 127. 129-30. 156-7. 167. 169. 170. 192. 195. 209. 211. 233. 243. 249. 253.

Howorth. *History of the Mongols*. I. p. 250.

Codrington. *A Short History of Ceylon*. pp. 85-6. 91.

Yule. *The Book of Ser Marco Polo*. (1926). p. 392.

Mendoza. *The History of China*. (*Hakluyt Society*. 1853). p. 95.

Gerini. *Researches etc.* p. 651 ]

Extended. "The first mention we find of a Chinese vessel in history is B.C. 331, when Berenice is said to have traded with Musiris, exchanging goods there which were probably brought by native vessels from China to Ceylon". "In 622 A.D. the Chinese became much more enterprising as navigators. They traded with the Persian Gulf". "The vessels of China, however, had ceased to repair to the Persian Gulf long before the Portuguese made their appearance in Calicut, but from the time of Cosmas to that of Marco Polo, they appear to have shared with the Arabians and Persians the carrying trade of the East, and to have extended their voyages even to the remote island of Madagascar". (*China Journal of Science and Arts*. Vol. III. No. 4. (1925). pp. 191-2). Hirth mentions two sea-routes between China and the West; the one direct

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from the Red Sea to Annam and China, the other to the coast of Pegu and thence by the Salwin and Irawaddy to Yunnan. (*China and the Roman Orient*. (1885). pp. 173. 179).

- (21) Traces of China influence. Cf. Gerini. *Researches etc.*; Yule. *The Book of Ser Marco Polo*; Ballard. *Rulers of the Indian Ocean* (chapter 1), Groeneveldt in *Miscellaneous Papers relating to Indo-China* (2nd series). Vol. I. Traces of Chinese influence have been found at Lamu off the East African coast.

### NOTES ON PART I CHAPTER 13.

- (1) Boats. As to the part played by the Malays in the history of boat-building, one learns from a recent writer that the Malays introduced the dug-out canoe into North Australia, that the Malays of Singora Lake still build boats with a curious double-prow, having affinity with that used in boats on Victoria Nyanza and in boats depicted in ancient Swedish rock carvings, and that the idea of fixing the double outrigger was developed in the Malay Archipelago soon after the Malays moved into the region; the double outrigger was carried back to the West by the Malays and survives at the present time in Madagascar and the neighbouring coast of Africa. (Forde. *Ancient Mariners*. (1927). pp. 3. 4. 87).

- (2) "Bâlos" Eredia here describes the Malay 'balok', 'a small sailing craft'.

It is clear from the REPORT ON THE GOLDEN CHERSONESE (p. 232 *infra*) that the 'balloon' was a smaller type of craft, "for ordinary service in navigating the rivers, they employ other, small, boats, which they call "ballôes" or "nabangues"."

- (3) "Röttas" "The long stem of various species of Asiatic climbing palms, belonging to the genus *Calamus* and its allies, of which canes are made and which, when split, are used to form the seats of cane-bottomed chairs and the like. From Malay *rotan*, which Crawford derives from *rawat*, 'to pare or trim', applied to various species of *Calamus* and *Dacmonorops*". (Yule and Burnell. *Hobson-Jobson* p. 757).

The incorrect form 'rattan' is to be found as early as 1673.

Nearly 300 species of 'rattan' have been described. The chief use is for walking-sticks and in the weaving of furniture. (Foxworthy *Minor Forest Products etc.* p. 153; Ridley. *The Flora etc.* V. p. 34).

- (4) "Pongo". The translator has been unable to obtain an explanation of this curious word, and can only suggest that Eredia may have intended to write *Bongô*, for Malay *Bengkuang* (the *Bungkwang* of Dennys), the name given to screw pines, *Pandanus* spp., of which more than 20 are found in the Peninsula: the leaf is cut into strips which are woven into mats. (Ridley. *The Flora etc.* V. p. 73. Foxworthy. *Minor Forest Products etc.* p. 175). The Polynesians recently used enormous triangular sails made of *Pandanus* mat. (Forde. *Ancient Mariners*. (1927). p. 74).

Mundy (1637) speaks of Cantonese junks with "sails of 'cajanes' and Bambooes, made like Mattes." (*The Travels of Peter Mundy etc.* (*Hakluyt Society*: 1919). p. 203).

"*Lancharas*". "A kind of vessel often mentioned in the Portuguese histories of the 16th and 17th centuries. The derivation is probably Malay *lanchar*, 'quick, nimble'. Mr. Skeat writes. "The real Malay form is *Lanchar-an*, which is regularly formed from Malay *lanchar*, 'swift', and *lanchara* I believe to be a Portuguese form of *lanchar-an*, as *lanchara* could not possibly, in Malay, be formed from *lanchar*, as has hitherto been implied or suggested". (Yule and Burnell. *Hobson-Jobson*. (1909). p. 502) (5)

The form *lancharas* also occurs.

Eredia gives a sketch of a *lanchara* on folio 30 V.

"*Bantis*". Dalgado (*Glossario etc.* (1919). I. p. 97) describes '*bantim*' as a two-masted cargo-boat. Forrest (1784) uses the correct Malay form '*banting*'. Resende (c. 1646) describes '*bantims*' as "very swift vessels with oars and masts". (*JRASSB* No. 60. (1911). p. 8) (6)

"*Ballões*". Yule and Burnell describe a '*baloon*' as "a rowing-vessel formerly used in various parts of the Indies, the basis of which was a large canoe dug-out. There is a Marathi word *balyāw*, a kind of barge, which is probably the original". (*Hobson-Jobson* p. 53) Dalgado on the other hand considers the derivation is from the Tamul-Malayalam '*Vallam*', 'a canoe made from the trunk of a tree', and thinks that the Malays got the word '*balang*', 'to paddle quickly', as they got the words '*parau*', 'a boat or ship', and '*kapal*', 'a ship', from the people of India, before the arrival of the Portuguese. (*Glossario etc.* (1919). I. p. 85). (7)

Resende (c. 1646) says of "baloons", that "they resemble ships of war being wider but not so long, having oars, two masts and two helms called *camudes*". (*JRASSB* No. 60. (1911). p. 8).

Father Coroado tells the translator that the name '*ballão*' is still applied to a kind of small fishing-boat at Malacca

"*Nambangues*". The translator has been unable to discover any explanation of this word. The Malay '*tambang*' means simply 'a ferry-boat'. (8)

The "*Malay Annals*" (p. 52) speak of vessels called "*malang-bang*", which may be the same word; according to Wilkinson's Dictionary the better spelling is '*mēlangbang*' and the meaning 'a broad flat-bottomed boat'.

Mere arm power Eredia appears to mean that the method of propulsion was similar to that now employed in a Canadian canoe. (9)

Pulo Catay: unidentified; unless the reading should be '*Caray*', in which case the island might be the '*Pulo Cara*' placed in the (10)

maps of Linschoten (1598) and Speilbergen (1616) at about 7° 30' N, and in the map of Valentyn (1726) at about 8° 30' N: this would appear to be the island now called Koh Krah, about 30 miles E of Lakon (Ligor), situated at about 8° 25' N: see British Admiralty chart No. 998.

- (11) Taranda: probably modern Trang, called 'Tarangan' by Resende, and apparently the 'Tarnova', 'Tarrano', 'Tarrana', 'Toram', and 'Toran' of the old maps.
- (12) "Juncós". Yule and Burnell describe a 'junk' as "a large Eastern ship; especially (and in later use) exclusively a Chinese ship. This indeed is the earliest application also; any more general application belongs to an intermediate period. This is one of the oldest words in the European-Indian vocabulary. It occurs in the travels of Friar Odorico, written in 1331. The French translators of Ibn Batuta derive the word from the Chinese tchouen (chwen) [apparently 船]. "It is possible that the word may be eventually traced to a Chinese original, but not very probable. The old Arab traders must have learnt the word from Malay pilots, for it is certainly the Javanese and Malay *jong* and *ajong*, 'a ship or large vessel'. Fryer (1673) also speaks of "Portugul junks". The word had thus come to mean any large vessel in the Indian seas." Garcia (1563) describes 'Juncos' as 'certain long ships that have stern and prow fashioned in the same way'. Friar Odorico (1331) speaks of a 'Zuncum' which had 'good 700 souls' on board. (Hobson-Jobson. (1903). p. 472). In Part II chapter 1 (page 60 *supra*) Eredia refers to a 'junk or lorcha'.

According to Denny, the Malays call the largest Chinese trading-vessels *wangkang* and the smaller ones *top*. (*A Descriptive Dictionary etc.* (1894). p. 173).

- (13) "Sômas" Dalgado derives the word from the Malay 'som', explained by Wilkinson as 'a ship of an obsolete type', and describes it as "an old-time boat for commerce and war in China and Malasia, resembling the junk" He gives a number of quotations ranging from 1552 to 1782 in which the word appears as 'soma', 'sominha', 'sormos', 'sommas', and 'somes'. (*Glossario etc.* (1919). p. 67).

The "*Malay Annals*" (1612) speak of the King of Siam as ordering the preparation of "eight hundred vessels of the kind called sum". (p. 133).

Peter Mundy (1637) refers to foreign-going vessels called "somars". Temple says the word appears to be a Portuguese form taken from one of the names for coasting vessels on the West Coast of India; he mentions *Shuvâl*. (*The Travels of Peter Mundy. (Hakluyt Society: 1919). p. 206*). Smyth's *Sailor's Word Book* explains 'some' as 'a Japanese junk of burden', and Fennell's *Dictionary of Anglicized Words and Phrases* as 'Jap. a small trading junk'.

Father Coroado tells the translator that the word 'soma' is still used at Malacca by the Portuguese and Malays as equivalent to 'junk'.

Carracks. The transcript has "urcas".

(14)

According to Pieris, the 'urca' and the 'carraca' originated in Northern Europe. They were chiefly used as cargo-boats. Twenty-five *urcas* carrying from 300 to 900 tons accompanied the 'Invincible Armada' in 1588. "The *nau* in Spain was a *carraca* in Italy and an *urca* in Germany." (*Ceylon and Portugal*. (1927). p. 355).

"It is in the fifteenth century that the carrack was in her prime, and we see her then as a three-masted ship developed by the Southern nations from the Northern one-master and then taken up all over Europe. Genoa was the chief port from which carracks came to England." (Anderson. *The Sailing Ship*. (1926). p. 117).

"*Lorchas*". Yule and Burnell describe a 'lorcha' as "a small kind of vessel used in the China coasting trade. Giles explains it as having a hull of European build, but the masts and sails Chinese fashion, generally with a European skipper and Chinese crew. The word is said to have been introduced by the Portuguese from S. America (Giles, 81). But Pinto's passage shows how early the word was used in the China seas, a fact which throws doubt on that view. Other suggestions are that it is Chinese *low-chuen*, a sort of fighting ship, or Portuguese *lancha*, or *launch*." (*Hobson-Jobson*. (1903). p. 521). Dalgado (*Glossario* etc. I. p. 533) writes "I imagine that 'lorcha' might be a corruption of the Chinese 'long-chuen' of which the Padre Halde [1735] says, "They prepare for that day [the feast] small boats, long and narrow, all decorated, which bear, on one of the ends, the figure of a dragon, and that is why they are called Long tchuen" [*ie* 龍船, 'Dragon boats']

(15)

As there is a place named Lorcha in the Iberian Peninsula (38° 51' N: 0° 11' W), one might have imagined that the word 'lorcha' was of Spanish or Portuguese origin, but the authorities are apparently not prepared to consider such a possibility.

A chapter describing the Lorcha, with a coloured representation, will be found in Donnelly's *Chinese Junks*. (1924).

"*Lyolyo*". Dalgado writes of 'lio-lio', "Chinese oar, very large, apparently derived from 'yi-liu', 'rowing'. The term is used at Macau". He quotes instances of its use from 1569 to 1899. (*Glossario* etc. I. p. 529). Wilkinson's Dictionary (*s.v.* *lyu* 流) gives the expression 'lyu-lyu', 'the stern paddle in a Malay boat'. Favre in his Malay Dictionary writes the Chinese character as 流 but no such meaning as 'sweep' is given in Giles' Chinese-English Dictionary.

(16)

(Yule and Burnell. *Hobson-Jobson*, p. 521, query the term 'lyolyo' as used by Eredia, but in view of the above references there seems no reason to doubt its accuracy).

Obviously the English word 'yuloh', 'to scull a boat from the stern', is a transliteration of two Chinese words, viz.

搖 (Giles, No. 12, 916)  
Mandarin *Yao*  
Amoy *Hokkien Io*  
'to sway'.

櫓 (Giles, No. 7,839)  
Mandarin *Lu*  
Amoy *Hokkien Lo*  
'a long oar, a sweep'.

"Nowadays the Yuloh on each side is not generally used in the ocean-going junks, except to assist in bringing the vessel around in a light wind and for propelling purposes in a calm, or when coming to an anchorage." (*The China Journal of Science and Arts*. Vol. III. No. 4 (1925). p. 198). Eredia here uses the term 'lyolyo' for the kind of vessel in which the sweep was employed: the Malays speak of a 'kotak liyu'.

- (17) Mangic Sea: *i.e.* the sea of Mangim, the south China sea. The Sung empire was usually known by its Mongol conquerors as 'Mantzi' (written 'Mangi' by some of the old travellers), a word which western Asiatics identified with 'Machin' (from the Sanskrit 'Mahachin'), one of the names applied to China by Persian and Arab traders.

Eredia has the form 'Mangico'

- (18) Invented. This view has other supporters. for instance Donnelly writes that the Duke of Chow first made the compass in A.D. 1112 "There are no records in Europe to disprove this fact, and it is merely conjecture on which the historians of the west pin their faith". (*Chinese Junks*. (1924). p. 5).

The opposite view is maintained in the *Encyclopaedia Britannica* (11th edition. Vol 6 p. 806) "There is now little doubt that the claim formerly advanced in favour of the Chinese is ill-founded". "There is no genuine record of a Chinese marine compass before A.D. 1297."

- (19) Pole. Eredia does not say which Pole. In fact, the Chinese supposed the needle to point to the South.

- (20) Simdi Eredia refers to the territory on the Indus below the Punjab, modern 'Sindh'. Thevenot (1666) and Grose (1760) mention 'Tatta' as an alternative name.

- (21) Cochim: *i.e.* modern Cochin

- (22) Simlao or Chimlao. apparently Chilaw. "a place on the west coast of Ceylon, an old seat of the pearl-fishery". (Yule and Burnell. *Hobson Jobson* p. 195).

- (23) Jaos. In view of the migration of a 'Javanese' people from Western Indonesia to Madagascar, it is interesting to hear of the presence of 'Javanese' in Ceylon

- (24) "Lagueys": *i.e.* the plural of 'laguel', derived apparently from Persian *la'ghar*, meaning 'thin'. Dalgado says a 'laguel' is

similar to a 'taurim'. (*Glossario etc.* (1919). I. p. 505). It would seem that Eredia is the only European writer to quote this word.

Polybtra: *i.e.* Patna, "the chief city of Bahar; and the representative of the *Palbothra* (*Pataliputra*) of the Greeks. Hindustani *Pattana*, "the city". (Yule and Burnell. *Hobson-Jobson*. p. 686). (25)

## NOTES ON PART I CHAPTER 14.

"*Orancayas*": *i.e.* the pluralized form of the Malay '*Orang Kaya*' literally 'a rich man', "in the Archipelago, a person of distinction, a chief or noble. . . . . Mr. Skeat notes that the terminal *o* in *arangkaio* represents a dialectical form used in Sumatra and Java". (Yule and Burnell *Hobson-Jobson*. p. 644). (1)

Cock-fighting. Cf Newbold (*Political and Statistical Account etc* (1839) II p 179); Wilkinson (*Papers on Malay Subjects. Life and Customs*. Part III p 62); Skeat (*Malay Magic* (1900). p 475). (2)

"*Rajavas*" Eredia writes— (3)

"*Vajanas*" on folio 31 V of the "DECLARACAM" (the present context).

"*Rajavas*" on folio 32 R of the "DECLARACAM":

"*Raiauas*" on p. 78 of the "INFORMACAO" (p. 232 *infra*).

Dalgado treats "*rajavas*" ("*raiauas*") and "*vajanas*" as different words.

"*Rajava*" he explains as "dancing-girl of Malacca who evokes evil spirits From Malay *sachau* 'delirium'."

He also quotes from Manucci (1665), *Storia do Mogor* (III. p. 203) "The reader should know that these *Rajava* people are for the most part magicians, and have a compact with the devil." (Dalgado *Glossario etc.* (1919). II. pp. 246. 514).

"*Vajana*" Dalgado explains as "dancing-girl of Malacca. Apparently connected with the Malay *bajan* which Wilkinson defines as 'evil spirit, familiar spirit' in the sense of a woman who holds communication with the spirits, spiritist." (*Glossario etc.* II. p. 401).

Wilkinson translates *sachau* as 'delirious, raving of persons in high fever'; and *bajang* as 'an evil spirit; a familiar spirit'.

The word "*Vajanas*" is not found elsewhere than in the present passage, and should be read as "*rajavas*", according to the 'Errata in the Portuguese text' printed after page 100 in Janssen's book. It may be added that the list of errata does not appear in some copies of Janssen's work, it will not be found in the copy belonging to the Raffles Library at Singapore; and it would seem that Dalgado was unaware of the error

"*Rabanas*", *i.e.* the pluralized form of Malay *rĕbana*, a tambourine: the *rĕbana* has one face, the *gĕndang* either one or two. According to Wilkinson's *Dictionary* the word is of Indian origin. (4)

- (5) Highly appreciated. "To music, Malays are passionately devoted, particularly to that of the violin". (Newbold. *Political and Statistical Account etc.* (1839). II. p. 184).
- (6) Pulo. He refers, it would seem, to the place of this name which is marked on the map (see p. 211 *infra*) and apparently to be located in the vicinity of the modern Gading.
- (7) Bima: apparently Bima in the island of Sumbawa; from which in 1913 some 4,000 horses were exported: the largest and strongest horses in the Dutch East Indies come, however, not from Sumbawa, but from Sumba (Sandalwood Island).
- (8) "Calim". The connection, if there be any, between 'Kalah' (the place so-called by the Arabs), 'Klang' (the modern town in Selangor, Eredia's 'Calan'), 'Kĕlian' (a surface mine), 'Kalang' (said to mean 'tin' in Malay) and other similar words, has not been adequately explained. It seems certain, however, that the 'Kalah' of the Arabs was situated somewhere on the western coast of the Malay Peninsula, south of Kra and north of Klang (probably Ferrand is right in identifying it with Kra): it is probable too, that Kalah contained a mine of what the Arabs called *Kala'i*, a word which became the Portuguese *calain*.
- According to Gerini "the terms *Kāla* and *Kola* were employed to designate either lead or tin, but more especially the latter metal; and . . . . . they were spread all over the East under the form of *Kālin*, out of which the Arabs made *al-kali*". (*Researches etc.* (1909). p. 88).
- The same writer appears to indicate that the term *Kala*, *Kola*, was the origin of the name *Kalah*, *Kalah-bar*, *Kolah-bar* (p. 89).
- The first quotation in which *al-kala'i* is mentioned dates from c. 920. (Yule and Burnell *Hobson-Jobson*. (1903). p. 145).
- The Portuguese called it 'Calem', 'Calaim', 'Calayn', 'Calin', 'Callaym', 'Calain' or 'Kalin'.
- The exact nature of the substance is not free from doubt: most writers speak of it as tin, but Pyrard de Laval (1610) refers to "Calin which is white like tin, but harder, purer, and finer" (*The Voyage of Francois Pyrard* I. p. 234), and Cardim (1646) speaks of "calain, qui est un metal metoyen, entre le plomb et l'estain" (*Relation de la Province de Japon etc.* p. 163).
- (9) Bencales. The transcript has 'Beneales'; apparently an error for 'Bencales' *i.e.* Bengkalis "an island lying about lat. 1° 30' N. due South of Malacca and close to Sumatra; from which it is separated by Brouwer (otherwise Brewer) Strait. The chief place on it bears the same name as the island".
- (10) Possessed. Compare Winstedt's paper on *The Shaman's Possession* in *JRASMB*. Vol. V. Pt. II. (1927). pp. 342—45; "The Patani female magician, . . . . whirls her long black tresses as one whirls a mop". "The pious Muslim Malay dismisses the trance of the modern shaman as make-believe and declares that to-day it is no more genuine than the trance of the Malay nautch-girl who is sup-

posed to be possessed by the spirit of dancing and to eat nothing but flowers for months”.

*Cf.* also Winstedt. *Shaman Saiva and Sufi*. (1925). Chapter VII. (The Malay Shaman's Seance): and Skeat. *Malay Magic*. p. 457 *et seq.*

First Bishop. In the next Chapter (p. 41 *supra*) Eredia (11) describes how the first Bishop excommunicated the wild Banuas who changed themselves into man-eating tigers.

“*Vulca*”. The translator has been unable to identify this word; (12) Eredia clearly refers to some intoxicating plant which in the next chapter he says is found growing on Gunong Ledang as well as in America.

See note on p. 166 *infra*.

Immodest. Valentyn, the phlegmatic northman, is more (13) gallant, “these women too are generally of a more exalted mind than other women of India, and they excel also in loveliness and wit far above others” (*JRASSB*. No. 13 (1884). p. 54).

Banuas. “The wild tribes of Malaya are credited with mar- (14) vellous powers of harming a person from a distance”: *cf.* the examples given in *JRASMB*. Vol III Part III (1925) p. 17.

Herbalists. Newbold (1836) says that the Malays have a high (15) estimation of their skill in medicine and knowledge of the virtues of herbs, roots, plants etc., investing their sages, Puyongs, even with supernatural powers. (*Moor. Notices of the Indian Archipelago*. (1837). p. 62).

## NOTES ON PART I CHAPTER 15.

Chapter 15. A translation of this Chapter will be found in (1) *JR.ISSB* No 60 (1911). p. 23 *et seq.*

Gunoledam Numerous references to Gunong Ledang and (2) Queen Putry will be found in writings on Malay folk-lore.

*Cf.* Skeat *Malay Magic*. (1900). pp. 71. 82. 158. 163-166.

Winstedt. *Shaman Saiva and Sufi*. (1925). p. 24.

*JR.ISSB*. No. 83. (1921). p. 92: (a parallel in Persian literature).

„ No. 62. (1912). p. 24: (another version).

„ No. 32. (1899). p. 213: (another version).

„ No. 24. (1891). p. 165: (another version).

It may be added that in his map of the Malacca district Eredia places Gunong Ledang on the wrong side of the Muar river (unless, of course, the river has since changed its course: a few years ago the Selangor River near Kuala Kubu in a single night cut out a new channel for itself over a space of about 1 mile).

Lob The transcript has ‘Job’, which the translator amends. (3)

Tigers. Annandale and Robinson have a curious reference to (4) “*Main Putry*”, a play to which the two tigers attached to the family would come and listen. (*Fasciculi Malayenses. Anthro-pology*. (1903). p. 79).

Cf. *JRASMB*. Vol. III. Pt. I. p. 72: the war between the tiger-clans of Gunong Ledang and Paroi.

*JRASSB*. No. 86. (1922). p. 378: the *Akuan* or spirit-friends.

*JRASSB*. No. 85. (1922). p. 36: the tiger-breed families.

Also Skeat. *Malay Magic*, passim.

- (5) "Vilca": unidentified: this word is not in the dictionary.

Father Joseph De Acosta (1590) says of the Peruvian sorcerers "they make a thousand ceremonies and sacrifices to this effect, with the which they mocke the Divell and grow exceeding drunke, for the doing whereof, they particularly use an herbe called Villca, the juyce whereof they mingle with their chicha....." (*The Natural and Moral History of the Indies*. (Hakluyt Society: 1880). II. p. 368).

The annotator says of 'Villca', "A tree, the fruit of which is a purgative".

Possibly there is a connection between the word 'vilca' ('bilca') and ('benk') 'bhang'.

At any rate the substance appears to have been similar to bhang, obtained from Indian hemp, *Cannabis Indica*.

- (6) Tages. According to the story told by the Etruscans and after them by the Romans, Tages, a minor Etruscan deity, grandson of Jupiter, was the founder of the art of divination in Etruria. When Tarchon was ploughing a field near Tarquinii, the wondrous child Tages was cast out of a clod by the plough.

The ploughman's cries attracted a crowd, whom Tages proceeded to instruct in the art of divination. Having done this, he suddenly disappeared.

His instructions were for a time handed down orally, but were subsequently recorded in writing and the twelve books of Tages ('*libri Tagetici*') containing the complete system of Etruscan lore ('*Etrusca disciplina*') were studied in the divination schools of Etruria.

(*Encyclopaedia of Religion and Ethics*. (1912). Vol. V. p. 537. *La Grande Encyclopédie* Vol. XXX. p. 868: quoting Cicero. *De Divinatione*. II. 23, Ovid. *Metamorphoses*. XV. 553 and other writers).

- (7) Banuas "The Malay were-tiger that results from a man turning himself into a tiger by magic agencies (lycanthropy) is in a class by itself, and is probably an example of impulsive insanity."

(Gimlette. *Malay Poisons and Charm Cures*. (1923). p. 26).

For the same belief among the Negritos, see Evans, *Ethnology and Archaeology of the Malay Peninsula* (1927). pp. 25, 26, 27.

Dennys gives the Malay name for a were-tiger as *Blian* or *Chenaku*.

The first reference to this valuable attribute appears in the Chinese writer Ma Huan (c. 1425-32) "Some tigers are able to assume human shape and in broad daylight enter the market place. Those who detect one lay hold of it and kill it".

Blagden comments "The superstition that men are able to turn themselves by magic into tigers, if they know how it's done, is firmly held by Peninsular Malays. This is the earliest mention of it that I can remember to have seen". (*T'oung Po.* Vol. 16. (1915). p. 115).

"From such *séances* [to rid a house of a ghost] cats and dogs are generally excluded, in case the medicine-man should eat them while he is in his trance. Were he to do so, he would become a tiger or some other wild beast". (*JRASMB.* Vol. V. Pt. II. (1927). p. 343).

It need scarcely be said that the attribute is valuable because it enables its possessor to earn an adequate and comfortable income from the periodic contributions of those who do not wish to fall foul of the were-tiger: a particularly impudent attempt is recorded from Kelantan during the last year or so. Nor are the Malays the only victims of superstition: in the year of grace 1923 an Indian, Karapan, reported to the Police at Kuala Lumpur "I heard that Sinniah was going to murder my wife and myself. My wife became ill. She grew worse and I brought her to the Police Station. Sinniah has not been near our house I am sure my wife's food has not been tampered with and that nothing has been administered to her but I suspect that Sinniah has worked some evil by means of witch-craft from afar".

An earlier reference to the were-tiger belief in India will be found in Ibn Batuta (c 1342) who speaks of Jugī (Yogī) seizing people in the guise of a tiger (Gibb, *Ibn Batuta.* (1929). p 224).

First Bishop This incident is referred to by Resende (*JRASSB.* (8) No. 60. (1911). p. 5).

Dennys remarks that tigers in the early days of Portuguese occupation were so plentiful that the want of inhabitants was seriously attributed to this cause. (*A Descriptive Dictionary etc.* (1804) p. 211).

Mouros. Yule and Burnell write of 'Moor, Moorman', "A Mahomedan: and so from the habitual use of the term (*Mouro*), by the Portuguese in India, particularly a Mahomedan inhabitant of India. . . . .the Mahomedans whom the Portuguese met with on their voyages to India, on what coast soever, were alike styled *Mouros*; and from the Portuguese the use of this term, as synonymous with Mahomedan, passed to Hollanders and Englishmen. The word then, as used by the Portuguese discoverers, referred to religion, and implied no nationality." (*Hobson Jobson.* (1903). p. 581-2).

Chelias Apparently the word is merely a variant form of 'Chelis': (See note to Part I Chapter 1: p. 99 *supra*): for in this context one would expect the word 'Moors' to cover all Muham-madans, among whom were reckoned the 'Choolias'.

"*Chūliā* is a name given in Ceylon and in Malabar to a particular class of Mahomedans and sometimes to Mahomedans generally." (Yule and Burnell. *Hobson-Jobson.* p. 207).

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## NOTES ON PART I CHAPTER 16.

- (1) Ecnephia: ἑκνεφίας, 'a hurricane caused by clouds meeting and bursting'. (Liddell and Scott).
- (2) Tiphon. τυφῶν, 'a furious whirlwind, typhoon, that rushes upwards from the earth whirling clouds of dust'. (Liddell and Scott).  
upwards from the earth whirling clouds of dust'. (Liddell and Scott).

The etymology of the word 'typhoon' has been much disputed.

It has been derived from the Chinese *tái fung* (大風) and Formosan *t'ai jung* (太風).

Yule and Burnell think "the probability is that Vasco and his followers got the *tujão*, which our sailors made into *touffon* and then into *typhoon*, as they got the *moncão* which our sailors made into *monsoon*, direct from the Arab pilots".

"The Arabic word is *tūjān*, which is used habitually in India for a sudden and violent storm. . . . . And there can be little doubt of its identity with the Greek τυφῶν or τυφών".

(*Hobson-Jobson*. (1903). p. 947).

Dalgado shares the same view. "The Portuguese did not derive the exact meaning of the Greek *typhōn*, which normally should give *typhão* or *tijao*, nor, in all probability, from the Chinese *ta-fung*, or *t'ai jung*, "great wind", but from the Arabic *tujān*, of which it is an exact transcription". (*Glossario etc.* II. p. 389).

- (3) Nitrous. The translator cannot explain this physical theory or even the exact meaning of 'salytroso'. The dictionary translates 'salitre' as 'saltpetre, nitre'. But nitrates of sodium and potassium do not appear to occur in Malaya: indeed Castanheda records that junks from China brought iron and 'salitre' to the country, though saltpetre (Malay *sândawa*) is obtained, according to Dennys, from the decomposed dung of birds and bats in caves: this is probably what Willbourn refers to when he records of Gunong Labuah in Kedah "It is said that natives extract saltpetre from earth on cave floors, and use it to make their gunpowder" (*JRASMB*. Vol. IV. Pt. III. (1926). p. 307).

In this Chapter the sea, and in Chapter 18 (p. 46 *supra*) the land, is said to be 'nitrous and windy'.

- (4) Dorados. The dorado, "gilt-head" of Indian waters has been identified with the sea-bream (often called "dolphin"), *Coryphaena hippurus* Day. (*The Voyage of Francois Pyrrard*. (*Hakluyt Society*: 1887). I. p. 189.

Presumably by the Malayan dorado, Eredia refers to the *Sparidae* (sea-breams); including *Gērētak lantei*, *Anjang-anjang*, *Kērisi*, *Dēlah*, *Bēras-beras*, and *Asoh-asoh*.

(Maxwell. *Malayan Fishes*. (1921). pp. 35. 94).

The 'Kerisi' is called by the Chinese 紅姑鯉魚 (Cantonese, *Hung Kwu Lei Yu*), 'red "Kwu-lei" fish'.

- (5) Red-fish. The translator is indebted to Mr. W. Birtwistle, Officer in charge of the Fisheries Department, Straits Settlements

intends not any particular species of fish, but 'red fish' in general, just as the Malays speak of '*ikan merah*'. Most prominent would be *Lutianus roseus* Day, the sea-perch, called by the Malays *ikan merah* (or in Penang *jēnhak*) and by the Chinese 紅魚 (Cantonese, *Hung Yü*), 'red fish'. (Cf. Maxwell. *Malayan Fishes*. pp. 31-3. 92).

Tagus-fish. The transcript has "taynhas".

According to the Dictionary, "tainha" is a contraction of "Tagana" i.e. "fish of the Tagus".

The translator has been unable to identify this fish from the dictionary meaning of "quab, miller's thumb".

In the unpublished TREATISE ON OPHIR, folio 46 R, Eredia speaks of "the fishing-lake of Sumatra in the district of Gori, where occur splendid "tainhas", and a great number of "dourados" and other fish".

Seer-fish. According to Dalgado (*Glossario etc.* II. p. 204) the name 'peixe-serra' was applied in India and Oriental Africa to a species of fish of the genus 'cybium'.

The name was derived from the dorsal and anal fins which resemble a saw.

Tennent in his *Ceylon* (1860) identifies the 'seir-fish' with *Cybium guttatum* Bl. Schn., called by the Malays *Tēnggiri papan*, and by the Chinese 馬加魚 (Cantonese, *ma ka yu*), 'ma-ka fish'.

The Tēnggiri is the well-known sporting fish, the Spanish Mackerel of the Philippines and Australia.

When salted, the fish lasts a long time: it is highly esteemed. In the Portuguese fleets in India it was customary to give the crews this fish as an accompaniment with rice: Maxwell regards it as the best fish in Malayan waters.

Pomfrets According to Dalgado (*Glossario etc.* II. p. 151), this fish, 'pampano', derives its name from 'pampano', 'a vine-leaf', which it resembles: he identifies it with various species of *Stromateus*, which according to Day are all reducible to *Stromateus sinensis*, 'the white pomfret', *Stromateus cincterus*, which is, when immature, 'the silver pomfret', and when mature 'the gray pomfret', and *Stromateus niger*, 'the black pomfret'.

Maxwell describes the 'bawal' as one of our most popular edible fish, taking a high place among our very best food fishes.

He gives the local names as *Bawal chermin* (*Stromateus atous* C.V.), *Bawal puteh*, *Bawal itam*, *Bawal kēdewas* (*Stromateus cincterus*), *Bawal niger* (*Stromateus tambak*). (*Malayan Fishes* (1921) pp. 28. 91).

The Chinese names are:—

Bawal chermin, 鏡昌魚 (Cantonese, *keng ch'eong yü*) "mirror 'ch'eong' fish".

Bawal itam, 烏昌魚 (Cantonese, *wu ch'eong yü*) "black 'ch'eong' fish".

- Bawal puteh, 白昌魚 (Cantonese, *pák ch'eong yü*) "white 'ch'eong' fish".
- (9) Rays. For the Beaked, Eagle, Electric, and Sting Rays see Maxwell. *Malayan Fishes*. (1921). pp. 52. 53. 101.  
The generic name for the ray among the Malays is *pari* and among the Chinese 方魚 (Cantonese, *jong yü*), 'square fish'.
- (10) Dog-fish. The transcript has "cassoos".  
Apparently Eredia intends to refer to sharks and dog-fish in general.  
According to Carus (*Prodromus Faunae Mediterraneae*. 1885), "casso" is the vulgar name applied around the Spanish coast to certain selachoid fishes.  
The generic name among the Malays is *yü* and among the Chinese 沙魚 (Cantonese, *sha yü*), 'sand fish'.
- (11) "Laramparam". Apparently Eredia refers to either the 'lampam' or the 'parang-parang'.  
The 'lampam' is identified by Maxwell with a species of carp, *Puntius schwanefeldi* Blkr. (*Malayan Fishes*. p. 89).  
The 'parang-parang' is the dorab, *Chirocentrus dorab*, the different sizes of which are called by the Malays *Puchal*, *Tëgap*, *Chabok*, and *Sudip*: the first being the largest. (*Malayan Fishes* p. 74), the Chinese name is 西刀魚 (Cantonese, *sái tó yü*), 'western knife fish'.  
Eredia is the only early writer to mention the name.
- (12) "Balancês": i.e. Malay 'bëlangkas', the Indo-Malayan King-Crab, *Tachypleus Gigas* (Mull). Eredia is wrong in saying that it is peculiar to Malayan waters.  
The male King-crab (*këroncho*) being invariably found with the female, the Malays use the expression "bagai këroncho dëngan bëlangkas" as a simile for 'inseparable' of lovers or husband and wife.  
(*JRASMB*. Vol. I. pt. 2. (1923). p. 358).  
Eredia is the only European writer to quote this Malay word until recent days.
- (13) Turtles. "The hawk's bill turtle (*Caretta imbricata*) which yields the finest shell, is known . . . . to inhabit only the seas round the southern part of the Malay Peninsula, Nikobärs, Celebes and Moluccas. As regards the west coast of the Malay Peninsula, the chief supply comes according to Dennys . . . . from the Dindings. With respect to the east coast, I know it from my own personal experience to be peculiarly plentiful all the way from C'humphôn down to C'haiyã and the neighbouring islands" . . . . "Singapore . . . being the present-day emporium for the article there, while Batavia and Manilla are the actual marts for it in the eastern part of the Archipelago". (Gerini. *Researches etc.* (1909). p. 671).
- (14) Coral. The History of the Sui Dynasty (518-617 A.D.) records that coral is obtained from the sea in P'o-li (婆利) which Gerini places on the Malay Peninsula. (Groeneveldt. *Notes etc.* (1879). p. 206)..

ng Ta-yüan (1349) speaks of coral near Lambri in Sumatra  
*Po.* Vol. 16. (1915). p. 150).

Many beautiful varieties of coral are to be found in Malayan waters.

Amber: *i.e.* ambergris, the product of the spermaceti whale, (15)  
called by the Chinese 'dragon-spittle perfume' (龍涎香),  
or "ang-ha-erh" perfume' (俺兒兒香) from the Arabic *anbar*.

In A.D. 220-30 ambergris was sent by Tonkin to China; Sulaiman (A.D. 851) mentions it in the Nicobars, Barbosa (1516) says it was conveyed from the Nicobars to Malacca and other places. Fei Hsin (A.D. 1436) states that much ambergris found on the north-west coast of Sumatra was brought for sale to Sumatra city in the History of the Ming dynasty (1368-1643) it is recorded that Sumatra sent tribute of ambergris. Lancaster (1592) mentions ambergris among the chief exports of Junk Ceylon Island.

The north coast of Sumatra was the centre of the ambergris trade in mediaeval times, Malacca also sharing it later on.

(Groeneveldt. *Notes etc.* (1879). pp. 214. 262; Gerini. *Resarches etc.* (1909). pp. 581. 823: *T'oung Po.* Vol. 16. (1915). p 159)

Begbie (1834) says that a considerable quantity of ambergris is thrown up on the island on Junk Ceylon during the prevalence of the N.E. monsoon. (*The Malayan Peninsula.* p. 430).

Belor: *i.e.* the eastern Pamir country described by Eredia in (16)  
Part III Chapter 6.

Ganges. Several of the old maps erroneously represent a continuous river-connection between the streams of India and of the Malay Peninsula (17)

## NOTE ON PART I CHAPTER 17.

"*Minhat Tana*" *i.e.* Malay 'minyak tanah' 'earth-oil', the (1)  
name usually applied to kerosene-oil by the Malays. Though oil has been found in considerable quantities in Burma and Sumatra, none has yet been discovered in the southern part of the Malay Peninsula, despite considerable expenditure of money: and an authoritative opinion has been expressed that oil never will be discovered there.

## NOTES ON PART I CHAPTER 18.

Fresh and healthy. In 1786 the Dutch 'Sabandhaar' who had (1)  
suffered from severe illness in Batavia said Malacca was "as salubrious as the best place in Europe" (*JRASMB.* Vol. II. Pt. I. (1924). p. 18).

On the other hand the English public is told in 1615, almost the year in which Eredia wrote, that "the ayre is so troublesome, 1930] *Royal Asiatic Society.*

as not only strangers, but even they that are borne there are <sup>white</sup> times troubled with divers infirmities" (*JRASSB.* No. 82., (1926 p. 129).

- (2) "Amphiscians": 'amphiscios', explained by the dictionary as 'amphiscii, the inhabitants of the torrid zone'.
- (3) Antipodes. See Part II Chapter 4, (p. 65 *supra*) for Eredia's ideas regarding places which are 'antiscian', and 'antipodean' or 'perioecian' to each other.

It will be noted that by 'antipodean' he does not mean what is now meant by 'antipodal': by 'antipodal' places modern writers mean places on the opposite sides of the globe and on opposite sides of the equator, e.g., the north Atlantic Ocean is 'antipodal' to the Australian Continent (Johnstone *A Study etc.* p. 15): by 'antipodean' places Eredia meant places on the opposite side of the globe but on the same side of the equator, and he explains that 'Luca Antara' (Australia or some locality near Australia) and Chile in South America are 'antipodean' or 'perioecian' to each other.

## NOTES ON PART I CHAPTER 19.

- (1) Medicines. Cf Skeat *Malay Magic.* (1900). p. 408.
- (2) "Dayas" Yule and Burnell explain the word 'Daye, dhye', as "A wet-nurse; used in Bengal and Northern India, where this is the sense now attached to the word. Hindustani *dāī*, Sanskrit *dātṛikā*, *conj.* Persian *dāyah*, a nurse, a mid-wife". (*Hobson-Jobson.* (1903) p. 300). Dalgado (*s v* Daia) states that the word *daia* is current in 'Asio-Portuguese'.

It occurs in the forms 'dy', 'daee', 'dyah', 'dhai'.

- (3) Clove The cloves of commerce are the unopened flowerbuds of the Clove tree, *Eugenia caryophyllata* Thunb, which appears to be indigenous only to a small number of islands in the Moluccas

\*They were exported to Malacca, as were other Eastern spices, for shipment to Europe, but, according to Ridley, comparatively few cloves were produced till after the occupation of the islands by the Dutch in 1605 A D.

The common Malay name for clove nowadays is *Chingkeh*: it is also known as *bunga lawang* (from Sanskrit *laoanga*). According to Ridley, the Malays use it only to flavour gambier for chewing and in certain medicines. Cloves are aromatic, carminative and stimulant, and are used in cases of dyspepsia, gastric irritation, etc. Cf. Ridley *Spices.* (1912). *s.v.*

- (4) Nutmegs The nutmeg tree, *Myristica moschata* Linn., is a native of the eastern islands of the Moluccas. The Malay names for nutmeg and mace are "Pala" and "Bunga Pala" respectively (Sanskrit *Jatiphala*) The nutmeg was not cultivated in the Malay Peninsula until after the foundation of Penang (1786 A D.). There are, however, more than fifty kinds of wild nutmeg in the Malay

**Julia:** only one, *Myristica cinnamomea* King, is at all aromatic. *fl.* *The Flora etc.* III. p. 65).

The main use of nutmegs and mace is as a spice. nutmeg has a reputation as a cure for dyspepsia.

Cf. Ridley. *Spices* (1912). s.v.

**Ginger.** The ginger plant, Malay 'haliya', *Zingiber officinale* (5)  
L., is commonly cultivated in fields. (Ridley *The Flora etc.* IV.  
p. 258). Foxworthy gives a list of 22 varieties of *Zingiberaceae* used  
for medicinal purposes (*Minor Forest Products etc.* p. 192-3).

"Conchor" probably Malay 'kunchur' According to Ridley (6)  
this is *Kacmpferia Rotunda* Linn., valued as a spice. (*The Flora*  
*etc.*, IV. p. 246). According to Foxworthy it is *Curcuma Zerumbet*  
Roxb., used in medicine as a stomachic. (*Minor Forest Products*  
*etc.* p. 192). According to Dalgado it is *Kacmpferia galanga* L.  
(*Glossario etc.* I. p. 302) According to Watson, it may also be  
*Curcuma zedoaria* Rox. (*Malayan Plant Names.* p. 75).

All belong to the *Zingiberaceae*.

"Buncalê" probably Malay 'bunglai' (bonglei), *Zingiber* (7)  
*Cassumunar* Roxb, a ginger often to be seen near villages: the  
rhizomes are used in medicine for rheumatism, and also as a spice:  
the leaves are used in medicine for fever. (Ridley. *The Flora etc.*  
IV. p. 259. Foxworthy. *Minor Forest Products etc.* p. 192: Watson.  
*Malayan Plant Names* p. 33).

"Dringo" probably Malay 'Deringu' (Jeringu, Jeringau, (8)  
*Jerangau*), *Acorus calamus* Linn., apparently introduced from  
China: the rhizomes are used in native medicine as a stimulant etc.:  
also in native magic (Ridley *The Flora etc.* V. p. 131 Fox-  
worthy. *Minor Forest Products etc.* p. 191: Watson. *Malayan*  
*Plant Names.* p. 151).

Crawfurd's *Malay Dictionary* has "darringu (Javanese dringo)  
name of a plant, *Acorus terrestris*."

Linschoten (1598) speaks of "The Calamo Aromatico called  
in Malacca Daringoo."

Bowrey (1669) gives "Derringo, Calamus aromaticus, or a  
Sweet smelling reed in India", and mentions "Ringo roots" as  
products of Bengal these apparently are to be identified with the  
"Rangoes" and "Arrangoes" of Stevens (*Guide to East India*  
*Trade* (1766). pp 144 146.).

Valentyn (1726) says that "The *Deringo* or *Acorus* called  
*Calamus*, but by no means the same as *Calamus Aromaticus*" is  
found in Amboyna (iii. p. 246). Rumphius (1741) has a chapter  
on "*Acorum Deryngo*" (*Herbarium Amboinense.* Vol. V. pp  
178-80).

Eredia is the earliest writer to quote the word. The translator  
is indebted to Mr. F de la Mare Norris, Principal Agricultural

Officer, Johore, and to Mr. S. W. Jones, Malayan Civil Service <sup>lite</sup> assistance in identifying this and other plants.

- (9) "*Pulacary*" apparently Malay '*pulasari*', '*pelasari*', '*memplas hari*', *Alyxia lucida* Wall.: the bark and leaves are used in native medicine for infantile disease etc. (Ridley. *The Flora etc.* II. p. 332. Foxworthy. *Minor Forest Products etc.* p. 200. Watson. *Malayan Plant Names.* p. 155).
- (10) "*Cayoular*": perhaps Malay '*kayu ulas*', *Helicteres Isora* Linn., a shrub, the fruits of which are sold in the shops as a drug under the name of '*Chabai Pintal*' or '*Chabai Tah*': the fruits and pods are used in native medicine

Mr. Ridley suggests to the translator that Eredia may be referring to *Scindapsus hederaceus* Sch., called '*Akar ular*' ('Snake root') by the Malays: the stem is used in rheumatism.

- (11) "*Cayotay*". i.e. '*kayu tahu*' ('excrement wood'), a name applied to many woods containing scatol, highly valued as a drug. Mr. Ridley writes to the translator "probably a Meliaceous tree. This was always being sought for by my Malays, but we never found it. Some of the species of *Celtis* contain scatol, but I never found the tree that the Malays would pass as *kayu tahu*".
- (12) "*Pinga*". that is, a 'carrying-pole'. Manrique (1640) writing of India refers to "a pinga which is an instrument used by two men in carrying heavy weights": Luard comments that in the Philippines the word *pinga* is used for the bamboo shoulder-yoke known in India as *bahangi* (bangy), and suggests *bangy* as the derivation of *pinga*. (*The Travels of Fray Sebastien Manrique.* (*Hakluyt Society* 1927). II. p. 129). Dalgado thinks the most probable derivation of the word is from the Malay '*pungguh*', 'to remove goods from one place to another'. He quotes a note by Rodrigo Felner on Bocarro, describing the 'pinga' as an apparatus much like that used by the itinerant fish-sellers of Portugal, and stating that on these 'pingas', usually made from a variety of areca-palm, the Chingalas [Sinhalese] carried their freights in baskets suspended in equilibrium at each end. After commenting that both the Portuguese and English writers used the word particularly in connection with Ceylon, he notes, 'But it is not the vernacular: the corresponding thing in Singales is 'at' or 'ad.''. He adds that the term is current in Macau, where it also denotes the shaft of a sedan chair. He quotes Emerson Tennent (1860) "The *pingo* formed of a lath cut from the stem of the areca or of the coco-nut palm, and still used as a yoke in carrying burdens" (*Ceylon*. I. p. 497). Newbold (1839) may be referring to the same word when he speaks of "a stout elastic bamboo or penaga, which passes across the shoulders". (*Political and Statistical Account etc.* II p. 99).

The forms '*pinga*', '*pingas*', '*pingos*' are found. Eredia is the first European writer to quote the word. (Dalgado. *Glossario etc.* II. p. 213)

## NOTES ON PART I CHAPTER 20.

- Tâgos: *i.e.* Tages; see note on p. 166 *supra*. (1)
- Harm. See Winstedt. *Shaman Saiva and Sufi*. (1925). p. 116 *et seq.*, "As soon as a Malay woman is with child, she and her husband have to observe certain rules and abstentions, so that no vampire may injure the expectant mother, no prenatal influence affect the unborn, and nothing impede or mar a safe delivery" (2)
- Feast. This custom is said to be still in force in Malacca: it is not mentioned in Skeat's *Malay Magic*, however. (3)
- Sorceresses. *Cf.* Skeat *Malay Magic, passim*. (4)
- Chim: apparently Cheng, the name of a mukim about 5 miles NNW of Malacca town: a branch of the Malacca River forms the eastern boundary of the mukim (5)
- Bishop of Malacca. *cf.* p 41 *supra*. (6)
- "Ponteanas": *i.e.* Malay 'pontianak'. "Throughout Malaysia a terror is felt at the plaintive cry of a banshee (*Pontianak*), which is supposed generally to appear in the form of a bird and drive her long claws into the belly of the expectant mother, killing her and the unborn child" (Winstedt. *Shaman Saiva and Sufi*. (1925) p. 18). *Cf.* Newbold (*Political and Statistical Account etc* (1839) II p 191), and Skeat (*Malay Magic* (1900). p 327) (7)
- "Budes": the transcript has "brides", which being unintelligible the translator has emended to "budes", suggesting that it may be the pluralized form of Malay *budi*, the peepul-tree (*ficus religiosa*) Eredia draws a sketch of a 'bude' tree outside the 'Tranqueyra' gate close to the sea-shore at Malacca (see p 206 *infra*). (8)
- "Divâlv": *i.e.* "Hindustani *divâlî*, from Sanskrit *dīpālīkā*, 'a row of lamps', *i.e.*, an illumination. An autumnal feast attributed to the celebration of various divinities . It is held . . usually some time in October" (Yule and Burnell *Hobson-Jobson*. (1903). p. 308) Eredia is the first European writer to quote the word The festival is the occasion for a general 'down-tools' at all places where Tamil labourers are employed in Malaya: nor can work be resumed until the labour force has had adequate opportunity to carouse and to recover from the after-effects of carousing. The festival-day has now (1929) been declared a public holiday in the Straits Settlements. (9)

## NOTES ON PART I CHAPTER 21.

- 604 "Muhammad was born in the year A.D 570 and assumed office as the Founder of Islam A.D 613-4 The year of the Flight from Mecca to Medina was A.D 622, and marks the commencement of the Muhammadan Era". (Wilson. *The Persian Gulf* (1928). p. 60) (1)
- Spread. "After the fall of Pasai, Malacca, and after the conquest of Malacca, Acheen became the centre of Muhammadan religion and learning." (*JRASSB*. No. 81. (1920). p. 39). (2)
- 1930] *Royal Asiatic Society*.

Winstedt points out that 'the bulk of Muhammadan mission<sup>110</sup> came from India, and were natives of Gujerat and Malabar'.

As regards the Peninsula, the religion was introduced into Malacca during the reign of Sultan Muhammad Shah (1403-1414); into Kedah in 1474; into Pahang, on its conquest by Malacca, in 1475; and into Johore by the first Sultan [c. 1530]. (*JRASSB.* No. 77. (1917). pp. 171-4).

- (3) Alcoram *i.e.* "Alcorān, the Korān, or sacred book of the Mohammedans".

- (4) "Mula": *i.e.* "Moollah . Hindustani *mūlla* . . the word comes to mean eventually 'a learned man, a teacher, a doctor of the Law'". (Yule and Burnell. *Hobson-Jobson.* (1903). p. 579).

In the Portuguese writers the words *mula* and *maulana* are used indifferently but *mula* is the more common. (Dalgado. *Glossario etc.* (1919). II. p. 77).

- (5) "Casis" *i.e.* Caze, Kajee, etc. "Arabic *kādi*, 'a judge', the letter *zāwād* with which it is spelt being always pronounced in India like a *z*. The form *Cadi*, familiar from its use in the old version of the Arabian Nights, comes to us from the Levant" (Yule and Burnell. *Hobson-Jobson* p. 177). In Wilkinson's Dictionary the word appears as *Kali*, "the peculiar Arabic sound inadequately represented by *dz* and really a velarized variety of the *th* in the English "the", becomes *l* in several Indonesian languages". (*JRASMB.* Vol. V. Pt. I. (1927). p. 210).

- (6) Bragmenes *i.e.* the plural of Brahmin, Brahman, Bramin. "This word now means a member of the priestly caste; but the original meaning and use were different . . The older English form is Brachman, which comes to us through the Greek and Latin authors". (Yule and Burnell. *Hobson-Jobson* p. 111).

"The Brahmans are the first and most distinguished race of the Hindus, mythologically described to have sprung from the head of Brahma, as the *Kettries*, *Vaisyas*, and *Sudras* did from his arms, thighs, and feet". The *Kettries* were the warrior tribe, the *Vaisyas* the merchant tribe, and the *Sudras* the tribe of husbandmen. (Coleman. *The Mythology of the Hindus.* (1832). pp. 140. 387 399). In the island of Bali where the Hindu religion persists, the first three castes, Brahmins, Ksatua, and Wesja comprise the nobility, and the *Sudra* the common people but the last caste is not despised and the nobility can marry into it.

- (7) Perumal: *i.e.* Brahma.

- (8) "Sabbia" the dictionary somewhat inadequately explains 'sabria, a bird so called in the Brazils': apparently the 'sabian' of Brazilian popular songs. This and other passages in Eredia's book suggest a borrowing from Father Joseph De Acosta (1590), who writes "and Athenes the wise woman, the Cocke, and the Raven, and such other like vanities and mockeries". (*The Natural and Moral History of the Indies.* (*Hakluyt Society:* 1880). II. p. 308). The translator of that passage appears to consider (perhaps rightly) that 'sabria' means 'wise woman' and not the bird of that name.

## NOTES ON PART I CHAPTER 22.

Gold. Gold has been worked in several parts of the Peninsula (1) from the earliest days. It remains a mystery what race was responsible for the old workings such as those of Selinsing in Pahang, where some of the pits are over 160 feet deep: that they were originally opened at a very remote age is clear from the fact that Neolithic implements are associated with the workings, which are situated in what appears to be virgin jungle

Gerini suggests that the workers may have been Sakai working under Hindu direction, or possibly Phoenicians: the identification of Solomon's Ophir with the Malay Peninsula goes back to Josephus but is now considered improbable. Gold was worked on Gunong Ledang till comparatively recent times

Jourdain (1608-1617) remarks "it is very necessarrie for to furnish our ships outwards bound with rice and Jore gold in quoine" (*The Journal of John Jourdain (Hakluyt Society 1895) p. 294*)

Governor Bort records that gold used to be found on the shore at Malacca. (*JRASMB*) Vol V Pt I p 128)

Gold is being worked at the present day, for instance, at Rauh in Pahang, and Batang Padang in Perak

(*Cf Gerini Researches etc. (1909) p 477. JRASMB. Vol. V Pt. I (1927). p. 222.*)

Gold and silver are found in the metallic state, but not mercury or tin though for what appears to have been an accidental spill of mercury at Malacca *cf JRASMB No 24 (1891) p 79*

Silver "Veins of silver have been discovered in various (2) portions of the Malay Peninsula . . . and in Larūt (Pérak district) it was found associated with the rich tin ores of that territory." (Gerini. *Researches etc p. 477.*)

"In composition, native gold ordinarily consists of gold with varying amounts of silver"

Silver also occurs in Cerussite, lead carbonate; and in Galena, lead sulphide. (*JRASMB Vol. III Pt. III (1925). pp. 68. 76. 77.*)

Mercury Mercury has been found in the form of Cinnabar, (3) mercuric sulphide, in Negri Sembilan and Pahang It does not appear to be extracted for commercial purposes (*JRASMB. Vol. III. Pt. III. (1925) p 70*)

Tin There is reason to suspect that tin may have been exported (4) from Malaya to China as early as 1000 B.C.: see p. 95 *supra*

Throughout recorded history Malaya has been celebrated for its tin: and at the present day produces some 40% of the world's supply. The metal occurs in the form of cassiterite, so-called tin stone or black tin, tin dioxide; which is the only common ore of tin.

Even at the present day, tin-ore can be concentrated in pans on the beach near Malacca. (*JRASMB. Vol. III. Pt. III. (1925). p 66; Vol V. Pt. II. (1927). p. 282.*)

- (5) *Iron.* Iron ores occur in large quantities; but do not appear to have been worked until recently; indeed Castanheda speaks of the Chinese junks bringing iron to Malaya.

A large deposit of haematite, ferric oxide, is being worked at Bukit Medan near Batu Pahat in Johore by a Japanese company who in 1928 exported 660,000 tons of iron-ore; the ore is much richer than that usually smelted in Europe and America.

Deposits of haematite are also known to exist near Tambun (close to Ipoh), at the foot of Gunong Jerai in Kedah, and at different places in Johore.

Magnetite (magnetic iron ore, lodestone) is reported as being present in large quantities in an accessible part of Trengganu.

Pyrite (iron pyrites), iron disulphide, occurs in a large deposit at Bundi near Kemaman in Trengganu.

A Japanese company has lately commenced mining operations at two places in Trengganu.

(*JRASMB.* Vol. III. Pt. III. (1925). pp. 77. 82. 88; Vol. VI. Pt. 4. (1928). pp. 33. 34).

The opinion has recently been expressed that in the near future iron will prove to be of prime economic importance in Malaya.

- (6) *Precious stones.* Towards the end of the Chapter Eredia specifies 'topazes, with traces of diamonds and emeralds'.

Scrivenor refers to a quotation from Garcia da Orta stating that diamonds "of the class called old-rock diamonds" occurred at "the Strait of Tanjam in the Territory of Malacca". Scrivenor suspects that the so-called diamonds at the Strait of Tanjam (wherever that may be) were really quartz-crystals. (*JRASMB.* Vol. V Pt. II. (1927). p. 283).

"Tanjam" is probably "Tanjampura" *i.e.* Tanjong Pura in Borneo, placed by Tavernier in "Malacca".

For the rest, all that can be said is that at the present day no one has succeeded in discovering stones which are large enough to be used as gem-stones, though minute stones are to be found; for instance, sapphire has been found in small specimens at Chenderiang in Perak; garnet, though not of sufficient clearness, in Pahang and at Pulau Ubin near Singapore; ruby spinel, in association with tourmaline, garnet, and other minerals, in the sand beach on the east coast of Tubah, Langkawi Islands, and in a range of hills between Kedah and Siam; topaz, in the alluvial deposits worked for tin in the Chenderiang Valley; quartz-crystals and tourmaline, in many mining districts. (*JRASMB.* Vol. III. Pt. III. (1925). pp. 76. 94. 90-91. 96-7).

- (7) *Semi-minerals.* The transcript has "medio mineral"; it is not certain whether Eredia refers to "mineral-ores" of which there are a large number, such as Kaolin (China clay) or Talc (soap stone), or to non-metallic substances capable of being mined, for instance, graphite, or lignite (brown coal).

Nitre. If Eredia means sodium or potassium nitrate, these do (8)  
occur at the present day: but see note on p. 168 *supra*.

Colours. Towards the end of the Chapter Eredia mentions red (9)  
lead, 'minio': this is not now to be found; but sufficient variety  
remains with andalusite, whitish or rose-red, axinite, clove-brown  
and blue-violet; azurite, intense azure-blue, chlorite, dark green,  
fluorite, purple; galena, lead-gray, limonite, yellowish-brown;  
monazite, golden-yellow.

Like plants. This disquisition bears a striking resemblance to (10)  
a passage in Father Joseph De Acosta. see *The Natural and Moral  
History of the Indies* (*Hakluyt Society*: 1880). I. p. 183.

Increase. The Chinese have a belief that tin will grow if left to (11)  
itself: the belief is probably due to the fact that stanniferous earth,  
washed down from higher land, has lodged behind boulders in  
pockets from which the tin-ore had previously been removed.

Campar and Priamon: *cf* the places named on Eredia's map, p. (12)  
213-4 *infra*.

Bazarmacem: *i.e.* Banjarmasin, situated on the Banjer or (13)  
Barito River, in the south-east of Borneo

River of Sucasana apparently the Sempang River flowing into (14)  
Sucasana Bay on the West Coast, about 1° 12' S.

"Tombaga". The transcript has "ouro e Tombaga em (15)  
Timor", which the French translator wrongly renders "gold at  
Tombaja in the island of Timor", making "Tombaja" the name of  
a place

No such place name as "Tombaga" appears in Eredia's map of  
Timor on folio 48 V or occurs on the island at the present day.

By "tombaga" Eredia probably means the Malay word *tēm-  
baga*, 'copper, bronze, brass'.

Copper is found in Timor. (*Crawford Dictionary of the  
Indian Archipelago*. (1856) p. 433).

Dalgado derives the Malay word from Sanskrit 'tāmra',  
and explains it as meaning a mixture of copper and zinc, and also  
copper or brass

The Portuguese turned it into 'tambaca', 'tambac', and  
'tombac'.

Fariar y Sousa (1675) refers to 'a piece of artillery made from  
Tambaca' "metal virtuoso". (*Dalgado. Glossario etc* (1919).  
II. p. 346).

Possibly Eredia meant to write "*tombaga suaca*" for when  
describing Timor in the REPORT ON THE GOLDEN CHER-  
SONESE, he does not mention copper but lays stress on the "many  
mines of gold, "*tombaga suaca*": (see p. 254 *infra*).

The Malay expression *tēm-baga suasa* denotes an alloy of gold  
and copper.

- (16) Grains. Governor Bort (1678) writes "Here in Malacca <sup>white</sup> the sea-shore. . . gold was formerly sought and found in small nuggets and in dust of high alloy". (*JRASMB*. Vol. V. Pt. I. (1927). p. 128).

At the present day "it occurs both *in situ* in hard rock, and also as small grains in alluvial beds. . . Sometimes the Malays return to [abandoned alluvial workings] when the rice crops have been poor, but the amount of gold they win is not enough to induce them to do steady work". (*JRASMB*. Vol. III. Pt. III. (1925). p. 77)

- (17) Earth-quarries. The transcript has "minas de mâtte", literally "mines of earth".

In Part I Chapter 1, when describing the walls of Tranqueira, the French translator renders "mâtte", "earth", as though it were "matto", "wood". In the present Chapter "mines of wood" will not quite do, so the word "mâtte" is left untranslated.

One suspects that these "mines of earth" were the well-known laterite quarries of Malacca, and that this was the substance employed for constructing the walls of Tranqueira.

According to Scrivenor, it was used by the Portuguese to build St Paul's Church (*JRASMB* Vol V Pt II. (1927), p. 285), then called, it would appear from Eredia and others, The Church of Our Lady of the Annunciation.

- (18) Gelê. *ie* Jelai.

Eredia marks this place in his map of the Malacca district, see p 209 *infra*.

Dennys (1894) names it Jelli or Jelliye

Mr. W A Gordon-Hall, Malayan Civil Service, kindly informs the translator that there is no village of this name at the present day the 'ulu' of the Jelai River, however, is situated hereabout

The ancient State of Jelai was one of the original Negri Sembilan, Nine States, and occupied the territory now covered by Inas and Johol, the latter being at one time called Enjelai. In the 18th century Jelai vanished, and its place was taken by Inas (c 1760), which in turn was later eclipsed by Johol.

(Nathan and Winstedt *Johol, Inas, Ulu Muar, Jempul, Gunong Pavir and Terachi* (1920), pp 8, 9).

- (19) Sylata. In his map on folio 24 V (see p 214 *infra*) Eredia places SYLATA immediately north of Priaman on the west coast of Sumatra, with the explanation "mines de oro de Arcas" "gold mines of Arcas" (whatever "Arcas" may mean): the place is apparently identical with Governor Bort's 'Sillida' which is described as "Salida, a place on the west coast of Sumatra, somewhat to the south of Padang (which last is about lat. 1° S.)". (*JRASMB* Vol V Pt. I. (1927). pp. 139, 229). "The mines of Salida [were] previously exploited by the Hindous". (*Collet. Terres et Peuples de Sumatra*. (1925). p. 178).

## NOTE ON PART I CHAPTER 23.

Waterspout. "That interesting and wonderful phenomenon, called a water-spout is often to be seen in the seas and straits adjacent. They ought more properly to be called whirlwinds charged with vapour. They occur, generally, in the morning between the hours of eight and twelve, and rise to the height of half a mile, appearing in the distance like large columns supporting the heavy masses of cumuli above them" (Dennys. *A Descriptive Dictionary etc.* (1894). p 351). (1)

## NOTES ON PART I CHAPTER 24.

Bore. "We have the curious observation in the great Periplus of the Erythraean Sea [c. 60 A.D.] of the existence of "tidal bores", that is, very high tides that rapidly advance as high-crested undulations in the estuaries of great rivers, increasing in height as the estuary narrows. Such tidal bores exist in many parts of the world (even in Great Britain, in the Solway Firth and the River Severn) and the ancient mariners noted their occurrences in the Gulf of Cambay, on the west coast of India." (Johnstone. *A Study of the Oceans* (1926). p. 60) (1)

Eredia appears to have seen a bore in mid-ocean "Caffilas", the pluralized form of Arabic *kāfila*, properly a body or caravan of travellers, also commonly used for a fleet of merchantmen under convoy. (2)

Paradise. Bowrey (1669) relates that the Ganges "is supposed to runne up Paradise or the garden of Eden" (*A Geographical Account etc.* p. 166) (3)

## NOTES ON PART I CHAPTER 25.

Xavier. St Francis Xavier, "the Apostle of the Indies" sailed from Lisbon on the 7th April, 1541 (1)

Maluco. "The Moluccas" (Spice Islands) was a name given originally to the volcanic islands which fringe the western shore of Halmaheira; it is now generally applied to the two groups of important islands to the north-west of the Dutch possessions in New Guinea: Halmaheira, Morotai, Bachian and Obi to the north, Ceram, Buru, Amboina, and the Bandas to the south. The islands are divided politically into the residencies of Ternate and Amboina". (2)

Machoquique in Macazar. By 'Macazar' Eredia means the whole island of Celebes. (3)

In the map on folio 47 V, he shows Machoquique on the northern shore of the gulf of Mandar, and SUPA, Linta, and Mandar (reading from south to north) near the western coast of the island.

Of these names only Mandar now survives, though SUPA<sup>note</sup> be found on the old maps, and the approximate position of Linta and Machochique is easily ascertainable. The situation of LUBO, however, is uncertain.

For the cartography of the Celebes see Abendanon. *Voyages Géologiques et Géographiques à travers la Célèbes Centrale*. (1918). III. p. 1391 *et seq.*

- (4) Domingos. Eredia's brother.
- (5) Dona Elena Vesiva: Eredia's mother, who was 15 years old at the time of this escape.
- (6) Juan de Eredia. Eredia's father.
- (7) Manuel: Eredia himself.
- (8) Escutcheon: the allusion is to the coat-of-arms and family-tree represented by Eredia on folio 44 R. see p. 218 *infra*.

## NOTES ON PART I CHAPTER 26.

- (1) Permicuri: *i.e.* the founder of Malacca.
- (2) Alaudin: *i.e.* Sultan Aladin Riayat Shah III (c 1597—1615), also known as Raja Raden. (Wilkinson. *A History etc.* (1923). p. 54).
- (3) Bintão *i.e.* Bintang (Bentan), the island to the south-east of Singapore.
- (4) Raya Ale. Eredia enumerates 4 rulers from the fall of Malacca to the date (1613) when he wrote, namely,
  - (1) Soltan Mahamet, overthrown by Albuquerque in 1511.
  - (2) His son, not named, who founded 'Cottabatu'
  - (3) Raya Ale, who became reconciled with the Portuguese.
  - (4) King Alaudin, who quarrelled with the Portuguese and befriended the Dutch.
 Wilkinson records 6 rulers, namely,
  - (1) Sultan Mahmud: died about 1529
  - (2) Sultan Aladin II, the founder of Johore: ruled 1529—1564
  - (3) Sultan Mudzafar.
  - (4) Sultan Abdul-jalil, an infant
  - (5) Raja Omar (Sultan Abdul Jalil II). died 1597.
  - (6) Raja Raden (Sultan Aladin Riayat Shah III): ruled from 1597 to about 1615.

It would seem that Eredia omits Sultan Mudzafar and Sultan Abdul-jalil, the infant, who, according to Wilkinson, did not long survive Sultan Aladin II. (Wilkinson. *A History etc.* p. 54).

Eredia's Raya Ale is Wilkinson's Raja Omar; and it would appear that Raya Ale's reconciliation with the Portuguese (which Wilkinson does not mention) occurred after 1588, the year of his

by De Lima; for until that date Raya Ale (Rajale) had a thorn in the side of the Portuguese and his blockade of Malacca in 1587 had reduced that town to a state of serious distress (e.g. cf. *The Travels of Pedro Teixeira*. (*Hakluyt Society*. 1892). p. vii).

Raja Raden (Alaudin) lived unmolested by the Portuguese till 1602 when the first Dutch factor arrived in Johore. this led the Portuguese to blockade the river, and Eredia relates how he himself with a squadron of 66 ships harassed the Malays, and actually captured Raja Raden's capital of Kota Batu, see Part II Chapter 10 (page 72 *supra*), and the Summary of his life (page 266 *infra*).

Raja Benco. The transcript has 'Beneo' the reference is (5) to Raja Bongsu ('younger born'), also known as Raja Sabrang ('on the other side of the river'). "The prince who was commonly known by this title was a brother of the Sultan of Johor reigning in 1606 [Raja Raden] and subsequently inspired the composition of the well-known classic, the *Sejarah Melayu*" (*JRASMB* Vol. V. Pt. I (1927), p. 226).

Raja Abdullah, to give him his real name, came to the throne soon after 1614 under the title of Sultan Abdullah Maayat (or Hammat) Shah. (Wilkinson *A History etc.* p. 60)

According to Valentyn, "he was reputed for being attached to us more than any other Indian Prince, for which reason he and his country had to suffer very much from our mutual enemy". (*JRASMB* No 16 (1885) p. 300).

He is described [in 1606 by the Dutch] as a man of about 35 years of age, fairly intelligent, far-sighted, quiet in disposition and a great hand at driving hard bargains (Wilkinson. *A History etc.* p. 56) but naturally he is not in Eredia's good books.

He took a prominent part in the political history of his time, being entrusted with the conduct of state affairs by the indolent Raja Raden: see Wilkinson, *op cit.* pp. 54—60: and Valentyn in *JRASMB*. No 15 pp. 128—138 and No 16 pp. 289—300

Johore at this time was in the unfortunate position of being compelled not only to temporize between the Portuguese and the Dutch, but, in addition, to face the attacks of the powerful Sultan of Acheen the well-known Iskandar Muda or Mahkota Alam. when the Dutch went away, Johore was attacked by the Portuguese, and if the Portuguese did not attack, the Achehese did.

On the 6th June 1613, the Achehese, who were at war with Malacca, made a raid on Johore, captured the capital and carried into captivity the Sultan, his brother Abdullah, the chief Malay court dignitaries and the Dutch residents in the factory. (Wilkinson *A History etc.* p. 59)

Bocarro writing under date July, 1613, relates how the Portuguese in the Straits met the king of 'Achem' at the head of a great fleet with which he had taken the city of Johore and conquered the Kingdom of 'Malaio' capturing the 'Reta bonço'

1930] *Royal Asiatic Society*.

{Raja Bongsu] brother to the King of Johore and the prince, warlike personage among the 'Malaios'.

(*Decada 13 da History da India.* (1876). p. 165).

- (6) Hollanders. Eredia calls them 'Olandeses' and 'Olandezes'.

The Dutch gained the command of the sea by their victory over the Portuguese fleet off Malacca in 1606: and before Eredia wrote (1613) they had displaced the Portuguese from Amboyna, Ternate, and Tidore. They captured Malacca in 1641.

It will be observed that Eredia says nothing in this book about the English, though he mentions them in the REPORT ON THE GOLDEN CHERSONESE (p. 253 *infra*): but the writing was on the wall, and the victory of Captain Thomas Best over the Portuguese squadron in 1612 may justly be claimed to fix a definite date for the foundation of the British Empire in India.

But the British hastened slowly; although it is apparent from Linschoten that British naval activity became increasingly more energetic after 1588, yet by 1662 they had still only 28 ships in the Far East, compared with the 83 ships of the Dutch, who in 1619 had founded Batavia. The settlement at Penang, established in 1786, constituted the first serious competitor of the Dutch; and the capture of Ceylon by the British in 1795 sounded the death-knell of Dutch monopoly.

Of the foundation of Singapore in 1819 perhaps the less said the better, it is "to be justified. . . only, if at all, on wider grounds of public policy, and retrospectively by its results".

(Wilkinson. *A History etc.* pp. 58. 61: *The Asiatic Review*. October, 1927, p. 608. *The Voyage of John Huyghen Van Linschoten.* (*Hakluyt Society.* II pp. 270 sqq. JRASSB. No. 67. (1914) pp. 69. 76. 77. *One Hundred Years of Singapore.* I p. 11).

## NOTES ON PART II CHAPTER 1.

- (1) Meridional India: *i.e.* 'southern India', in the map of the world between folio 51 and 53 Eredia represents 'Luca Antara' as a northerly projection of the great antarctic continent surrounding the south pole (see p. 223 *infra*), so too in the map found by Major at the British Museum (see p. 269 *infra*), but in the map on folio 58 of the unpublished TREATISE ON OPHIR, 'LUCA-ANTARA' is shown as a part of an island called 'JAVA MAJOR' placed off the coast of the southern continent, while the modern Java is designated 'JAVA de Mataron'.

On folio 16 of the TREATISE ON OPHIR, Eredia writes 'The name Meridional India is given by Ptolemy to the continental land of Beach or Veach, land of gold, including various neighbouring islands and in particular the island of Javadi or Javadiva, abounding in gold and silver and every variety of aromatic spice, as he notes in his Table 12; it is mentioned by Marco Polo the Venetian in his

to its commerce in the year 1296, during our own time it discovered for the crown of Portugal in the year 1601".

Beach: really Marco Polo's *Locac* in the Malay Peninsula. "In the Basle edition of 1532, the printer blunderingly altered 'L' into 'B' and the first 'c' into 'e', so Locach became Boeach." This was afterwards shortened into Beach, and "the blunder was repeated in books and maps with so much confidence that we find it even recurring on a semi-globe, which adorns the monument of Sir Henry Savile in Merton College Chapel, Oxford. As however some editions of Marco Polo retained the word Locach and others Beach, both names came to be copied on to maps" (Major in *Archaeologia*. Vol. XLIV. (1873). p. 254). (2)

Yule placed *Locac* in Lower Siam (*The Book of Ser Marco Polo*. (1926). II. p. 278), Gerini "in Pahang or thereabouts" (*Researches etc* (1909). p. 497), Ferrand, reading *Lōsak* and connecting it with *Lankāçoka* (*Lēnkasuka*), in the region of *Liçor*. (*Journal Asiatique*. Tome XII. (1918). p. 91)

Maletur. The 'Malaur' described in Book III Chapter VIII of Marco Polo is written 'Maletur' in the Basle edition. Yule's edition, however, says nothing about Marco Polo leaving the shoals of Maletur to the west; in fact, it does not mention any shoals. (3)

This and other points which occur in Eredia's book cause one to suspect that Eredia consulted a manuscript of Marco Polo which was not known to Yule. It occurred to the translator that this manuscript might still be in existence at Goa; and Father Coroado kindly caused enquiries to be made; the result, however, was negative.

Lucach. Marco Polo's *Locac* in another form: see note (2) *supra*. (4)

Java Minor: *i.e.* Sumatra, with its kingdoms as mentioned later in the chapter. (5)

For the identification of the places mentioned in Marco Polo's itinerary, see Yule, *The Book of Ser Marco Polo* (1926), notes on Book III Chapters VII to XIII and Cordier's *Ser Marco Polo* (1926), p. 104 *et seq*

Petan: Marco Polo's 'Pentam', identified by Yule with Bintang (Bentan) and by Gerini with Singapore: see p. 223 *infra*. (6)

Necuran and Agania: the Nicobar and Andaman Islands: see p. 223 *infra*. (7)

Nutmegs: literally "mace-nuts", "maça nos" (8)

"Birco" Dalgado remarks that it is not quite clear what Eredia refers to, and suggests a derivation from Malay 'birah', 'a name given to a number of aroids (chiefly wild)', among which may be mentioned 'birah kēladi' (*colocasia antiquorum*). (*Glossario etc* (1919). I. p. 129) (9)

Eredia is the only European writer to use the word

By comparing this passage with the allusions in Chapters XI and XII of Marco Polo's Third Book (Yule. *The Book etc* II. pp. 299, 306) one might feel reasonably sure that Eredia refers to

Marco Polo's *Brazil*, i.e., sappan wood (the red dyewood); in case 'birco' might be some form of the Portuguese 'brasa', 'red-hot coal' (from which the name 'Brazil' was derived; see p. 134 *supra*), or else corrupted in some way from Malay 'bara', which has the same meaning: the old Italian 'verzino' is said to be a form of the word 'bresil'.

What renders this identification doubtful is the fact that in Part I Chapter 5 Eredia specifically mentions 'pão do Brasil' 'Brasil-wood' (page 27 *supra*): perhaps, however, apart from its name, Eredia did not know what 'birco' was: just as, apart from its name, he did not know what 'Bruang' (a bear) was; see p. 236 *infra*.

- (10) Vartomano: i.e. Ludovico di Varthema, a native of Rome, who visited India before the end of the fifteenth century: cf. *The Travels of L. Varthema (Hakluyt Society: 1863)*.

- (11) Chinsay: called 'Quinsay' by Eredia in Part III Chapter 3, p. 78 *supra*, apparently Marco Polo's 'Kinsay' identified by Yule with Hang-chau.

According to Yule, Marco Polo sailed, not from 'Kin-ay' but from T'swan-chau-fu (Zayton) in the Fukien province.

- (12) Java Major: i.e. Java as now understood.

- (13) Bantan: i.e. so-called Bantam, which should properly be Bantan, as spelt by Eredia.

"The province which forms the western extremity of Java. It formed an independent kingdom at the beginning of the 17th century". (Yule and Burnell. *Hobson-Jobson*. (1903). p 62).

- (14) Sinda. i.e. Sunda, "the western and most mountainous part of the island of Java, in which a language different from the proper Javanese is spoken, and the people have many differences of manners, indicating distinction of race. In the 16th century, Java and Sunda being often distinguished, a common impression grew up that they were separate islands, and they are so represented in some maps of the 16th century. The Sunda country is considered to extend from the extreme western point of the island to Cheribon, i.e. embracing about one-third of the whole island of Java." (Yule and Burnell. *Hobson-Jobson* p 868).

- (15) Bale i.e. Bali. Marco Polo does not mention any such place; the unfortunate words "when you leave Java" in all the manuscripts of Marco Polo are the cause of this confusion, (cf. p. 223 *infra*).

Eredia, it would seem, says Marco Polo passed through the Straits of 'Bale', because he thinks that, to go south, he must have done so.

- (16) Sondur and Condor. These are usually considered to be the Pulau Condore group of islands: but see Cordier's *Ser Marco Polo*. (1926). p. 104.

- (17) Ferlech: Marco Polo's 'Ferlec': i.e. Perlak (Peureula) near the north-east horn of Sumatra, the 'Perlak' of the 'Malay Annals' and of the 'Chronicles of the Kings of Pasai'.

<sup>†</sup>Basman: Marco Polo's 'Basma': the 'Pasai' of the Malays, (18)  
called by the Portuguese "Paçem": situated on the north coast, to  
the west of 'Ferlech'.

Samara: the 'Samudra' of the 'Malay Annals', which even- (19)  
tually gave its name to the entire island of Sumatra; situated on the  
north coast, to the west of 'Basman'.

Dragoian: Marco Polo's 'Dagroian', placed by Gerini in the (20)  
Gayu country, west of Samara (*Researches etc.* p. 695); Yule  
agrees with this, while Ferrand suggests Indragiri (*Journal Asiatique*.  
Tome XII. (1912). p. 93).

Fanfur: Marco Polo's 'Fansur': placed by Yule in the Barus (21)  
territory of Sumatra, about 2° N.

Lambri: placed by Yule in the locality of Daya, in the north- (22)  
west corner of the island.

Mouros. "Marco Polo has not a word about Islamism having (23)  
as yet acquired a foothold in Lambri, although he mentions this  
faith as well established among the townspeople (and those only)  
in Perlec (Perlak) whither it was introduced by the Saracen  
merchants" (Gerini. *Researches etc.* p. 695).

"It is most probable that Arab traders carried Islam to Sumatra  
in the early centuries of the Hidjra". (Van Ronkel in *Encyclo-*  
*paedia of Islam* Fasc. I. (1927). p. 551).

Inhabitants Compare Marco Polo, Book III Chapter IX, and (24)  
Yule's commentary (*The Book of Ser Marco Polo.* 1926).

Angaman: *i.e.* the Andaman islands once more. (25)

In an attempt to harmonize Marco Polo's itinerary with infor-  
mation obtained locally, Eredia identifies the Andaman Islands with  
Marco Polo's 'islands of women' (500 miles south of Mekran);  
and then identifies these latter with the local 'island of women',  
wrongly ascribing this meaning to the 'Nusa Tambini' of Javanese  
legend (see note on p. 197 *infra*), the local 'island of women' he  
places south of Timor.

Lucatambini. *Vide* note on Pulo Tambini, p. 197 *infra.* (26)

Lucapiatto: *i.e.* 'Nusa', 'island' (Javanese) and 'piatu', (27)  
'desolate' (Malay).

According to Ferrand, the word 'nusa' is only used in Java,  
Madura, and Madagascar (*nūsi*); elsewhere, 'island' is generally  
represented by the name 'pulaw', 'pulo' or some dialectical variant  
thereof. (*Journal Asiatique.* Tome XX. (1920). p. 190).

'Nusa' may be connected, through Sanskrit, with the Greek

νῆσος

The human tongue has a tendency, it would appear, to corrupt  
an 'n' into an 'l'. thus 'Nakhon' has become 'Lakhon' (Ligor)  
and the Malay word 'nuri' has become 'lory'.

Linschoten's map of the Eastern Seas contains the forms 'Lusa'  
(Luca) and 'Nusa'.

"Lontāres" "The palm-leaves used in the Archipelago (as (28)  
in S. India) for writing on are called *lontar*-leaves.

Filet (No. 5179. p. 209) gives *lontar* as the Malay name of two  
palms, viz. *Borassus flabelliformis* ... and *Livistona tundiifolia*

It has been said that *lontar* is formed by metathesis from *ron-tal*, leaf of the 'tal' tree.

"*Ron* is then probably equivalent to the Malay *dain* or in some dialects *don* 'leaf'. The tree itself is called *p'hun* (*pohun*) *tar* in the East coast of the Malay Peninsula, *tar* and *tal* being only variants of the same word". (Yule and Burnell. *Hobson-Jobson*. p. 519) "The name of the tree is evidently derived from the leaf which was the writing material of all the nations of the Archipelago before the introduction of paper, and still continues to be so of some of them" (Crawford. *A Descriptive Dictionary etc.* (1856). p. 221).

(29) Gram: *i.e.* 'great', 'grand'.

(30) Cathay. *i.e.* Northern China. The word is derived from Khitai or Khitat, the name applied to the northern provinces of China, which between 907 and 1125 A.D. were governed by the Khitan, foreign conquerors from the Sungari basin. The name survived after their disappearance from China. in Russia, China is still known as 'Kitai'.

(31) Mansim: *i.e.* Southern China: see note on p. 162 *supra*.

(32) Luca antara. *i.e.* Nusa antara, the southern land which Eredia claims to have discovered: *cf.* the map referred to on p. 269 *infra*, also p. 223 *infra*.

The name 'Nusa antara' occurs in the *Pararaton*, a Javanese historical work of about the 16th century.

Blagden adopts Brandes' explanation that the expression *Nusantara* refers to the Archipelago in general. (*JRASSB*. No. 53. (1909). p. 144).

Crawford says that the expression 'Nusa antara' denoted Madura.

Janssen thinks that Eredia's *Luca antara* was Australia or one of the islands off the north Australian coast: Hamy considers it to be Sumba. (Janssen. *Malaca, l'Inde Méridionale et le Cathay*. (1882). pp. xi. xii). Major thinks it was Madura.

To discuss the identity of Eredia's *Luca antara* does not lie within the scope of this paper as, however, Eredia's *bona fides* has been attacked by Major, it is desirable to consider whether there is any substance in the accusation. Major discusses this question in *ARCHAEOLOGIA*. (1873). p. 243 *et sqq.* His arguments appear to be as follows:

1. The voyage of 600 miles from Java to Australia is too far to be covered in 12 days.

Major assumes that the "caelus" was propelled solely by oars. But in the REPORT ON MERIDIONAL INDIA Eredia says that the boat had sails as well as oars; vide p. 261 *infra*.

A speed of 50 miles a day for a fast boat is below, not above, the average: a thousand years before this, I-tsing had sailed the 1700 miles from Canton to Palembang in 20 days. (Gerini. *Researches, etc.* p. 527-8).

2. Madura tallies with Eredia's description of *Luca antara*. That may be so. But there are arguments against this identification.
  - (i) In order to reach Madura from the south-eastern extremity of Java, Chiaymasiouro would have to travel against the prevailing monsoon—an unlikely proceeding.
  - (ii) Chiaymasiouro, prince of Damuth (Demak) would almost certainly be recognised in Madura. It is unlikely that in purporting to make a voyage of discovery to an unknown land, he should travel to a place where he would be known.
  - (iii) Pedro de Carvalhaes points out that the matter was a subject of notoriety among the people of 'Surubaya'. but these people above all would be aware of any fraud, for Madura is only a mile from 'Surubaya' at the nearest point.  
Incidentally, it may be mentioned that whereas *Luca antara* is stated to be as large as Java, *Madura* is about one-thirtieth the size of Java.
3. Major is unable to find the name *Damuth* on either old or modern maps of Java, the suggestion being that the name was coined by Eredia.  
The translator thinks it reasonably certain that *Damuth* should be identified with *Demak* (p. 190 *infra*).
4. "The purposelessness and transparent delusiveness of such a letter [as that from Chiaymasiouro to the King of Pahang] suggest to us the high probability of its being an entirely spurious production".  
There is little cogency in the argument that because we do not know why a certain letter was written, therefore it was not written: nor is it easy to see why the letter is transparently delusive.  
There would be nothing extra-ordinary about communication between East Java and the Peninsula: the "Malay Annals" (1612) record how the 'Pengeran of Surabaya' paid a visit to Malacca and was entertained by Sultan Mahmud (Leyden's translation. (1821) p. 272). Manrique (1640) says people were constantly travelling between 'Dema' and Malaya.
5. *Luca antara* is provided with an elaborate and complex outline, even with rocks and shoals minutely laid down. It seems unreasonable, however, to take these details any more seriously than the monsters which appear on many of the old maps.

6. The *Luca antara* of Eredia will in no way agree with what we know of Australia. However powerful this argument may be to contradict the identity of *Luca antara* with Australia, the responsibility for the description of Luca antara rests, not with Eredia, but with Chiaymasiouro: just as the faithful servant must be responsible for the later journey made in 1610 (p. 261 *infra*).

On the whole the translator thinks that Major is not justified in his conclusion that Eredia and Pedro de Carvalhaes between them "invented a voyage to the said place, of which they supplied the circumstantial details": nor does such a fabrication accord with the character of the man who braved the storms to bury Christians, who surrendered his mineral rights to his general, whose devoutness led to his admission into the Arch-Company of the Most Holy Sacred Conception: (p. 268 *infra*).

Above all, it seems almost inconceivable that a man of Eredia's intelligence should concoct a story, the falsity of which must, if his plans eventuated, inevitably be disclosed by himself.

Ferrand while accepting the *bona fides* of Pedro de Carvalhaes speaks disparagingly of Eredia. (*Journal Asiatique*. (1922). p. 190).

Differing with great respect from Ferrand, the translator imagines Eredia as thoroughly honest, intensely devoted to exploration, genuinely attempting to harmonize the discord between known geographical facts, the accounts of voyagers such as Marco Polo, and locally-derived information, but, it must be admitted, all too prone to believe the "tall" stories related to him by his friends, as, for instance, the story of the loquacious bamboos (p. 237 *infra*).

- (33) Balambuam: *i.e.* modern Balambangan, in the extreme south-east of Java: it appears as 'Balambuan' in several old maps, *e.g.* D'Anville's map of 1786 (of which the Raffles Museum at Singapore possesses a copy). Crawford (1856) calls it 'Balambuang'.

- (34) Damuth. Major, though in a position of peculiar felicity as an expert geographer, expressed his inability to identify this place: it is with extreme hesitation, therefore, that the translator essays a suggestion.

The translator has ventured to identify Eredia's 'Rapath' in the map of Malacca district (see p. 211 *infra*) with the modern name 'Repah': working on this analogy, one seeks for a name approximating to 'Demuh': the guess is fortunate, for situated in about 110° 31' E 6° 50' S and some 15 miles NE of Semarang in Java, lies the ancient town of Demak (Damak), in a district which the map of Lavanha (1615) calls 'Damo'. Demak was the capital of a State which bore the same name, and it was the ruler of this State who led the confederation of Muslim States against their Hindu over-lord of Majapahit: Demak was victorious and Majapahit ceased to exist.

After this event, placed by Rouffaer during the period 1515—1525, Bantam and Cheribon, as well as the more eastern principalities of the north coast, acknowledged the supremacy of Demak, which lasted until about the middle of the 16th century, when the hegemony passed to Pajang, until the latter in 1568 had to bow to Mataram. (Scheltema. *Monumental Java*. (1912). pp. 26. 114. *Twentieth Century Impressions of Netherlands India*. (1909). p. 21. Campbell *Java*. (1915). p. 489).

In 1600, then, Chiaymasiouro was the ruler of a kingdom which, 50 years previously, had been supreme among the States of Java.

"*Calculus*". "A kind of swift rowing-vessel often mentioned (35) by the Portuguese writers as used in the Indian Archipelago. We do not know the etymology, nor the exact character of the craft.

[According to Mr Skeat, the word is Javanese *Kelulus*, *Kalulus*, spelt *keloeces* by Klinkert, and explained by him as a kind of vessel. The word seems to be derived from *loeoecs*, 'to go right through anything', and thus the literal translation would be 'the threader', the reference being, as in the case of most Malay boat names, to the special figure-head from which the boat was supposed to derive its whole character.] (Yule and Burnell. *Hobson-Jobson*. (1903. p. 143.).

In the REPORT ON MERIDIONAL INDIA Eredia says the "*calculus*" had a sail as well as oars: cf. p. 261 *infra*.

Towards the south. The sea to the south of Java was called by (36) the Javanese *Sagara kidul* or *Laut Kidul*, "*the south sea*" from the latter expression is derived the *Mare Lantchidol* or *Lanchidol* of mediaeval European writers. Eredia uses the expression on p. 228 *infra*.

12 days. Further down in this same chapter the duration of the (37) voyage is given as 18 days. an "8" is not unlike a "2" in Eredia's manuscript.

140 Spanish leagues: i.e. 490 miles, if a league be taken as 3½ (38) miles.

The nearest distance from Java to the Australian coast is some 600 miles: see p. 188 *supra*.

Habit of Christ. Eredia refers to the 'Order of Christ' founded (39) in conjunction with the Pope in 1318 and formed as a distinct Portuguese order in 1522, with the grand mastership vested in the Crown of Portugal.

"Adelantado" a Spanish title corresponding to 'Governor' (40) or 'Governor-General'. "Anciently military and political governor of a frontier province" (Bolufer. *Diccionario de la lengua Española*, 1917) Markham (*The Voyages of P. F. de Quiros (Hakluyt Society*. 1904) Vol I p. 3) explains the word, "An office corresponding to the President or Governor of a province. *Praefectus*. "Adelante", in front; more advanced than others".

## NOTES ON PART II CHAPTER 2.

- (1) "Venetian": apparently "the Venetian *Zecchino*, *cecchino*, or *sequin*, a gold coin long current on the shore of India, and which still frequently turns up in treasure-trove, and in hoards. In the early part of the 15th century Nicolo Conti mentions that in some parts of India, Venetian ducats, *i.e.* sequins, were current". (Yule and Burnell. *Hobson-Jobson*. (1903). p. 193).
- (2) As large as Java. If the accuracy of Chiaymasiouro be assumed, this disposes of the theory that he really visited some island of the Archipelago; Timor, the largest of them, is one fourth the size of Java; the islands off the north-west coast of Australia are comparatively insignificant in size: *cf.* note on p. 189 *supra*.

## NOTES ON PART II CHAPTER 3.

- (1) Certificate At first sight, one is apt to be suspicious of these certificates, but it is clear from the Fugger Letters (written contemporaneously with Eredia) that immediate efforts were made to record reliable evidence of all extra-ordinary events, *cf.* note on p. 199 *infra*.
- (2) Surubaya. *ic* Soerabaya, a town in the north-east of Java, separated from the island of Madura by a narrow strait.
- (3) This is the truth Major translates the expression "passar na verdade" as "these events actually happened", and in consequence he accuses Pedro de Carvalhaes of deliberate perjury in swearing to the truth of matters which Major disbelieves. But a similar expression is used in Part I chapter 25 (p 55 *supra*) by Father Francisco Luis, who does nothing more than relate the circumstances under which he found and copied an old document. It would appear, then, that the expression "passar na verdade" was a general formula of certification having some such meaning as "this is the truth".

## NOTES ON PART II CHAPTER 4.

- (1) Monomotapa a territory on the south-east coast of Africa in the Mozambique region.
- (2) Nova Jerusalem. Though described by Eredia as "in the district of Nova Guinea", the new Jerusalem 'founded' by Quiros in 1606 was situated in the New Hebrides, some distance to the eastward (Markham. *The Voyages of P. F. de Quiros* (*Hakluyt Society* 1904) Vol II. p. 448).
- (3) Cafres "The word is properly the Arabic *Kāfir*, plural *Kofra*, 'an infidel, an unbeliever in Islam'. As the Arabs applied this to Pagan Negroes, among others, the Portuguese at an early date took it up in this sense, and our countrymen from them. . . . . It was also applied in the Philippine Islands to the Papuas of New Guinea, and the Alfuras of the Moluccas, brought into the slave-market". (Yule and Burnell. *Hobson-Jobson* (1903). p. 140).

## NOTES ON PART II CHAPTER 5.

Races. Regarding the races of the Archipelago in general, (1) Buxton finds four classes of racial stocks, (1) Negritos, (2) Pre-Dravidians, the jungle peoples of South India, probably widely scattered but found only sporadically, (3) Nesiots, related to the races found along the south-western sea-board of Asia, (4) Proto-Malays, akin to the Pareocean stock, the dominant element in the population. (*The Peoples of Asia*. (1925). p. 243).

White people The white women who were carried to Banda would seem to be the survivors of a shipwreck. Accounts of white people occur from time to time, however Thus Quiros (1595) relates how in the Marquesas the ships were visited by "more than four hundred natives, white, and of very agreeable appearance. ." (Markham. *The Voyages of P F de Quiros*. (*Hakluyt Society*. 1904). Vol. I p 150).

Compare also Eredia's accounts on pp 263 and 264 *infra* Perhaps, however, the word 'white' is used in merely a comparative sense: for instance, Barbosa (1516) speaks of the Chinese as being 'white' (*The Book etc*. (*Hakluyt Society*. 1921). II p 213)

On the island of Kissa in the Moluccas live the so-called 300 "Dutch heathen": they are the descendants of 8 Dutch soldiers who were sent there in 1665, accompanied by their wives, to form a garrison, and were afterwards forgotten

Papuas "This name which is now applied generally to the chief race of the island of New Guinea and resembling tribes, and sometimes (improperly) to the great island itself, is a Malay word *papuwah* or sometimes *puwah-puwah*, meaning 'frizzle-haired', and was applied by the Malays to the people in question" (Yule and Burnell *Hobson-Jobson* (1903) p 671).

Mulatos. Dalgado explains the word as meaning the descendant of a European father and a black mother, or *vice versa*. He adds "Mulato, derived from 'mulo' means originally, according to Viterbo "a mule, offspring of a horse and a she-ass" (*Glossario etc*. (1919) II 78)

White "Persons born without the colouring matter of the skin, eyes, and hair are occasionally to be seen in every race and tribe of the Malayan Peninsula, as they are of those of Europe, Asia, Africa and America" (Dennys *A Descriptive Dictionary of British Malaya*. (1894) p 3) Newbold (1839) gives a description of a Malay Albino (*Political and Statistical Account etc*. II. p. 160).

## NOTES ON PART II CHAPTER 6.

Amazons. The Amazon is not unknown in Malayan waters. (1) Collet speaks of the inhabitants of Enggano as "indefatigable fighters, whose women, veritable Amazons, take part in the combats" (*Terres et Peuples de Sumatra*. (1925). p. 533).

1930] *Royal Asiatic Society*.

- (2) Buildings. This is one of Eredia's statements which excites Major to his most vitriolic mood. Had Major lived today, however, he might perhaps have written less dogmatically. Eredia's island must be sought in the neighbourhood of the Savu-Roti groups of islands, and it is precisely in this region where a large number of megalithic remains have been found. "It has long been known that dolmens exist in Sumba, . . . and that in other islands near by, such as Roti, Savu, and Timor, monuments of large stones have been found, together with other signs of the former existence of a highly developed civilization" Megalithic monuments have been found in Sumba, stone graves, stone offering-places and stone seats in Sumba, Savu and Roti, stone walls in Sumba and Roti, and stone houses in Roti. Of the stones in Savu it has been said "Some of these stones are so large that it is difficult to imagine how they could have been brought to their present position". Terraced irrigation has been found in Sumba and Roti. (Perry. *The Children of the Sun* (1923). p. 40 Perry. *The Megalithic Culture of Indonesia*. (1918). pp. 28, 138, 192).

For readers of German, *Anthropos*, Vol. XXIII (1928), contains a paper on the megaliths of Assam, Western Burma, and the island of Nias, and the stone buildings of the Nagas and Polynesians.

- (3) 1606 This is the year in which the Dutch ship "Duyfken" is generally believed to have discovered the Australian continent when she coasted along the Cape York peninsula. The 'Duyfken' however did not sail further south than  $13^{\circ} 45'$ . The 'southern continent' here referred to by Eredia is probably the land in the southern Indian ocean where Eredia in the map between folio 33 and 35, writes the note "Portuguezes. com Artilharia Ano 1606" see p. 216 *infra*.

But the northern coasts of the Antarctic Continent are considerably further south than 41 degrees as shown in Eredia's map: they lie approximately along the Antarctic circle, that is, near  $66\frac{1}{2}$  degrees. In the present chapter Eredia gives some additional examples of "sailors continually finding land which they supposed to be the southern continent, this identification being quite a reasonable one in those days when the longitudes of the new landfalls were only estimated with considerable trouble and inaccuracy" (Johnstone. *A Study of the Oceans* (1926). p. 119). The hypothesis that the unknown South Pacific contained "a continent as rich as Peru and as large as the whole of Asia from Turkey to China" persisted until the eighteenth century, when Cook in 1769 disproved its existence by sailing through the area which it was supposed to occupy (Wood. *The Discovery of Australia* (1922). p. 400).

## NOTES ON PART II CHAPTER 7.

Ende: *ie* the island of Flores Horsburgh describes the port (1)  
of Ende as the only safe harbour on the south side of the islands  
between the coast of Java and Ombay. (*Indian Directory*. (1843).  
p 668).

Luca Veach. an island placed by Etedia to the southward of (2)  
Timor and near the coast of the continent to which 'Luca Antara'  
belongs.

Major damns the whole matter as a fabrication. see p. 196 *infra*  
Ferrand regards it as 'imaginary' he deals with this chapter  
in some detail in his paper *L'Empire sumatranais de Crivijaya*, in  
the *Journal Asiatique*, 11th series, Tome 20, (1922), p 190 *et sqq.*

Sabbo Rajoam Lucachancana Horsburgh names the (3)  
islands off the south-west coast of Timor as Semao, Rotti, Savu,  
Banjoan and Dana (*Indian Directory* pp. 682-3) According  
to Ferrand, *Sabbo* (spelled *Sabo* in the map on folio 52) "is the  
island called *Savu*, *Sawu*, or *Rai Hawu*, the Savoe of our maps,  
between Sumba and Timor". *Rajoam* (spelled *Rajoan* in the map  
on folio 52) "is the island of *Ranywa* or *Rai Jua* in the Savu group  
of islands".

Luca for *Luca* represents the Javanese 'nusa', 'island'.  
Ferrand says *Chancana* apparently should be corrected to \**Canchana*  
=Kancana "On the map on folio 52 these three islands with a  
fourth island not named are placed by Godinho on the north of and  
a little distance from the island of Petan, and on the north-north-  
west of the point of Beach"

"*Sivalas*". Dalgado describes this as a "wild palm (Borassus (4)  
flabellifer) of Solor From the Javanese *stalan*" (*Glossario etc*  
(1919) II. p 304)

Of Palmeira Brava (*ie* 'wild palm') he writes "The English  
call it brab-tree (from Portuguese 'bravo')" (I. p. 149) and he  
quotes from Manucci, (1680), *Storia do Mogor* (III 187) "There is  
another class of palm-tree which is called Palmeira Brava, which  
takes many years to grow Inside each fruit there are ordinarily  
three lumps of soft pith which are very refreshing Eating them is  
useful in clearing the sight of those unable to see at night" (II.  
p 510).

Yule and Burnell identify the brab with the Palmyra Tree or  
Borassus flabelliformis, which supplied the so-called *lontar*-leaves  
used for writing: *cf* note on p 187 *supra* (*Hobson Jobson* (1903).  
pp 111. 519)

"*Agaragar*" "The Malay name of a kind of sea-weed (5)  
(*Spherooccus lichenoides*) It grows on the shores of the Malay  
Islands and is much exported to China" (Yule and Burnell.  
*Hobson-Jobson* p. 8)

Jettisoned Ferrand has a very interesting note on this subject: (6)  
"The object of casting the gold into the sea is to calm the storm.  
This is a well-known theme of 'Folk-lore', which usually has three

motifs; the first motif, arrival in an unknown island or country; the second motif, removal by the strangers of the characteristic product of the island; the third motif, compulsory jettisoning of the product in question to allay the storm caused by the removal of this product. In the present instance which is concerned with a voyage made by gold-seekers, Godinho relates that a certain amount of it was preserved by way of ballast, in order to show the inhabitants of Sabo that Luca Veach was the island of gold for which they searched." (*Journal Asiatique*. Tome 20. (1922). pp. 190 *et seq*).

- (7) "Veach". Ferrand makes a careful examination of the Indonesian languages in order to identify the word for "gold" which Eredia represents as "Veach". But the search is unsuccessful; "Veach" has no known connection with the name for "gold" in Indonesian".

With great trepidation the translator ventures a suggestion: 'Veach' would be pronounced by Eredia somewhat as 'Vay-ark', with variant 'Bay-ark'. This differs inconsiderably from the Javanese 'beya', Malay 'beya', 'biya', 'bea' and 'bia', meaning, first, 'tolls, duties', secondly, 'expenses', thirdly, 'the cowrie shell', and fourthly, a kind of plant. The translator suggests that this word may have had a further meaning of 'gold': in the gold-producing countries, the Peninsula, Sumatra, Borneo, Celebes and the Philippines, customs-duties would naturally be paid in gold-dust; and we are told that gold-dust was used as a medium of exchange and 'occasionally is so still' in 1856. (Crawford. *A Descriptive Dictionary etc s. v Gold*)

Even if 'bea' did not in fact have any such meaning as 'gold', it still remains possible that the word may represent the origin of Eredia's 'Veach' and that he misunderstood its meaning, just as he was wrong in interpreting 'Tambini' as 'woman', p. 197 *infra*. according to the Dictionary of Clifford and Swettenham (1894) the word 'bea', though used by the natives of Sumatra was not used or understood by the Malays of the Peninsula.

One may hope that further research will yet lead to the elucidation of Eredia's 'Veach'. But for Major nothing will suffice except that Eredia has maliciously coined the word as he maliciously perverted 'Nusa' into 'Luca', in order to ensure the complete deception of King Philip: *cf.* p. 188 *supra*. Besides alleging that Eredia invented the island and concocted its name, Major states that confusion between initial 'b' and 'v' is not admissible in the case of proper names, this contention is quite erroneous; indeed it might be more accurate to say that such confusion has occurred everywhere in Europe and Asia; for instance, in India *Vangala* and *Bengal* (Mendoza), in Indo-China *Vrah Vismuloka* and *Brah Bisnulök* the colloquial name for Angkor Vat before the 19th century, in Malaya *Varella* and *Bērñala* (Linschoten), in Portugal *Vidigueira* and *Bidigueira* (Della Valle), and in Greece the Gulf of *Volo*, *Bolo*.

## NOTES ON PART II CHAPTER 8.

Pulo Cambim Ferrand says this "is the Portuguese transcription of Pulaw Kambin which in fact means "island of goats" This island appears in Godinho's map on folio 48 verso; it is situated to the North of the most eastern point of Timor There is in fact an island of this name in the Residency of Timor and its dependencies It is also called Hoogeiland". (*Journal Asiatique* Tome 20 (1922). pp. 190 *et seq.*) (1)

Pulonhiur: *i.e.* Pulau Nyiur, 'island of coconuts'. (2)

Pulo Tambini. The map between folio 51 and 53 marks *Luca-tambini. I. de Molheres, i.e.* 'Nusa Tambini, Island of Women'. "It is the legendary island of Women" says Ferrand "of which Eredia wishes to speak. The Javanese *bini* accurately represents "female, woman" but *tambini* has not got this meaning. The legendary geography of the Javanese to which Eredia refers in this unfortunate allusion, did know a Nusa Tambini It is the Nusa Tambini where Aji Caka, the Hindu who civilized the Javanese, established himself in the tenth year of the era which bears his name [year 88 of our era] (cf Raffles, *History of Java* London 1817. t. II. p. 231), the Nusa Tambina of the legendary cycle of Panji where the Brahman Kanda (also called Sakendo and Satirti), protector of the Raja of Nusa Kancana, "the island of gold", went to make penance in the IXth century (ibid p. 90). In a modern Javanese manuscript containing a fragment of the cycle of Panji, there is a reference to the subject of Wando, princess of Tēmbini (apud MS CMLIX [cod 3,172], in H H JUYNBOLL, *Supplement op den catalogus van de Javaansche en Madocreesche Handschriften der Leidsche Universiteits-Bibliotheek*, t II Leyden, 1911, in 8°, p. 78) (3)

And it is evidently this Nusa Tambini or Tēmbini which through a misconception has become Eredia's "island of Women". For Ferrand the "island of gold" and the voyage to Luca Veich are purely imaginary, "the final result is conclusive in this sense, Godinho de Eredia never returned to the island in question". (*Journal Asiatique loc cit*) For Major the whole episode is a vile fabrication, cf p 196 *supra*

## NOTES ON PART II CHAPTER 9.

Hannon. For the early attempts to circumnavigate Africa, see (1)  
Johnstone 1 *Study of the Oceans* (1926) pp 200-1

"Cubayas" The word 'cabaya' (from Arabic *kaḥā*, 'a vesture') was used by the early Portuguese writers to denote the surcoat or long tunic worn by the better classes in India. (Yule and Burnell *Hobson-Jobson* p. 137). (2)

Athlantis To quote some recent writers, the location of the lost Atlantis is surmised to have been in the North Atlantic (Johnstone, *op cit* pp 166—8) in the locality of Gades in Spain (Björkman. *The Search for Atlantis*, 1927), in the neighbourhood of the 1930] *Royal Asiatic Society*. (3)

Black Sea (Fessenden. *The Deluged Civilization of the Caucasus Isthmus*, 1927).

## NOTES ON PART II CHAPTER 10.

- (1) Division. Eredia gives an account of the famous Papal Bulls in the REPORT ON THE GOLDEN CHERSONESE, see p. 248 *infra*.
- (2) Service. Compare the account given by Eredia in the Summary of his life, p. 266 *infra*.

Valentyn's account of the fighting between the Portuguese, Dutch and Malays in 1603 and the following years will be found in *JRASSB* No. 15. (1885). p. 128 *et sqq*: there is no mention of Eredia, however, unless he is disguised under the name of "Estevan Texeira De Made, a man of great fame", whom the Portuguese sent to Johore in 1603, nor is he referred to in Danvers' *The Portuguese in India*

- (3) Straits of Sincapura. *cf.* *JRASSB*. No. 60. (1911). p. 25, regarding Singapore Old Straits and New Harbour.
- (4) Sabbaó. Eredia elsewhere calls the island 'Sabbam' or 'Sabam' (p. 225 *infra*): it is the 'Saban' of Galvano (*c.* 1550) and the 'Sabam' of Teixeira (1600) and Resende (*c.* 1646) in the unpublished log of the "Hooghly" (Colonial Secretary's Library, Singapore, No. FF 7) dated 1854, it is written 'Sebom'. The name designates the island or group of islands south of Great Kerimun and separated therefrom by the Straits of Gelam. The form 'Sabon' occurs constantly in early 19th century writers, *cf.* Moor's *Notices of the Indian Archipelago* (1837), pp. 272 and 275. Both the island and the Straits of Sabon are clearly indicated in the chart of the Strait of Malacca in Mil-lurn's *Oriental Commerce* (1813), Vol. II, facing p. 295: and it is obvious from Horsburgh's *India Directory* (1843) that the name was then in common use as applied to the island of Sabon, the group of islands of which Sabon was the largest, and the Straits of Sabon on the eastern side of the group. The name survived till at least 1887, Sabong and Salat Sabong are marked in the British Admiralty Chart No. 1263 first published in that year.

During the next thirty years, however, the name became obsolete. The islands are now known as the Kundur group, from Pulau Kundur the largest of them the other chief islands of the group are named Parit, Tulang, Lumut, Buru, Papan and Ungur. Though Johnston's *Royal Atlas of Modern Geography* (1914) marks 'Pappan or Sabon', the name Sabon appears to have become obsolete by then. it is not to be found in the map published by the Straits Branch of the Society in 1911, or in the 1915 edition of the China Sea Pilot, or in the more recent charts *e.g.* British Admiralty Chart No. 1355, dated 1922, or Dutch Ministry of Marine Chart No. 105, a

large-scale chart of 'Koendoer' first published in 1910 but corrected to 1922. Possibly the old designation survives in the name 'Sawang' which appears on the West Coast of Pulau Kundur in Chart No. 1355 and in Dutch Ministry of Marine Chart No. 40.

Captured. Valentyn states that shortly before 1606 "Don Andrea Furtado... had besieged Djohor with an army of 8,000 men". (*JRASSB*. No 15. (1885). p 131) Eredia gives more details regarding the fighting than either Valentyn or Wilkinson (5)

Returned. Eredia does not say when he returned to Goa; it was after 1604 when he founded the fortress of Muar, and before 1607, the year which witnessed the death of the Viceroy who gave him the order here mentioned. (6)

One imagines that he returned before 1606, as he makes no particular mention of the short but vigorous attack which the Dutch launched against Malacca in that year. (*JRASSB*. No 15 (1885). p. 132 *et seq.*. Wilkinson. *A History etc.* (1923). pp. 57-8).

## NOTES ON PART II CHAPTER 12.

SUNEPUTAT The transcript has 'Nuneputat' which the translator amends. (1)

Cross. This was an age of supernatural manifestations; the Fugger Newsletters recount in 1590 "a most alarming wonder in the skies" at Vienna (p 155), and a number of other marvels including the antics of a cloud of spirits at Madrid (p. 57). (2)

Moreover, if one is inclined to suspect that Father Belchior Figueira doth protest overmuch, the Newsletters emphasize that individual marvels have been witnessed by reliable persons, of a marvel at Piateda in 1601 it is stated "all thi has been set down and described by notaries" (p. 242). (*The Fugger Newsletters*. (1568-1605). ed Von Klarwill, 1924)

While hesitating to believe that the heavens intended to signalize the Descobridor's explorations around Malacca, one may perhaps exclaim with Count Fugger's correspondent 'the significance thereof is known but to God Almighty'.

One suspects that the vision related by Eredia may have been due to volcanic dust in the sky, though after the astounding electric manifestations which were observed in Scandinavia a few years ago, one is inclined to believe that anything may be possible, even celestial marjoram

The great Albuquerque saw a somewhat similar cross "over against the land of the Preste João," *ie* Alyssima. a reproduction appears in the Hakluyt Society's translation, Vol. IV facing p. 44.

## NOTES ON PART III CHAPTER 1.

- (1) Cambalo. This city is usually identified with Peking; but in Eredia's map on folio 69 R. it appears as a different place situated some 230 miles NE of 'Paquin'.
- (2) Chinchis. Jenghiz Khan (1162-1227) having reduced the neighbouring Mongol tribes, in 1206 commenced his invasion of China. he eventually made himself master of practically the whole of China north of the Yangtze
- (3) Coromoran: *i.e.* Karakorum.
- (4) Cublay. Kublai Khan (1216-1294) captured the Sung capital of Lungan or Kinsai (*King-sz*, 'capital') in 1276 and made himself master of all China.
- (5) Abayan Chinsam. For Kublai's general Bayan Chingsiang (*i.e.* Bayan, the Minister of State) see Yule. *The Book of Ser Marco Polo*. (1926). II. pp. 148-9.
- (6) Revolt. Chu Yuen-chang, founder of the Ming dynasty, took Nanking in 1335. he recaptured the whole of China, and broke the Mongol power
- (7) Coromoran *i.e.* 'Kara muren' (Mongol), 'Black Water', here applied to the Yangtze.
- (8) "Tutan". Dalgado (*Glossario etc.* (1919). II. p. 395) explains 'Tutão' as "Viceroy or Military Governor, in China." from the Chinese 'tu-tung' (都統), 'commanding general'.
- (9) Christianity. It is usually considered that the Nestorians introduced Christianity into Mongolia in the tenth century. The presence of St. Thomas in southern India is now doubted *Vide* Cordier *Ser Marco Polo*. (1926) pp 116-8.

## NOTES ON PART III CHAPTER 2.

- (1) Christianity. The Si-ngan-fu inscription, which dates from about 781 A.D, describes the course of a Syrian mission in China, beginning with the favourable reception of Olopan, who came from Judaea in 636 A.D The inscription is said to prove a surprisingly widespread extension of the Christian faith in China.  
See also Cordier *Ser Marco Polo* pp. 76-7.
- (2) Argones. As to the Argons and Mar Sarghis see Yule *The Book of Ser Marco Polo*. I. p. 284 and II. p. 177. †
- (3) Ancona. This unusual spelling makes one wonder what MS or edition of Marco Polo was used by Eredia, (see p. 185 *supra*): the priests came not from Ancona in Italy, but from Acre (Acona) in Syria; *cf.* Yule. *The Book etc.* I p. 22.
- (4) Alans. See Yule. *The Book etc.* II pp. 178-9, and Cordier. *Ser Marco Polo*. pp. 95-6.

### NOTES ON PART III CHAPTER 3.

China. According to one theory the word 'China' has a Malay origin, having been at first applied to what is now called Indo-China. (1)

Giles thinks that the name may possibly be derived from *Ch'in* (秦), the name of a feudal State and dynasty from 897 to 221 B.C., when there emerged the Ch'in dynasty under the First Emperor of a united China, the name of the dynasty being used as a name for China down to the second century A.D.

The final -a (also found in Malay) appears in the Sanskrit form of the word, *Cina*, before the arrival of the Portuguese.

[Giles. *A Chinese Dictionary*. (1912) s v 秦, No. 2093. Yule and Burnell *Hobson-Jobson*. (1903). p 196 Pelliot in *Bulletin de l'Ecole Française d'Extrême-Orient* Tome III. (1903). p. 477].

Tangut. By Tangut Eredia here means a district in southern Burma, apparently Pinto's Tangu and modern Toungoo or Taungu. (2)

In a note to his map on folio 73 V (see p. 226 *infra*), he explains that Tangut or Tangou means 'a province of pagodas.'

Pegü. For the river routes cf Hirth (*China and the Roman Orient*. p. 179) "Perhaps the south-eastern bend of the [Irawaddy]... saw lively traffic in those days [c. 429 A.D.], as it must have connected a considerable portion of the interior of China with the ports of the Gulf of Bengal," and Hall (*Early English Intercourse with Burma* p. 121) "For many centuries [before 1684] the bulk of Burma's trade with China had passed along the Taping River, in earlier days, through Kaung-sin, until the importance of that place was overshadowed by Bhamo from the fifteenth century onwards" (3)

### NOTES ON PART III CHAPTER 4.

Cathigara. The identification of Ptolemy's *Kattigara* did not puzzle Eredia more than it has puzzled modern writers, by whom it has been located, amongst other places, at Martaban, Singapore, the mouth of the Mekong River, Hanoi, and Canton. (1)

Gerini locates it at Hang-chau. (*Researches etc.* p. 302). Ptolemy, unable to break from contemporary tradition which represented the coast of China as running from north to south, places *Kattigara*, according to Eredia's representation of Ptolemy's map, due east of Java in about 10° south. "Cosmas of the sixth century is the writer who first knew that men had to sail round the Malay Peninsula, and then turn northwards if they were bound for China". (Warmington. *The Commerce between the Roman Empire and India*. (1928). p 129).

1930] *Royal Asiatic Society*.

In his map on folio 46 R. (see p. 220 *infra*), Eredia notes that Ptolemy's north-and-south coast-line is "impossible"; hence he turns the coast round from the island of Hainan till it runs approximately north-east, and in so doing he anticipates Gerini by 300 years.

### NOTES ON PART III CHAPTER 9.

- (1) Ophir and Tharsis The situation of these places still remains undetermined: *cf.*, for instance, *The Jewish Encyclopedia*. (1925). Vol. IX. p. 40b, Vol XII. p. 65. In the unpublished TREATISE ON OPHIR Eredia identifies Ophir with Siam, and the port of Tharsis with Canton.
- (2) Sophala. *i.e.* Sofala, about 40 miles south of Beira.

### NOTES ON PART III CHAPTER 10.

- (1) Naugracoth. *i.e.* Nagarkot, 'the fortress town'. The name Nagarkot is sometimes used by older European writers to designate the Himalayan mountains, called by the ancients Imaus, Emodus, etc.  
Eredia in the map on folio 78 R. represents '*Naugracoth olim Imaus vel Caucasus*' as being one uninterrupted range of mountains running in an approximately north-easterly direction. In fact, the general direction of the Himalayas is approximately north-west to south-east. The Hindu-Koosh, however, runs north-east, and that part of it which forms the NW boundary of Cabul is the Indian Caucasus of Alexander
- (2) Gatte The word 'ghats' properly means 'passes'. Eredia here refers presumably to the confused ranges, running with a general direction of east to west, and known in the aggregate as the Vindhya mountains formerly they formed a barrier between northern and southern India.
- (3) Cocho Pathanes In the map on folio 73 V. Eredia represents *Cocho* as a 'region of gold' on the east of the Ganges.
- (4) Negar Pherin In the maps on folio 69 V and folio 78 R. Eredia shows these mountains as running in a north-east direction on the eastern shore of the Ganges *i.e.* in the general line of the Naga Hills and Patkoi mountains
- (5) Prosonay. In the map on folio 78 R. Eredia represents these mountains as being on the borders of 'Tebet' immediately north of 'Negar Phirin' he seems to refer, therefore, to the eastern slopes of the Himalayas.
- (6) Caracone. In the map on folio 78 V. Eredia shows '*Caraconi olim Hiran*' as lying on the west bank of the Indus, the name '*Caracone*' is apparently a form of 'Khorasan'
- (7) Purab. In the map on folio 78 R. Eredia places Purab between *Deli* and *Bengala*. In Upper India the term 'Poorab' usually means Oudh, the Benares division and Behar.

**NOTES ON PART III CHAPTER 13.**

Lae. Perhaps the reading should be 'Lar', a name given to (1)  
 (a) "the region which we now call Guzerat," and (b) the Delta  
 region of the Indus.

Baneanes: *i.e.* Hindu traders. (2)

Tanna: a town on the island of Salsette, about 20 miles NE (3)  
 of Bombay.

Pegu. The modern name appears to come through Malay (4)  
 'Paigu' from Talaing 'Bago' meaning 'conquered by strategem',

a phrase which is explained by a legend. (5)

Iogues: *i.e.* Yogis (or properly Jogis)

The name 'Gymnosophists' was given by the Greeks to  
 certain Hindu philosophers who pursued asceticism to the point  
 of regarding food and clothing as detrimental to purity of thought.

**NOTE ON PART III CHAPTER 14.**

Balagate from Persian 'bala', 'above', and Hindustani (1)  
 'ghat', 'a pass', means 'the country above the passes' *i.e.* above  
 the passes over the range of mountains which are called the  
 'Western Ghauts'. Several writers have wrongly stated that  
 'ghat' means 'mountains'.

**NOTES ON PART III CHAPTER 15.**

Cancer The transcript has 'Capricorno': clearly the Tropic (1)  
 of Cancer, not Capricorn, is meant.

River Ganges. Apparently Eredia means that the traffic went (2)  
 round by sea from Pegu to the trade-centre, which he does not name,  
 at the mouth of the Ganges

The river of Cosmim is the Irawaddy, and Cosmim was a port  
 on or near the site of Bassein.

# Appendices.

## APPENDIX I.

### EREDIA'S MAPS AND ILLUSTRATIONS.

1. Folio 7 R.

"PLAN OF THE FORTRESS OF MALACA".

"AFONCO DE ALBUQUERQUE arranged the foundations of this fortress in this form. 1511 A.D."

Compare the description of the fortress in Part I Chapter 1 (page 17 *supra*).

Using a scale of 2.2 fathoms (*braca*) to the inch, Eredia represents a rectangular area, 150 feet long by 95 feet wide, with another rectangular area specifically marked "FORTRESS", approximately 60 feet square, at one corner. In the larger area, he marks "GATE", "BASTION", "STORE", "WELL" and "PRISON".

2 Folio 7 V.

This page contains on the left-hand side a head-and-shoulders sketch of "AFONCO DE ALBUQUERQUE". The 'invincible captain' ties his long beard in a knot near the end.

Beneath the sketch is a coat-of-arms

On the right-hand side is a Tower with a scale showing its height to be 40 units (unspecified): apparently this represents the fortress-tower 40 fathoms high, at Malacca: see Part I Chapter 1 (page 17 *supra*).

3. Folio 8 R.

"PLAN OF THE FORTIFICATIONS AT THE TOWN OF MALACA".

Compare the description in Part I Chapter 1 (page 18 *supra*). The plan is much the same as that on folio 46 V (page 221 *infra*); the scale, 324 feet to an inch, is slightly smaller, and the buildings are not sketched

A few additional names and notes are given, however—

'TRANQUEYRA' on the north-west side of the river; 'TEREYRO' (the 'terrace') at the river-mouth on the south-east side, '*alfandega*' (the 'Custom House') to the north-east of the Terrace, (this is the rectangular building shown outside the wall near the bridge in the map on folio 46 V), the road running north-east from the Custom House gate is marked '*straight road*'; a road is shown running through the gate of St. Antonio and is marked "*road to Madre de Dios*" (near the modern Koon Cheng road); a road is shown running through the gate near Santiago and is marked "*road to Yler*" (near the modern Banda Hilir Road); the northern branch of the 'AERLELE' is continued by a dotted line, with a note "*continuing to the river and making an island.*"

4. Folio 8 V.

"ANCIENT MALACA".

Compare the text in Part I Chapter 1 (page 16 *supra*). Eredia

marks (reading downwards from the top of the page).—

YLER

*Streamlet Aerlele*

Trees BUA MALACA ISTHMUS PULO MALACA  
*Where Permicuri First now Ships' Island*  
*King of the Malacos*  
*disembarked: in*  
*the year 1411.*

SABAC PERMICURI  
*fortified himself*  
*on this hill: buquet*  
*Malaca.*

MALACA RIVER  
 UPE.

BY 'BUA MALACA' (*Buah Melaka*) Eredia refers to the Myrobalans described in Part I Chapter 1: see p. 16 *supra*. He shows an Isthmus joining 'PULO MALACA' (now Pulau Jawa) with the mainland

5 Folio 9 R.

"PLAN OF THE TOWN AND  
 SUBURBS OF MALACA"

Compare the text in Part I Chapter 1 (page 18 *supra*).

The Scale is about 666 feet to 1 inch

Eredia marks (reading from the top of the page).—

*Madre Dios* *Swamp.* *Fields*

BUQUET China Well.

*Prigue Vaja.* SUBURB OF YLER.

*Our Lady of Mercy.*

*Palms.*

*Buquet China Road Road of Mercies*

*Streamlet*  
*Aerlele.*

SUBURB  
 OF SABAC.

S LOURENCO

NEW TRACE.

BASTION SANTIAGO

BASTION

S PEDRO.

FORT.

*Campon Jato*

MALACA RIVER.

*S Estevao*

PARET CHINA *Campon China*

*Bendara's*

*Channel*

*Campon*

CAMPON CHELIN.

*Bendara*

BENDARA.

S. THOME.

SUBURB

OF UPE.

TRANQUEYRA

*Senhor Durando's- Channel.*

*Paret*

*Jawa.*

*Gate of*

*Tranquicura.*

The expression 'Prigue Vaja' apparently represents the Malay words 'Péngi Raja', 'Rajah's Well'.

it is placed in the situation of the modern Kampong Pantai: at the present day Kampong Jawa lies on the other, north, side of the river at this point. Eredia places 'Campon China' and 'CAMPON CHELIN' in the locality of the modern Kampong Kling and Kampong Blanda respectively.

The readings 'Turucan da bendara' rendered 'Bendara's Channel' and 'Turucan de Sr Durando' rendered 'Senhor Durando's Channel' are doubtful.

The Church of Our Lady of Mercy has disappeared.

This plan is reproduced in Bland's *Historical Tombstones of Malacca*.

6. Folio 9 V.

The page contains another map of the town and suburbs, on a slightly smaller scale than the map on folio 9 R. Some additional names and notes are given.—

On the south-east (beyond the suburb of 'YLER'), 'Buquet Pipi' apparently St John's Hill, 'Ujan Pacer' corresponding to the modern mukim of Ujong Pasir, with 'senry' marked near the coast:

On the north-east of 'BUQUET CHINA', 'BUQUET PIATO', modern Bukit Piatu

On the north beyond 'PARET JAVA', 'Garden belonging to the Master of the Episcopal School' (this would be near the present railway-station):

On the north-west beyond the gate of 'TRANQU-EYRA', 'The Bishop's Bamboo-Groves', 'food-stuffs' ('mainintos' for 'mantimentos'), and a solitary tree marked 'bude' (apparently Malay 'budi', the peepul-tree, *ficus religiosa*)

Compare the description in Part I Chapter 1 (page 18—19 *supra*)

7. Folio 11 V

A Map of the Malacca Territory.

Compare the description in Part I Chapter 2 (page 21 *supra*) The scale is approximately 10 inches to 1 mile (giving 4.3 miles to a league), but it is not consistently applied. thus, in fact, the distance from Malacca to Repah ('Rapat') is roughly the same as the distance from Malacca to the mouth of the Linggi River, but in this map Eredia represents the former distance to be nearly twice the latter. Fewer names occur than on the larger-scale map which immediately follows: but there are some additional entries:—

In the north near the Pahang River, 'Triam' apparently representing Triang.

ROMBO (Rembau) is described as 'head of the hinterland of the Malayos':

Near NANY (Naning) there is a note "Traffic in betre with Malaca"

East of 'N S - Espia' there occurs the word 'dringuet', perhaps to be identified with Beringin ('bringe' of the following map):

Off the coast, between the Kesang and Duyong Rivers, is shown 'I. Grande', apparently modern Pulau Besar ('big island').





8. Between folio 11 and folio 13. (*See photographic reproduction. Plate I.*)

This may perhaps claim to be the oldest extant map of Malacca territory.

Speaking generally, it gives an accurate representation of the district.

If the distance between the mouths of the Malacca and Linggi Rivers be taken as the standard, the scale is 1 inch to 4.23 miles, say  $4\frac{1}{4}$  miles

In some respects the accuracy is remarkable, for instance, the distance from the mouth of the Malacca River to Repah ('*Rapath*') is correct within half a mile, and this may justify the belief that the relative positions of intermediate places, which do not occupy the same situations to-day, are due, not solely to Eredia's inaccuracy but to the fact that the place-names have shifted somewhat for instance, one would think that Eredia must have known where Lendu was, yet his 'Landû' is placed some 10 miles from its present position. On the other hand, unless geographical changes have taken place since 1613, some considerable errors are disclosed for instance, '*Gunoledam*' (Mount Ophir) is placed on the wrong side of the Muar River, and at the present day the Malacca River does not run to a point east of Batang Malaka

The names mentioned by Eredia are in common use at the present day, unless otherwise stated below

For the purpose of explanation, the map may be divided into 6 sections

Section 1 Western half places off the sea-coast

|                        |  |
|------------------------|--|
| <i>Caborachado.</i>    | Cape Rachado   |
| TANJON TUAN.           | Tanjong Tuan   |
| RIO PANAGIM.           | Linggi River   |
|                        | The name 'Panagim' is now obsolete<br>but see note on p. 107 <i>supra</i>                    |
| <i>Tanjon dan.</i>     | Tanjong Dahan.   |
| SUNE BARU              | Sungei Baru  |
| TANJON BIDARA          | Tanjong Bedara.  |
| <i>Batu gaja.</i>      | Batu Gajah   |
| <i>Batu manambuan.</i> | Batu Miniabong.  |
|                        | See note on p. 130 <i>supra</i> .  |
| <i>Aer raja.</i>       | Ayer Raja  |
|                        | The name is understood but not in<br>common use  |
| <i>Aer putri.</i>      | Ayer Putri.  |
|                        | Not in the 1927 map.<br>The 1916 map shows 'Anak Ayer<br>Putri' very close to Tanjong Putri. |

## PANCHOR.

Panchor.

Not in the 1927 map.

The 1916 map shows 'PUNCHOR' very close to Tanjong Putri, and 'Bukit Panchor' on Bukit Blah point.

*Sunc bututo.*

Sungei Bertutu.

Not in the 1927 map, but marked in the 1916 map

*Tanamera.*

Tanah Merah.

*Chamara.*

Word not understood.

*Condor.*

Kundur

*Tanjon chelim.*

Tanjong Kling.

*Batantiga.*

Batang Tiga.

*Tanjon Upe.*

Tanjong Upeh.

See note on p. 110 *supra*

## RIO MALACA

Malacca River.

Section 2 Western half places south of RIO BATAN.

*TUAN olim Berobe.*

'Tuan, once Berobe'.

At present there is no such place as 'Tuan'.

Ptolemy's *Berobe* is identified by Gerini with Mergui.

*Rio Panagin*

Now the Linggi River

## SARVARATOS.

'The Royal Harem'

See note on p. 111 *supra*.

*Landû*

Lendu

*Rio Suncharu.*

(River) Sungei Baru.

*Simpan cheri.*'Left branch' Malay, '*Simpang Kiri*'.*Simpan canan.*'Right branch' Malay, '*Simpang Kanan*'

The expressions '*Simpang Kiri*' and '*Simpang Kanan*' are only used in the immediate neighbourhood of a particular river.

*N.S. da Espca.*Our Lady of Hope (*Esperanca*).

## RIO BATAN.

River Batang'

The name is obsolete

Batang Tiga River.

Marked in the 1916 map but not in the 1927 map.

*Simpan cheri.*

'Left branch'

*Simpan kanan.*

'Right branch'.

*Bringe*

Perhaps representing the modern name Beringin.

## BRETAN.

Bertam.

*Fortaleza malaca.*

Fortress of Malacca

*S. Lazaro.*

St. Lazaro.

*N. s. boa nova.*

Our Lady of Good Tidings.

- S. Jero.* St. Jeronimo.  
See note on p. 105 *supra*.
- Chin.* Cheng
- Section 3. Western half. places north of RIO BATAN.
- REGIAM DE SALETES. Region of the 'Saletes' ('*orang selat*').  
See note on p. 89 *supra*.
- Linge.* Linggi.  
*Lucoth.* Lukut  
No such village of this name is now situated here
- Sunc Ujon.* Sungei U'jong (Seremban)
- REGIAM DE  
MONANCABOS. Region of the 'Menangkabaus'  
ROMBO. Rembau  
*Metropoli de sertao* Metropolis of the district.  
*Gelê.* Jelai.
- DESTRICTO DE  
MALACA. District of Malacca.
- Lubot copon.* Lubok Kepong.  
See note on p. 109 *supra*.
- Sunc copon* Sungei Kepong  
NANI. Naning  
*Sunc bulo* Sungei Buloh  
*Batu curacura.* Apparently 'Batu Kura-Kura', 'Tortoise stone' Not identified
- Pancalan Nani.* Pengkalan Naning 'Naning landing-place'.

## Section 4 Eastern half places off the sea-coast.

- MUAR Muar  
*Tanjô gadin.* Tanjong Gading.  
*Turucan.* 'Channel' Malay, '*têrusan*'.  
CASAN. Kesang (River)  
*Tanjou palas.* Tanjong Palas now called PasaI or Pulai the 1878 map has Palei.
- Tolot mas.* Telok Mas  
*Pungor.* Punggor  
DOYON Duyong (River)

## Section 5. Eastern half places south of RIO MACHAT.

- Fortaleza muar* Fortress of Muar  
*Rio de Muar.* Muar River  
*Tacet.* Tasek  
*Chega.* Probably 'Chegar', unidentified, apparently near Paya Jenuang.  
*Paret chelin.* 'Parit Kling' *ic* 'the Kling drain' unidentified, apparently near Te bong.

- Gorath.* Perhaps 'Grik (Grit)'; unidentified: apparently about 2 miles east of Bemban.
- SUNE PUTAT. 'Sungei Putat': unidentified: apparently at or near Bemban: the name now occurs near Batu Berendam.
- Candan Corobo.* 'Kandang Kerbau': obsolete. apparently near Anak Ayer Kandang, marked in the 1927 map: the name 'Kandang' appears to survive in the modern mukim of 'Kandang', and in the village of 'Kandang' 3 miles E. of Malacca.
- Rio doion.* Duyong River.
- BATU AMPAR. 'Batu Hampar': obsolete: apparently near Padang Jambu.
- BATU AMPAR. 'Batu Hampar' obsolete immediately south of Batu Berendam: apparently Governor Bort's 'Battoeampar', not identified by Blagden. (*JRASMB.* Vol. V. Pt 1 pp 51, 207).
- Batu brandan.* Batu Berendam
- RIO MALACA Malacca River.
- N. s. guadalupe.* Our Lady of Guadalupe near Pengkalan Tampoi.
- Sunc badar.* See note on p. 106 *supra.*
- Tacet.* Sungei Badak.
- 'Tasek' unidentified: apparently near Paya Rumpit
- Section 6. Eastern half places north of RIO MACHAT.
- REGIAM DE BANUAS, 'Region of Banuâs, Satyrs'
- Gunolcdam Montc.* (Mount) Gunung Ledang, Mount Ophir
- Rio de Muar.* Muar River
- RIO DE PAM Pahang River.
- Caminho pera Pam.* 'Route to Pahang'.
- Por Panarican passao de Malaca a Pam en 6 dias de caminho.* 'By the 'Panarican' they travel from Malacca to Pahang in 6 days' journeying'.
- Sartim* Serting.
- PANARICAN. 'Drag-way' (Malay, 'penyarekan', from 'tarek', 'drag') i.e. for dragging boats from one river to the other. See note on p. 95 *supra.*
- Jompol.* Jempol.
- Pungor.* 'Punggor'. a kampong about 3 miles NNE. of Johol village.
- Jol.* Johol.

|                       |  |
|-----------------------|--|
| <i>Ganon.</i>         | Ganun.   |
| <i>Bethê.</i>         | Perhaps 'Petai' unidentified.  |
| <i>Rapath.</i>        | Repah.   |
| <i>Joloth.</i>        | Also spelled 'Jolot': the modern name is Jorak. near Pondoï  |
| <i>Batan Malaca.</i>  | Batang Malaka.   |
| <i>Buquet dolon.</i>  | Bukit Dalong. near Gadek.<br>See note on p. 119 <i>supra</i>   |
| <i>Blimbim.</i>       | Belimbing  |
| PULO.                 | Pulau about ¼ mile beyond Sempang Gading   |
| <i>N. s. daguia.</i>  | Our Lady of Guidance<br>The old church has disappeared.<br>The 1916 map marks a Roman Catholic Chapel at the 14th mile but this is new |
| RIO MACHAT.           | Machap River.  |
| <i>Pancalan naga.</i> | Pengkalan Naga understood but not commonly used  |
| COTOT                 | Perhaps (Bukit) Katong, a hill near Bukit Batu Tiga in the Bukit Senggeh Forest Reserve<br>See note on p. 120 <i>supra</i> .           |
| <i>Ganur.</i>         | Gemas (Gemeh) in approximately the correct position, at the end of the road from Nyalas to Asahan<br>See note on p. 120 <i>supra</i> . |

## 9. Folio 14 R.

"ANCIENT MAP" Compare the text in Part I (Chapter 3, (page 23 *supra*).

This map shows 'SAMATA *now Samatra*', the northern part of which is marked 'AUREO CHERSONESUS', joined to the Peninsula by an Isthmus running from 'TANJON BALVALA' to 'TANJON TUAN, *now Cabo rachado*'

On the west coast of Sumatra, close to the Equator, is marked 'TICO, *once Tacola, emporium*' on the east coast 'Iracan' and 'ARU *once AURO*', with 'Achem' on the north coast

The gulf north of the isthmus is called 'SEA OF TRAFFIC *or Sea of the North-west*', and the gulf south of the isthmus 'SEA OF THE SALETES, *or Sea of the South-east*' North of 'Parcelar' appears 'Sabac, *once Sabara*' and south of 'TANJON TUAN', 'Malaca' and 'River Muar'. 'JAVA MAYOR' is shown south of Sumatra

## 10. Folio 14 V.

This map shows the south-western portion of the Peninsula and a part of the Sumatra coast

In 'SAMATA' only 'Tanjon balvala' is marked.

The isthmus has disappeared, allowing the 'SEA OF THE NORTH-WEST' to unite with the 'SEA OF THE SOUTH-EAST'. North of 'Tanjon Tuan' are shown 'Sabara', 'Parcelar' and 'CALAN, *emporium*'.

South of 'Tanjon Tuan' are marked 'Rio Panagin', 'MALACA' (with a dotted line representing the boundary of the territory), 'River Muar', 'River Casan', 'Tanjon burus' (modern Tanjong Bulus), 'River of Jor', 'UJON TANA', and 'Point of Ujontana' also marked '*romaniya*' (modern Romania or Rumenia Point), with the islands of 'Sincapura' and 'Bintam'.

Eredia adds three explanatory notes—

"The point of Tanjon Tuan in Ujontana was united by an isthmus of land with the point of Tanjon Balvala in Samatta or Samatra in the time of Ptolemy, 163 A.D."

"Ptolemy named Sabbara, a port of the Isthmus of Tanjon Tuan. this port ought to be Sabbac, in the swamp-land of Parcelar, whence they passed by land along the Isthmus to the port of Tacola in Sumatra".

"CALAN in ancient times should have been a great emporium or metropolis on this western coast of Ujontana as appears from the fact that its territory extended to the point of Ujon calan, a point of land which might be 'the *gonang* of Calan', whence the designation of Ujon Calan as 'Juncalan'".

(The word '*gonang*' above is apparently the Malay word '*gunong*', 'mountain').

For the Isthmus see Part I Chapters 1, 3 and 12, (pages 16, 23, and 34 *supra*).

For Sabbara see Part I Chapters 3 and 12, (pages 24, and 34 *supra*)

For Calan see Part I Chapters 12 and 22, (pages 34, and 52 *supra*).

11 Folio 15 V.

Drawing of a Cross.

See Part I Chapter 4, (page 25 *supra*).

12. Folio 17 R

"Compartment of DORYAM"

Drawing of a section of durian-fruit

See Part I Chapter 5, (page 26 *supra*)

13. Folio 17 V.

"MANGOSTAN"

Drawings of an uncut mangosteen and of a magosteen with one half of the rind removed.

See Part I Chapter 5, (page 26 *supra*)

14. Folio 18 V.

"TAMBOLYN, resembling an Armadillo"

Drawing of a scaly-ant-eater.

See Part I Chapter 6, (page 27 *supra*).

## 15. Folio 21 R.

Drawing of a Malay wearing a narrow head-band, tight-fitting vest with sleeves to the wrists, and sarong tucked up to the waist on one side and falling to the knee on the other. He holds a long spear, and has a 'Keris' stuck in the waist.

See Part I Chapter 9, (page 31 *supra*).

## 16. Folio 24 R.

"ANCIENT MAP OF THE CHERSONESE"

This closely resembles the map on folio 14 R: but fewer names appear, the main differences are.—

'Tico' is stated to be '*once Tycola*'.

'*Ponta Jamboacr*', that is, Jambu Ayer (Diamond Point), is marked.

there is an entry '*AURO once Aru*' (perhaps represented by ARU Bay about half way between the Belawan and Tamiang Rivers).

the seas north and south of the Isthmus are called 'MAR SABARICO' and '*Mar Perimulco*' respectively

'SABARA' is identified with 'CALAN'

'Tanjon Tuan' is stated to be '*once Berohe, now Cabora-chado*'.

See the text in Part I Chapter 12 (page 34 *supra*).

## 17. Folio 24 V

"MAP OF MODERN SAMATRA"

Compare page 237 *infra*.

A map of the Island of Sumatra, with a short stretch of the Peninsula, on which a few names appear, and of JAVA MAJOR.

The Island is designed 'SAMATRA, *once SAMATA*' the following names are marked.—

On the East coast:

*Palmban* (Palembang)

*Jambe* (Jambi)

*Andrigur* (Indragiri)

CAMPAR (Kampar)

*Syach* (Siak)

*Bencales* (Benkalis)

*Aracan* (Rokan)

ARU (perhaps Aru Bay in about 4' 3' N)

*Gory* (unidentified perhaps connected with the name of the *Kuru* River, an affluent of the Tamiang River)

*Perlat, source of oils* (Perlak, Peureula)

*Ponta de Jamboacr* (Jambu Ayer, Diamond Point)

On the North coast.

*Simaui* (Semawi)

PACEM (Pasai)

*Pedir* (Pedir)

ACHEM (Acheen)

On the West coast:

*P. Daya* (apparently 'Ponta Daya,' connected with modern Daya, situated in about 5° 5' North)

*Baros* (Barus)

*Ouro* (i.e. gold': apparently Pulau Simalur, Hog Island, is indicated)

*Tico* (Tiku)

*Pulo mās* (apparently the Island of Pulau Nias is indicated)

*Barreras brancas* ('barreiras brancas', 'white cliffs')

*Ilheos brancos* (that is, 'White Islets')

SYLATA, *gold-mines of Arcas* (Salida)

*Priamon* (Priaman)

GOLD-MINES of *Monancabo*

*Village of Javanese—water*

(For the East and North and West coasts of Sumatra see British Admiralty Charts 1353, 794, and 219, and 2760, 2761, 709 respectively.)

18. Folio 25 R.

"PTOLEMY TABLE XI OF ASIA"

This purports to be a map of the Indo-Chinese Peninsula south of the Tropic of Cancer

Eredia marks some only of the places appearing in Ptolemy's Table

The following places (with probable identifications) are shown in the 'Malayan' region.-

*Sabara* (Twante, near Rangoon)

*River Sodan* (Soma River in Siam)

*Isthmus* (in fact the Isthmus of Kra, but erroneously identified by Eredia with an Isthmus running from Cape Rachado to the Sumatran coast)

SINUS SABARICUS (Gulf of Martaban)

SINUS PERIMULICUS (Gulf of Siam)

*Perimula* (Ligor)

*Tacola* (Kopah)

*Coly* (Kelantan)

*Sabana* (Sabak Bernam)

*Satvorum* (i.e. 'Island of Satyrs', the Anambas)

*Jabadj* (Sumatra)

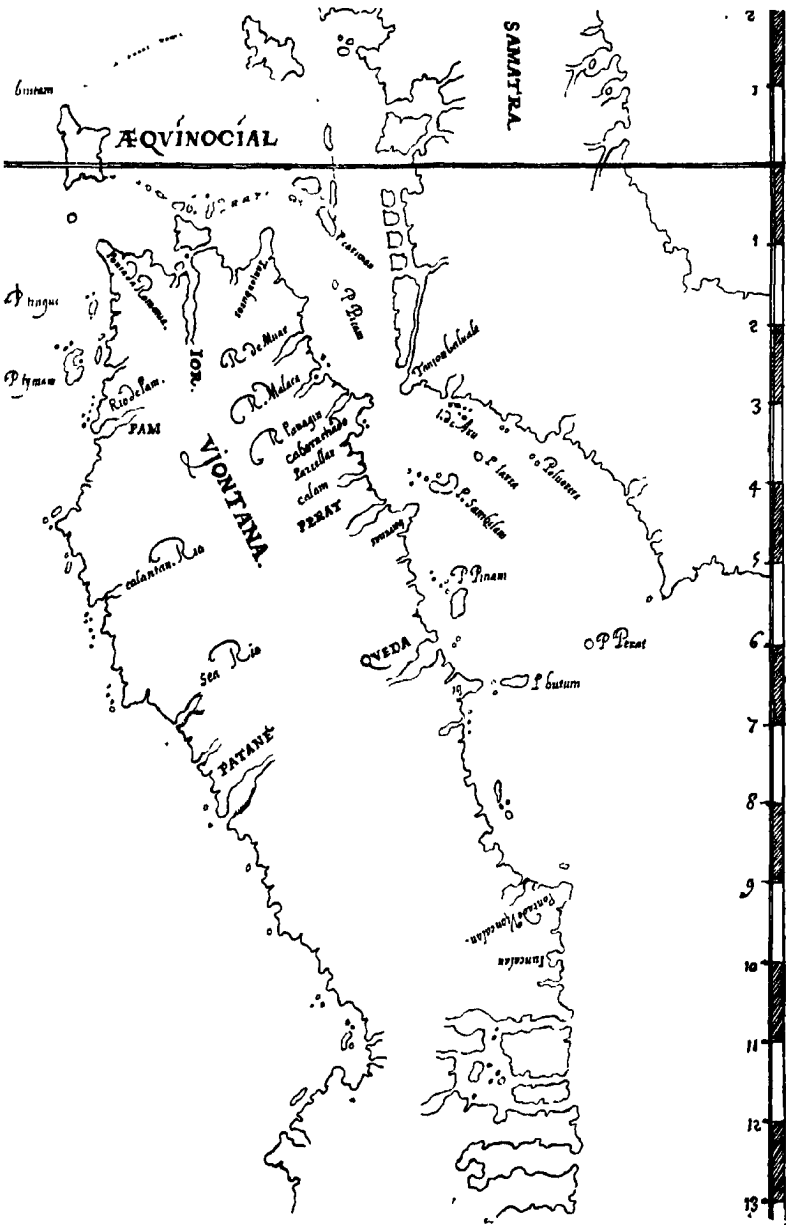
*Sabadthe* (Siberut Group)

*Baruse* (Pulau Nias Group)

*Sinde* (Sipurah and Pagai Islands).

See Part I Chapter 12, page 34 *supra*.





19 Folio 25 V (See *photographic reproduction* Plate II)

A map of the Malay Peninsula and part of Sumatra. This constitutes Eredia's fullest map of the Peninsula in general the scale is about 104 miles to 1 inch

PATANE. Patani

*Sea Rio.* The River Telubin or Telupin flowing through the Siah district of Patani

*Calantan Rio* The Kelantan River

UJONTANA Ujong Tanah, that is 'Land's end' the Malay Peninsula

PAM. Pahang

*Rio de Pam* The Pahang River.

*P Tymam* Pulau Tioman

*P. Tinggi* Pulau Tinggi.

*Ponta da Romania.* Romania or Rumenia Point

*Bintang* The Island of Bintang

AEQUINOCTIAL The Equator

JOR Johore

*Tanjon buros.* Tanjong Bulus.

*R de Muar* The Muar River

*R Malaca* The Malacca River

*R. Panagin.* The Linggi River

*Caborachado.* Cape Rachado

*Parcelai* Parcelar, Jugra Hill

*Calam.* Klang

PERAT Perak.

*Barruas* Bruas

QUEDA. Kedah

*Ponta de Ujon calan* 'Point of Ujon Calan', apparently the south-western point of Salang Island is meant

*Juncalan.* 'Junkceylon', Salang Island

SAMATRA Sumatra.

*P Carimon* Pulau Carimon or Kerimun.

*P Picam* Pulau Pisang

*Tanjon baluala.* Unidentified apparently a promontory of Pulau Rupert or Pulau Medang

*I de Aru* Aru Islands.

*Poluorera* Pulau (Varela) Berhala

*P. Jarra.* Pulau Jarak.

*P Sambilam* Sembilan Islands.

*P. Pinam* Pulau Pinang (Penang)

*P. Butum* Butang Islands

*P. Perat* Pulau Perak

This map follows Part I Chapter 12, page 36 *supra*

## 20. Folio 27 V.

A small-scale map of Asia from Egypt to the Ganges.

## 21. Folio 28 R.

A similar map of Asia from the Ganges to Japan.

## 22. Folio 28 V and 29 R.

## "INDOSTAN IN ASIA ACCORDING TO PTOLEMY".

A double-page map of India from the Indus to the Ganges. On folio 29 R appears a drawing of an "ANCIENT GULF of the Red Sea".

## 23. Folio 29 V.

## "PTOLEMY'S LAST TABLE, No. 12, OF ASIA".

A map of "TAPROBANA" (Ceylon).

## 24. Folio 30 R.

## "MODERN MAP OF TROPOBANA".

A map of "CEYLAM, *once Trobana*".

## 25. Folio 30 V.

Two drawings of ships: a "LANCHARA OF THE MALAYOS" and a "JUNCO OR SOMA OF CHINA", the former is shown with a sail set on the fore mast.

## 26. Folio 31 R.

A map of Egypt, to illustrate the trade-route via 'Cossair' (Kosseir) and 'Cana' (Kenah) on the Nile to *Alexandria*. See page 35 *supra*.

## 27. After folio 33.

## "TYPUS ORBIS TERRARUM".

A map of the world represented as a single elongated spheroid, with the prime meridian running through or near the Cape Verde Islands. with the exception of "Luca antara" no place names are marked.

The main feature of interest is a great antarctic continent almost enclosing the globe: commencing near Cape Horn the coast-line runs nearly due east as far as the longitude of Madagascar where it bends away to the south-east and the line is broken: at the bend there is an entry "PORTUGUEZES, *with artillery*, 1606 A.D." after a short distance the coast-line is resumed in a north-easterly direction: here, below the area Java-Timor, is marked "INDIA MERIDIONAL *discovered in the year 1601*", the general configuration of the country is similar to that shown on a larger scale in the map on folio 52: "Luca antara" appears as a promontory running up towards Java: the coast-line is broken in the longitude of New Guinea where the map ends: the eastern corner of New Guinea can be seen, however, on the extreme left of the map: some miles south-east of this is an island with its south coast left blank, and south of this again appears a large area of land, the coast line of which runs south-east for three-quarters of the distance across the Pacific and then turns south-west: at the north-west corner of this area appears the note, "*Discovered by the CASTELHANOS, 1609 A.D.*"

The reference in the note "PORTUGUEZES *with artillery*, 1606 A.D." is not immediately obvious, and the locality is outside the scope of the present paper. possibly Eredia refers to the Portuguese possessing "fire-arms and guns" who were found in 1606 by a Dutch ship driven to 41° South: see Part II Chapter 6 (page 67 *supra*).

The remark "INDIA MERIDIONAL *discovered in the year 1601*" presumably has reference to Eredia's own 'discovery'.

The note "*Discovered by the CASTELHANOS, 1609 A.D.*" apparently refers either to the voyage of Quiros, or to that of Torres in 1606.

In one of Quiros' Memorials translated into Dutch and published in 1612, there is a map showing "Terra per Petrum Fernandez de Quir recens detecta, olim vero sub nomine TERRAE AUSTRALIS INCOGNITAE celebrata" the land in question is represented as a large area stretching almost the whole distance from New Guinea to Cape Horn. (Wood. *The Discovery of Australia* (1922). pp. 189, 198)

According to Dr Arias, when Quiros had sailed south-east from the New Hebrides as far as 26° S. "they saw to the South very extensive and thick banks of clouds in the horizon, and other well-known signs of mainland" Markham *The Voyages of P. F. de Quiros* (*Hakluyt Society* 1904) Vol II p 529).

Now Captain Don Diego de Prado y Tobar, who succeeded Quiros in command of the expedition, wrote from Goa in 1613 to the King of Spain, enclosing a map of the route taken by Torres (Stevens and Barwick. *New Light on the Discovery of Australia*, (*Hakluyt Society* 1930) pp 34., 38) it is quite possible that Eredia met this man at Goa.

It will be observed that Eredia makes no reference to what is usually regarded as the first authentic 'discovery' of Australia by a European, namely, the voyage on which the Dutch in their pinnace the *Duyfken* sailed down the west coast of Cape York peninsula about March 1606 "some six months before Torres sailed through his strait, perhaps saw Cape York, and crossed the track of the Dutch pinnace" (Wood *The Discovery of Australia* (1922). page 225)

In postulating the existence of an 'antarctic continent' Eredia is probably correct such a continent is now believed to exist but it is situated considerably further south than Eredia represents, "the Antarctic Circle very nearly bounds a continental region: Graham Land, Enderby Land, Termination Land and Adelie Land all lie on the Antarctic Circle". (Johnstone. *A Study of the Oceans*. (1926). page 128).

28 Folio 41 R.

"WATER-SPOUT".

A drawing of a water-spout in the 'salt sea of Nicobai'.

See Part I Chapter 23, page 52 *supra*

1930] *Royal Asiatic Society*.

## 29. Folio 41 V.

"BORE".

A drawing of a 'bore' in the 'salt sea of Nicobar'; the tops of the wav'lets resemble the heads of 13 dogs swimming in triple line

See Part I Chapter 24, page 53 *supra*.

## 30. Folio 44 R.

A representation of a genealogical tree and two escutcheons. In the tree, the central person is "*Dom Juan Tubinanga, King of Supa*". above him, two branches are denoted "*Dona Elina Vesiva*" and "*Tamalina*" respectively; a third branch is blank: below him, a single branch is marked "*Pasapio, King of Machoquique*"

Each escutcheon is surmounted by a crown: one bears a representation of a sun (with a face in it), a half-moon, and five stars: the other contains a circle in which are written what appear to be four words in Jawi character.

Unfortunately the characters, the words, and the meaning are anything but obvious.

The characters appear to represent.

|        |          |
|--------|----------|
| ملنکن  | nknilm   |
| م و لم | mil ksis |
| کست    | tsk      |

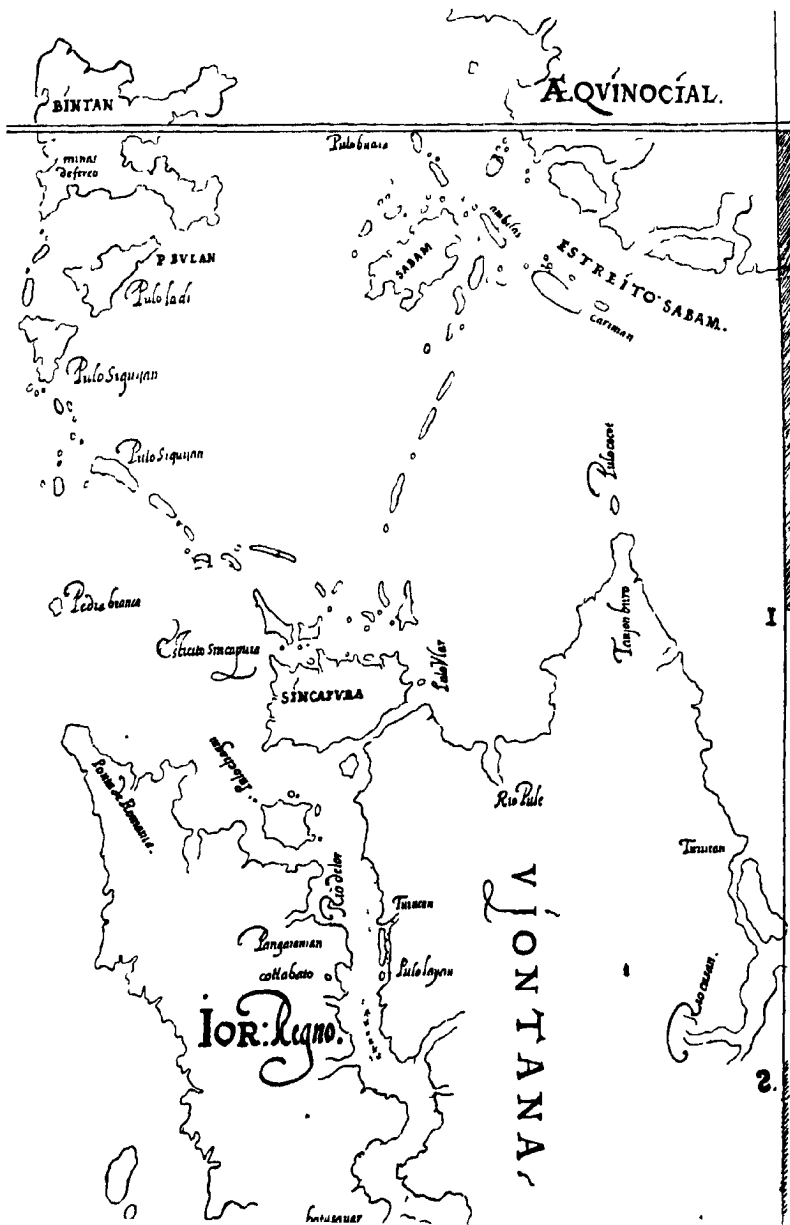
which perhaps denotes

|           |        |
|-----------|--------|
| mĕlainkan | except |
| sisek     | scale  |
| lima      | five   |
| kusta     | caste  |

that is, 'an extract showing five genealogical units.'

This is an early specimen of Malay writing, dating as it does from 1613 the earliest extant Malay MS appears to be one at Oxford, which dates from 1602 (*JR 1SSB* No 36. (1901). p 76)





31 Folio 45 R. (See *photographic reproduction* Plate III)

A map of south Johore, including a small part of the Sumatran coast and the islands as far as Bintang the map is out of proportion and the scale varies from about 12 miles to 1 inch (Romania Point to Tanjong Bulus) to about  $7\frac{1}{2}$  miles to 1 inch (Singapore Town to Kota Tinggi, 'Batu Sauar')

On the East side of the Johore River.—

JOR *Regno* The Kingdom of Johore

Batu Sauar. Kota Tinggi, formerly Batu Sawar.

Cotta bato Johore Lama, formerly Kota Batu.

Pangarianian Unexplained apparently intended to represent a Malay word, in the same way as 'Turucan' 'têrusan', 'a channel' and 'Panarican', 'penyarekan', 'a drag-way' It may, however, refer to Panchor, though this should be further north, or to Penggerang, though this should be much further south.

Rio de Jor The Johore River

Pulo Chagni Apparently Pulau Tekong Besar

Ponta de Romania Romania or Rumenia Point

On the West side of the Johore River —

UJON TANA 'Ujong Tanah', 'Land's End'.

Rio Casan The Kesang River

Tuucan "Channel" (*têrusan*)

Tanjon buro Tanjong Bulus

Pulo Cocot Pulau Kukub, Kokob or Kukob

Rio Pule The Pulau River

Turucan 'Channel' (*têrusan*)

This is apparently the 'Trusan Gemmell' between Pulau Juling and the western shore of the Johore River see British Admiralty Chart No 258

Pulo layan Pulau Layang

The Islands —

BINTAN Bintang

Minas de ferro 'Iron-mines'

P BULAN Pulau Bulang

Pulo Ladi Identity not certain on modern maps Pulau Ladi is shown as a small island at the extreme south of the Bulang Archipelago

There is a river Ladi on the north coast of Batam The largest island between St John's Island and Batam is to-day called Pulau Belakang Padang

(British Admiralty Chart No 1994)

Pulo Siquijan. Sikijang, later corrupted to Sijang and eventually to St John's.

Pedra Branca Pedra Branca (White Rock), Horsburgh Light

Estreito Sincapura. Strait of Singapore

SINCAPURA. Singapore

Pulo Ular Pulau Ular, apparently Pulau Merambong

ESTREITO SABAM The Strait between Sumatra and Kundur.

Cariman Kerimun.

Ambilas. Apparently Pulau Temblas

SABAM. Kundur

Pulo Buaia Apparently Pulau Buaia, but this is much further south.

(For the locality of Pulau Kundur see British Admiralty Chart No. 2757 and Dutch Ministry of Marine Chart No 40)

32 Folio 45 V

A map of the Malay Peninsula showing the central mountain range and the river system, few names are marked

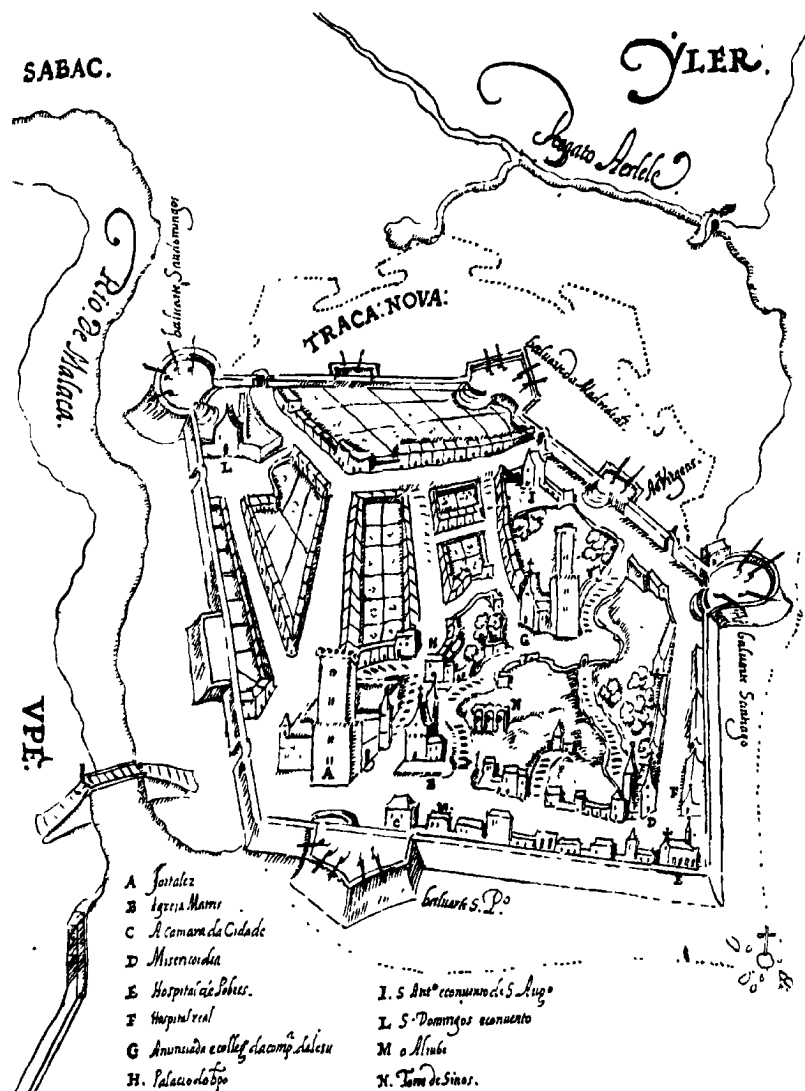
33 Folio 46 R

“PTOLEMY'S TABLE XI OF ASIA CORRECTED”

The most interesting feature of Eredia's 'correction' consists in the manner in which he bends the coast of China round to the north whereas Ptolemy is represented as making it turn east for a short distance in about 35° North and then run due south. Of the turn to the east, Eredia comments "impossible coast-line" just below the Tropic of Cancer he notes "The natives allege that there is no continental mainland of this Great Gulf and the Archipelago, because in ancient times there was traffic with Morotai in Gilolo" he places *Notum Promontory* in about 8° North and *Cathugara* in about 8° South immediately above *Cathugara* is the remark, "It is impossible, China in the South"

See Part I Chapter 3 (page 23 *supra*), Part I Chapter 12 (page 33), and Part III Chapter 4 page 70)





FABRICA DA CÍDADE DE MALACA.  
 INTRA MVROS. Anno. 1604.

- 34 Folio 46 V (See *photographic reproduction* Plate IV )  
 "CONSTRUCTION OF THE TOWN OF MALACA  
 WITHIN THE WALLS, 1604 A D."

UPE. Now Tranquerah.

Rio de Malaca The Malacca River.

SABAC. The name is obsolete the areas north of the Town  
 being known as Kampong Jawa and Bunga Raya.

YLER Now Banda Hilir

Regato Aerlele 'The streamlet Ayer Leleh'

Baluarte San domingos. Bastion of San Domingos

TRACA NOVA The new trace.

Baluarte da Madre Deos Bastion of the Madre de Deos  
 (Mother of God)

As Virgens Bastion of the Virgins

Baluarte Santiago Bastion of Santiago

Baluarte S Pedro. Bastion of San Pedro

A--Fortress

B- Cathedral

C- State Council Chamber

D--Church of Mercy.

E--Pauper Hospital

F --Royal Hospital

G- Church of the Annunciation and the College of the  
 Company of Jesus

H -Bishop's Palace

I -Church of St Antonio and the Convent of St Augustino

L -Church of San Domingos and the Convent

M--The Prison ('*aljube*')

N- Bell-tower

See Part I Chapter 1, page 18 *supra*

- 35 Folio 47 R

"PORTRAIT OF MASTER FRANCISCO XAVIER OF THE  
 ORDER OF THE COMPANY OF JESUS. 1542 A D"

See Part I Chapter 25, page 53 *supra*

36. Folio 47 V

"*Chorographic description of Macazar*"

An inaccurate map of the Celebes the characteristic features  
 being entirely missed

Lubo, Linta, Supa and Machochique are shown near the middle  
 of the island but only one of Eredia's names, Mandar, appears in  
 present day maps

Compare Part I Chapter 25, page 54 *supra*.

37 Folio 48 R.

*"Chorographic Description of Maluco"*.

An inaccurate map of the Moluccas.

38 Folio 48 V.

A map showing Timor, Ende (Flores), Solor and adjacent islands





39 Between folio 51 and folio 53 (See *photographic reproduction* Plate V)

A map of 'Meridional India', bearing a general resemblance to Mercator's map of 1569. Eredia has taken a typical map of the period, based on Mercator or Ortelius, and has incorporated his own surmises based on local information. the result is a cartographical nightmare.

The location of Java Minor and these other lands in the South Seas is due to the erroneous reading 'Java' for 'Champa' in Marco Polo's narrative: as the result of the error Java Minor (Sumatra) was placed at least 1,200 miles south of its proper position, the situation of Marco Polo's other places being similarly affected.

See Wood *The Discovery of Australia* (1922) pages 42-46, for the explanation of the error.

It will be noticed that Eredia's map has the south at the top and the north at the bottom. The following identifications seem probable, but are by no means universally accepted. *Condor* and *Sondur* are the Pulo Condore group of islands. *BEACH* represents Marco Polo's *Locac*, in or near Lower Siam. *PETAN* is Marco Polo's *Pentam*, either Singapore or Bintang. *MALITUR* is Marco Polo's *Malaur*, a kingdom situated at or near the southern extremity of the Malay Peninsula. *LUCAC* is Marco Polo's *Locac*, reduplicated owing to a printer's error. *JAVA MINOR* is Sumatra with its kingdoms of *Ferlech* (Perlak), *Basman* (Pasai), *Samara* (Samudra, near Pasai), *Dragoian* (at or near modern Pedir), *Lambri* (Lambarih, near Acheen) *Fansur* (Barus). *Agania* and *Necuran* are the Andaman and Nicobar Islands.

So much for Marco Polo's itinerary (Book III Chapter 9) with this Eredia attempts to combine his own notions.

The unnamed Island in the left-hand bottom corner of the map is Timor. *SABO*, *Rajoan*, and *Luca Chancana* are islands of the Sawu group, south-west of Timor.

*LUCA VEAC* is the 'island of gold' (see page 67 *supra*). *ANGAMAN MAJOR* and *MINOR* appear to derive their names from the Andaman islands, while, so far as their position is concerned, '*Luca Tambini*', '*Island of Women*', and '*abandoned town*', '*Luca Plato*', were encountered by a boat carried southwards through the strait of Bali (see page 66 *supra*). *LUCA ANTARA* is the 'Terra Australis' which Eredia claims to have 'discovered'.

40 Folio 58 V

Drawing of a small cross in a dotted circle about 2½ inches in diameter.

41. Folio 59 R

"THIS CROSS APPEARED IN THE SKY: 24th November, 1602". A full-page drawing of the apparition described in Part II Chapter 12 (page 74 *supra*).

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## 42. Folio 60 R.

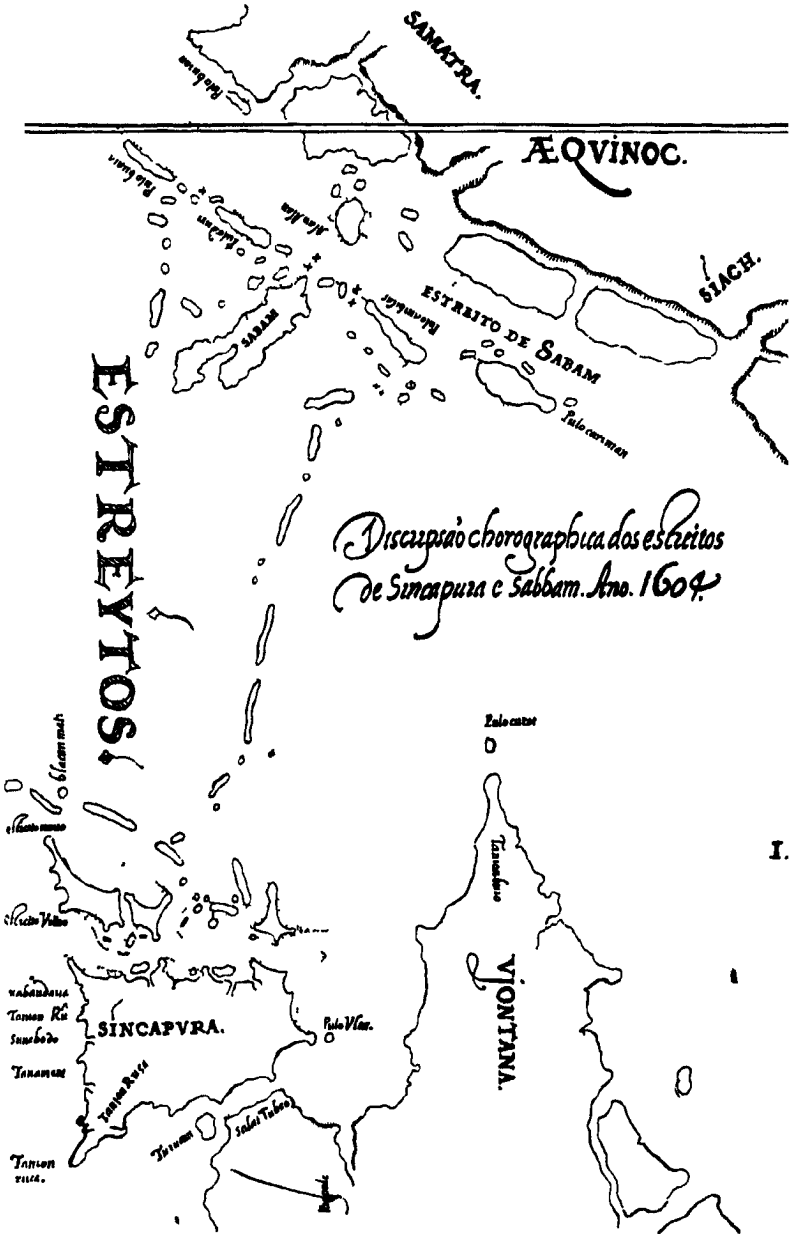
"*Chorographic description of the district of Malacca 1602 .1.D.*" A map on roughly the same scale as that on Folio 11 V, but with fewer names: the only noteworthy addition is an entry "DISTRICT OF JOR" above 'Sunc Ujon'.

## 43 Folio 60 V.

"*Chorographic description of the Promontory of Ujontana.*"

A map showing the southern portion of the Peninsula, with the islands and part of the Sumatran coast, on a somewhat smaller scale than the map on Folio 45 R only two points are worth mentioning, the more southern island marked 'Pulo Siquijan' in the other map is here called 'LADI', and the unidentified place 'Chega' in the map between Folio 11 and 13, is shown near the Kesang River.





44. Folio 61 R (*See photographic reproduction Plate VI*).  
 "Chorographic description of the Straits of Sincapura and Sabbam, 1604 A.D."

This is a very interesting map showing the extremity of the Peninsula and part of the Sumatran coast.

SAMATRA. Sumatra.

AEQUINOC. Equator.

SIACH. Siak.

ESTREITO DE SABAM 'Strait of Sabam' *ic*, the strait between Sumatra and Kundur.

Pulo Cariman. Pulau Carimon, or Kerimun.

Pulo ambilas. Apparently Pulau Temblas

SABAM. Kundur.

Alan Alan. Apparently Pulau Lalang

Pulo duru Pulau Durei

Pulo buaia. Apparently Pulau Buaia, though this is further south

Pulo buron Apparently Pulau Burung

ESTREITOS Straits

Pulo Cutot Pulau Kukub

Tanjon buro. Tanjong Bulus

UJONTANA Ujong Tanah

Rio pule. River Pulai.

Salat Tubro Selat Tebrau, the Johore Strait.

Pulo Ular Pulau Ular, apparently Pulau Merambong.

Turucan That is, *Terusan* (Malay), 'Channel'

Tanjon Rusa That is, 'Tanjong Rusa', the name is obsolete.

Tanion Rusa The shoals off this coast are known as Beting  
*Kusah*

Tana mera. Tanah Merah

SINCAPURA Singapore.

Sune bodo Sungei Bedok.

Tanjon Rû Tanjong Rhu

Xabandaria. Harbour Master's Office

Estreito Velho Old Strait.

Estreito Nouo. New Strait

Blacan mati Blakang Mati

- 45 Folio 61 V.

"Chorographic description of the locality of the fortress of Muar, founded by the "Descobridor" Manuel Godinho de Eredia, 1604 A.D."

A large-scale map (about  $\frac{1}{4}$  mile to 1 inch) showing the mouth of the Muar River.

On the north bank near the mouth Eredia marks '*os mattos*', 'the woods', and further to the north '*Tanjon Gadin*', Tanjong Gading.

Reading downwards from the top of the map, Eredia shows, on the east bank, 'ORTA DO XABANDAR' ('Harbour Master's  
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Garden'), 'CASAS' ('houses') 'XABANDARIA' ('Harbour Master's Office'), 'Janejane' (an unexplained tree, perhaps *Jaucajauca*, i.e. *jawi-jawi*, ficus benjamina), with 'FORTALEZA DE MUAR' ('Fortress of Muar') and 'N. S. de Esperanca' (The Church of 'Our Lady of Hope') situated on the promontory at the mouth of the river.

On the south coast are marked 'Tanjon Crobo' ('Tanjong Kerbau') and 'Padam' (Padang).

46. Folio 62 R.

"THE VICEROY, Dom Francisco de Gama, Count of Viduera, and Admiral".

"THE FIRST EXPEDITION of discovery".

A half-length drawing of the Viceroy, with his coat of arms

47. Folio 62 V.

"THE VICEROY Ayres de Saldanha"

"THE SECOND EXPEDITION of discovery".

A half-length drawing of the Viceroy, with his coat of arms.

48. Folio 69 R.

A small-scale map of Asia, from Java to 60° North, and from the River Ganges to Japan.

49. Folio 69 V.

A small-scale map of Asia, from Ceylon to 70° North, and from the Caspian Sea to Thibet.

50. Folio 73 R.

"The world. anciently divided into 2 parts, Tharsis and Ophir".

A map of Europe, Asia, and Africa on a very small scale, showing the River Indus as the dividing line between Tharsis and Ophir.

51. Folio 73 V.

A map showing the countries on the north-east coast of the Bay of Bengal

Eredia marks INDOSTAN (Hindustan), RIO GANGES (River Ganges), COCHO (unexplained, shown north-east from the mouth of the Ganges), AUREA REGIO ('golden region'), RIO DE TARTARIA ('River of Tartary', apparently the Irawaddy), PEGOU (the country of Pegu), TANGUT (apparently Taungu near Rangoon), PEGU (the town, apparently Rangoon), Rio Cosmin (the Irawaddy), SYRIAN (Syriam), LAOS (Laos), SYAM (Siam), CAMBOJA (Cambôja). In addition, he gives three notes:—

"PEGU, once BARACURA, emporium of the country of Attay".

"SYRIAN means 'Province of Syriam'".

"TANGUT or TANGOU means 'Province of Pagodas'".

52. Folio 77 V.

A map of Asia, from Sumatra to 60° North, and from the River Ganges to Japan.

53. Folio 78 R.

A map of Asia, from Ceylon to 50 North, and from the Caspian Sea to Thibet

54. Folio 78 V

A map of Asia having Nova Zembla in the north-west corner, and extending eastwards as far as the Desert of Lob, and southwards as far as Ceylon.

55 Folio 81 V.

“THE EXPEDITION IN MERIDIONAL INDIA”.

Beneath these words is a coat of arms, with a representation of an effete-looking bird and the (Latin) motto ‘A DOVE CAME CARRYING A BRANCH’.

56 Folio 82 R

“PORTRAIT OF EMANUEL GODINHO DE EREDIA”.

A three-quarter length drawing of the ‘Discoverer’, with his coat of arms· his right hand rests on a globe, on which are represented certain lands and islands, with three names, JAVA, JAVA, and LUCA ANTARA, the shape and situation of these lands approximates to that shown on the ‘TYPUS ORBIS TERRARUM’ (between folio 33 and 35).

## APPENDIX II.

### EREDIA’S OTHER WORKS.

1. REPORT ON THE GOLDEN CHERSONESE 1597-1600
- 2 A letter 1599.
3. History of the Martyrdom of Luiz Monteiro Coutinho 1615
- 4 TREATISE ON OPHIR 1616
- 5 Mappemonde c 1618
1. REPORT ON THE GOLDEN CHERSONESE 1597-1600.

A Portuguese transcript of Eredia’s MS is published in a small book, “Indian Ordinances of The Lord King Dom Manoel of Eternal Memory.

An accurate report on the Golden Chersonese written by the ancient Indian Cosmographer Manoel Godinho de Eredia, and other papers by Antonio Lourenço Caminha, Regius Professor of Rhetoric and Poetic. Lisbon At the Royal Press, 1807 A D.”

The British Museum has a copy of this book· No. 9056 a 9 (General Catalogue). Caminha says he possessed the MS of this work, which he describes as “one of the most valuable records in our literature” The Report is entitled INFORMACAO Da Aurea Chersoneso. ou Peninsula, e das Ilhas Auríferas, Carbunculas, e Aromaticas.

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Eredia must have written his MS between 1597 and the end of 1600: he twice mentions the former date (pp. 229 and 244 *infra*), while the *finale* (p. 255 *infra*) contains a reference to the Viceroy Francisco da Gama, who was succeeded by Ayres de Saldanha in December, 1600.

So far as is known, this REPORT has not been translated into any other European language

An English rendering follows.

REPORT ON THE GOLDEN CHERSONESE OR PENINSULA,  
AND ON THE AURIFEROUS, CARBUNCULAR  
AND AROMATIC ISLANDS,

DRAWN UP BY  
MANOEL GODINHO DE EREDIA  
COSMOGRAPHER

Faithfully translated from an old Manuscript in our possession.

The Golden Chersonese, or Golden Peninsula, is a part of the continental mainland of India extra-Ganges, it commences at the narrow Isthmus of Tanaçarin in eleven or twelve degrees of North latitude, and thence extends towards the Equator till it comes to an end, terminating in the Promontory called formerly Maleucolone, and now Sincapura, or Ujontana, which is situated in exactly one degree of North latitude

As this part of the continent is surrounded by different seas, it is called ' Peninsula ' or ' Chersonese ', which amounts to saying that it is almost an Island, as explained by Appian in the first Part of his Book on Cosmography in Chapter XVII

For on the western coast it is washed by the Gangetic Gulf or Gulf of Bengala, on the eastern coast it has the Sea of China, called the Eastern Ocean, or Seric Ocean, and the Great Gulf, and on the southern coast it abuts on the Southern Sea, or Sea of Lantchidol, and the unknown Ocean, hence it is only on the north that this land, called ' Peninsula ' or ' Chersonese ', is joined to the rest of the mainland of India extra-Ganges by the aforesaid narrow isthmus of land

This Peninsula was so celebrated among all the ancient writers, especially Curtius, Strabo, Pliny, Pomponius Mela and others on account of the many large gold-mines which existed therein that they all commonly called it ' Land of Gold '.

So Ptolemy in his Geography, in his eleventh Table of Asia, calls it by the name of ' Golden Chersonese ' or ' Golden Peninsula ', which is the same thing as ' quasi-island of Gold '. and if in those days the gold of this country was known in such far-distant places as Egypt, Italy, and Greece, one might with greater reason to-day search for all the minerals of the golden land, and investigate its secrets, for the Peninsula in question is within the territory and

under the jurisdiction of the most fortunate Crown of Portugal, having been acquired by the invincible Captain Affonso de Albuquerque, when with his veteran army he conquered the very important town of Malaca with its celebrated port in the year 1502

It has been said that the town of Malaca is identical with *Tacola*, but I should hesitate to maintain this identification; for Ptolemy drew up his Tables in the year 163 after the Birth of Christ our Redeemer, during the Pontificate of Aniceto the First, while, according to the Malao annals, Malaca was founded by Parimiçura, a Javanese of Balambuan, in the year 1398, in the time of King Dom João the First, called the Bastard.

It was called Malaca because Parimiçura built his first dwelling near a large tree called *Malaca*, this, the Myrabolan tree, grew all along that coast, which was then desolate and deserted and full of woods and groves, never inhabited by any people of culture and civilization, but only by some fishermen called 'Saletes', or Pirates, and sea-robbers.

So Tacola ought to be identified with another port on the same coast, for it was then famous and was frequented by substantial merchants from Alexandria, like the port of Malaca at the present day

It may very well be that Tacola was the same as the port of Cala, or Calan, which lies in 4 degrees, the exact situation of Tacola, as stated in the Tables of the ancient geographers, and different from the latitude of Malaca which is situated in two and a half degrees

And Tacola may well be the port of Calan, not only on account of its latitude, but also by reason of a certain similitude of name inasmuch as by repetition throughout a long period it would have become corrupted, till from Tanacalan it was called Tacolan or Tacola, and as '*Tana*' means 'Land' in the language of the Malaios, it is clear that Tanacalan or Tanacalan is the same thing as 'land of Calan' this is shown even better by the name which survives until our own day, given to a point of land called Ujon-calan, meaning 'Point of Calan' corruptly called Juncalan this clearly proves that the port of Calan was a metropolis

So the mutations and changes of this world may have altered these names, for experience shows us similar changes every day, when some misfortune befalls some city, town, or place, it is as a result abandoned with a view to the establishment of a new one at another site or place this was formerly done in Europe, and the same thing has been done in our day by the King of Jor since he last met with destruction and ruin, wrought by the victorious captain Dom Paulo de Lima Pereira, this King has never desired to return to his Court of Jor, he has preferred completely to abandon his celebrated Fort Cottabattu, which was the stronghold of his Empire, and has made another new Court and Town by the River of Ujontana on a high hill called Batusavar, where his son Raja Rade now reigns, in amity with the Portuguese, for the old King died in the year 1597

Malaca is situated on the western coast of the Golden Chersonese, almost at the river-bar, right at the foot of a beautiful hill and along the banks of a large river.

The Town is at present divided into four parts, or compartments.

The first of these divisions is occupied by the people in the city and the fortress: it is entirely surrounded with forts and stout walls and splendid bastions constructed of stone and mortar, with numerous brass cannon.

The second division is occupied by the people on the opposite side of the river, and is called the country of Tanjan Upe, it extends towards the 'Mestral' or North-east, it is also called the Country of the Bendara's Rampart.

The third division is occupied by the people of Ilher and Buchet China, it extends from the fortress towards the 'Siroca' or South-east.

The fourth division is occupied by the people who live on the banks of the river, it is properly called the district of Sabba: it extends, like the river itself, towards the 'Tramontano' or North.

So in these four areas there are all told six hundred married Portuguese and landed proprietors, and in addition two thousand subjects including Christians, Idolaters, and Maumethistas or Moros.

Malaca is a Bishopric, it maintains a number of churches, and also four convents of Mendicant Orders, namely, Apostles of the Company of Jesus, Capuchins of S. Francisco, Dominicans, and Augustinians, who throughout all those parts perform most noble service for Our Lord God and for Christianity; it also maintains the Sacred Confraternity of Mercy and some Hospitals, lastly, the said town is administered and governed by a nobleman, His Majesty's Captain and Governor

With regard to the latitude and position of the place and its port, we will state briefly that the situation of the fortress of Malaca lies in the torrid zone or burning zone, above which the constellations and signs of Aries and Virgo usually travel, it is situated practically on the Equinoctial, or but little removed therefrom, on a parallel which runs at two and a half degrees of North latitude, in front of the first climate

That being the case, its inhabitants might rightly be called *Amphicians*, or Equinoctials (this being the name applied by the geographers to all the people of the Equator, or Equinox, because they enjoy days and nights of equal length (or almost equal length, being twelve hours and nine minutes) on account of the slight distance from the Equinoctial: moreover, they invariably have four solstices, namely, two high solstices, when the sun passes vertically above Malaca, being situated in Aries and Virgo, during March and September, and two other, low, solstices, when the sun retires during its greatest declination through each of the Tropics of Cancer and Capricorn: this movement of the sun thus gives four shadows to the Malacanos or Amphicians.

And although Alfragano and Sacrobosco (in the third treatise on the Globe) and Monteregio, Cardano, Copernico, and many others aver that the Malacanos should enjoy double seasons, that is to say, two summers, two winters, two springs, and two autumns, and although their arguments may be correct, yet experience shows that owing to some peculiar secret of nature, the truth is contrary to expectation regarding this point, as well as regarding the condition of the torrid zone. For, throughout the district of Malaca, it commonly rains at all seasons of the year, irrespective of the natural order of the seasons or points of time

Other marvellous secrets, too, are disclosed. for instance, in October the waters of the sea rise higher than in other months, South winds and North-west winds always bring more furious storms and tempests than other winds, aged people live longer here than in other countries in spite of being subjected to fits produced by the wind, which become very dangerous when they attack the stomach.

In many parts of Malaca, especially at Baturandán, one finds that in some spots the earth contains extensive coloured veins, white, mulberry, blue, vermilion or scarlet, yellow, and green, clearly demonstrating the presence of silver mines, for the miners of New Spain follow up these coloured veins when searching for silver

The gold-mines of Malaca are dealt with during the course of this treatise or report on the Peninsula or Golden Chersonese, so no further details are required regarding the mines in Malaca.

As to the other kingdoms, such as Patane, Pan, Jor or Batusauar, Pera, Queda, Juncalan, and Tanacarym, which lie within the limits and within the jurisdiction of the Peninsula, we shall make special reference to each of them, since they are lands containing ores of gold, and of tin or "*Calaym*"

Jor or Batusauar, the metropolitan Court of the Malaios, lies situated on the Promontory of Sincapura in one degree of North Latitude, where the land of the Golden Chersonese comes to a point, and therefore the King of Jor is called "Raja Ujontana", which is as much as to say, "King of Land's End" or of "Finis terrae". The present ruler is named Raja Rade, he is the great-great-grandson of the last King of Malaca

The Empire of the Malaios was founded in Pattane by Tuan Malaio, the first Emperor, who was chosen in the third year before the Birth of Christ, during the time when Herod of Ascalon, the pagan, was on the throne, the seat of the Empire passed to Pan, then to Malaca, and is now established at Batusauar

The Malaios are all Serracenos or Moriscos, their appearance is usually very pleasant and handsome, though they have no full beards; they wear their hair short, and curl it to look elegant and pretty, their colour is between white, and dark-yellow tinged with red, usually called chestnut or brown.

They go curiously clothed, for they wear a low cut shirt which they call the "*Baju*", made of very fine cloth, sometimes white.

sometimes dyed, either with different colours, or with the colour called mulberry, which they call "*Cacumba*".

As a covering for the lower half of the body they go swathed in wide Choromandel cloths, and for head-dress they wear a piece of silk rolled round the head like the coils of a cobra; the natives call it a "*Destar*".

For arms, they use a dagger of Charimatta steel, called the "*Cris*", which they always wear in their belts. They go bare-footed.

They are continually chewing certain aromatic leaves called "*Betre*", tempered with lime and "*Aveca*" a certain kind of Indian Nut.

They make extensive use of precious perfumed unguents, rose-water, sweet-scented leaves and cloves their head-dress or "*Destar*" is always adorned with roses and daisies

Speaking generally, the Malaios are witty and merry, very fond of music and dancing and the dances of certain girls called the "*Raiuanas*", hence they are much addicted to luxury and pleasure.

As merchants they do but small business, seeking no more profit and gain than will suffice to provide the wherewithal of existence, all they make is immediately spent in eating and drinking to the sound of music and the concerted playing of certain small drums called "*Rabanas*" and flutes called "*Banci*".

The houses in which they live are built of wood and covered with thatch, that is to say, with the leaves of uncultivated wild Palms called "*Nipenas*", whence they obtain the white "*Nipa*"-wine

They use certain boats called "*bullos*" for the transport of merchandise, and for ordinary service in navigating the rivers, they employ other, small, boats which they call "*ballôes*" or "*nabungues*" for naval warfare they use "*Lancharas*" or "*bantis*".

The native weapons of the country are arrows, blow-pipes, darts called "*Soligues*", and also Turkish lances and swords though at the present day they use our arms both defensive and offensive, and are employing them in the course of the present fierce war which they are waging against the treacherous and insolent Achem, King or Emperor of the Northern coast of Samatra, because he has tyrannically possessed himself of this Kingdom, which according to the rights of the case, belongs to the King of Jor or Batusauar, or rather, I should say, to his son Raja Achem as being the grandson of Raja Mançor

These Malaios, then, are so lacking in curiosity and ambition, that they have never attempted to understand the nature and constitution of their own native land nor its secrets, such as the gold-bearing ores and metals, except in so far as time itself of its own accord has disclosed them when the gold and tin appear on the ridges and mountains and rocky cliffs, as well as in the fields and streams, which commonly happens at many places in the Peninsula,

as is alleged by persons of credit and authority and vouched for by the "Xabandar" of Muar, who has on several occasions found grains of gold in the streams on the coast of Ujon Tana or of Jor, which shows clearly enough that the whole of this country is auriferous.

This is amply confirmed by what I saw with my own eyes when I stayed at Malaca during the time of Captain Dom Francisco da Costa, in the year 1512.

For I remember when I was walking towards a certain estate and garden of mine, I passed along by the shores and streams of Fanjon Upe, about a league away from the site of the fortress of Malaca, when I met some Monocabos or Malaios with sieves with which they stood sifting the sands of the shore along the coast, wishing to observe what happened, I saw in the sieves some grains of gold mixed with the sand, and they assured me that by employing this method every day they obtained very often a paidão each, sometimes more, sometimes less, thus they made their living, as is well known.

There can be no doubt, therefore, that extensive gold-mines exist in the territory of Malaca, especially in certain mountains such as the mountain of Gunoledan, which is so venerated both by Malaios and by foreigners that the belief is universal that this mountain is the Terrestrial Paradise, and they imagine, moreover, that it contains the enchanted Court of the first Queen of Malaca called "*Putrigunoledan*".

Patane was the first seat of the Empire of the Malaios, its site lies on the Eastern coast of the Peninsula in seven degrees of North latitude, it is one of the famous Oriental ports with an extensive trade and commerce, it contains even at the present day large gold-mines which have been discovered in the mountains and ranges and in other parts of the territory along the course of the River of Cea, where one finds a large quantity of gold in the form of dust and small grains, which is taken for sale to the port of Malaca, as is well-known to the captains and merchants of the latter place, who always buy it for the trade with Choromandel.

I remember seeing a piece of this gold from the River of Cea, it was a gold-nugget shaped like a small onion, with roots like a plant, it was in the house of Ninaborneo Chelim, a very large trader and merchant.

Pan was the second seat of the Empire of the Malaios its site lies on the Eastern coast of the Peninsula, in three degree of North latitude, the port is just as much frequented by merchants, because of the gold from its auriferous mines it contains the best and largest gold-mines in the whole Peninsula it was from here, one presumes that there came the gold which formed the subject of the ancient trade with Alexandria or Grand Cairo, which passed by way of the Port of Calan, or of the Port of Tanasorir or Tana Sophir (which is nowadays called Tanasorin) through the Red Sea or Arabian Gulf in the following manner.

The *Alfragatas* or *Guclues*, which arrived from India in this strait of the Arabian Gulf, discharged their cargoes of spices and gold at the Port of Coçær, situated on the Red Sea, and from this Port they were carried by land to Cana which stood on the edge or bank of the River Nile, which was three days' journey from Coçær; thence they travelled by boat, so that in a few days they would reach Cairo, whence they were distributed to the other provinces of Natolia, and Europe.

Thus the lands which are within the territory and jurisdiction of the Crown of Pan are auriferous. since in the rocky cliffs and in the hardly-accessible quarries there has been found a great quantity of gold, which is nowadays taken to the port of Malaca for sale.

So much so, that the King of Pan sent from Adea a beautiful piece of gold-stone two and a half yards in length, as a present for the Captain and Governor of Malaca, João da Silva who, out of curiosity to see gold in this form, ordered the piece of gold-stone to be broken at once in his presence, enclosed in the inside there was found a vein of gold a yard wide: this happened in the year 1586, and was well known to the people of that day.

Perat is much frequented and is the principal port for the trade in Tin or "*Calayn*" in large slabs. its site lies on the Western coast of the Peninsula, in five degrees of North latitude, here there have been discovered, in the ranges and mountains within its jurisdiction, such large mines of tin or "*calayn*", that every year more than three hundred "*bares*" of tin are extracted to supply the factory of the Captain of Malaca, and the trade of the merchants from India

Cala or Calan is another port for the trade in tin or "*calayn*" in small slabs called 'lock-slabs' its site lies on the Western coast of this Peninsula in four degrees North here too there have been found some mines of tin or "*calayn*", in the mountains and ranges, so that every year there are extracted therefrom more than one hundred and fifty "*bares*" of "*calayn*".

Panagin is the name of a copious river which extends as far as the sources of the rivers of Malaca. hence are extracted each year more than one hundred "*bares*" of "*calayn*"

Rombo (a place where the rivers of Malaca spring and derive their sources) as well as the Panagin, contains some iron-mines, and it is said that it also has a little gold in the mountains and a great quantity of tin in the fields and flat land.

The truth of this assertion is evident from the fact that four "*bares*" of tin or "*calayn*" in the form of 'lock slabs' were sold to me by a Morisco Monamcabo who came from Rombo to Malaca by river during a space of four days' journeying

Ujon Calan or Juncalan is a well-known port for the trade in tin: its site lies on the Western coast of the Peninsula in eight degrees of North latitude. the natives say that some lead and iron exists in the lands within its limits

All the tin above referred to is extracted in the following manner; the earth is dug out of the mountains and placed on certain tables, where the earth is dispersed by water in such a way that only the tin, in the form of grains, remains on the tables. It is then melted in certain clay moulds and by a process of casting is converted into large slabs of five slabs to the "bar", or into small slabs which are called 'lock slabs,' of two hundred and fifty slabs to the "bar."

Queda, a very ancient and famous port for the trade in white pepper and round black pepper, lies situated on the Western coast of the Peninsula in six degrees of North latitude, pepper is found here in such large quantities that it commonly constitutes the cargo of the *Alfragatas* or *Guelues* from Meca, besides supplying the factory of the Captain of Malaca.

Tana Sorir or Tana Sorin is a port situated on the isthmus of narrow land, on the Western coast of the Golden Chersonese or Golden Peninsula, in ten or twelve degrees of North latitude.

"Tana" means "land" and "Sorir" a certain grass (very abundant in this port) which is used to make the Soris or Souris of Bengala, so the port is called "Tana Sorir" or "Land of Sorir", as one might say "the land which produces the Sorir grass".

As this port is situated at the commencement, that is to say, on the isthmus of the Golden Chersonese, it constitutes the meeting-place of numerous merchants from Alexandria, Guzaratta, Cambaia, Indostan, and other oriental nations, on account of the gold and spices, which are always on sale there, through the medium of the people from the Peninsula, Samatra, Jaua, Banda and Macaçar.

It was for this reason that the ancient writers such as Curtius, Strabo, Mela, Pliny, and others knew it as the port of the Land of Gold; as is confirmed by Ptolemy in his eleventh geographical Table.

And although they were acquainted with the gold-mines of the Perinean mountains, Acturias, Galiza, and the River Tejo, and other places in Africa, yet they applied the name "Land of Gold" only to the portion of land which constitutes the Golden Chersonese.

It may well be that this port of Tanasorir was the ancient port of Sophir mentioned by the writer Josephus in Book VIII Chapter 2, where he says that Solomon sent to a region of India called in ancient times Sophir or Sophira, and later Land of Gold: as the country of the Golden Chersonese has always been the land of Gold, it may very well be that Sorir is the ancient port of Sophir, for the difference between the names is slight, and the pronunciation almost identical.

Above all, the gold for the Temple of Solomon came from the Land of Ophir in Eastern India, as is stated by S. Hieronimo, and was not gold from the Golden Region of Peru.

Our intention, however, is not to investigate that question, but merely to deal with the mines of Gold, silver, and tin or "*calayn*", and with the pepper, for the information of the Princes of Europe: so after the briefest reference to that matter, we now consider what the land of the Peninsula produces.

The Peninsula has dense forests with trees of scented "*Agula*", "*Calamba*", Camphor, "*Bejuim*", and some Cinnamon, also Indigo and Cassia, besides a great deal of Pepper, both round and large or long, in addition to a large quantity of aromatic "*Betre*", and "*Areca*" or Indian Nut, as well as some Brazil-wood or Sappan, and an abundance of Ginger, Tamarinds, Saffron, "*Lancoas*", and "*Casumbas*".

The woods and forests usually consist of groves containing trees which yield Pitch, Gum, and Resin, also Medicinal plants and anti-toxins, as well as herbs with powerful properties, some useful in medicine and others producing many marvellous results, for some are attractive and binding, others digestive and purgative.

Lastly, in this Peninsula are to be found the best and most tasty fruits in the world, such as the delicious "*Duriões*", "*Mangostas*", "*Tampoës*", "*Rambes*", "*Rambotas*", "*Bachoes*", "*Champadas*" and "*Lanhas*" or Coco-nuts from palm-trees, besides a large quantity of plantains or Indian Figs, many Grapes, "*Jambos*", "*Mangas*", "*Jacas*", Melons, Cucumbers, Water-melons, Pineapples, Oranges, Citrons, Lemons, Limes, Sugar-Cane, Yams, Grains of every kind, "*Sagu*" or Tapioca, which serves as bread and is a staple food, as well as many varieties of rice, garlic, onions, and all kinds of other vegetables in great abundance, in addition to white wines which the natives call "*Arat*" or "*Uraca*", made from Coco-Palms as well as from wild Palms which are called "*Nipeiras*" or "*Nipas*".

In the jungle and in the mountains are found many Elephants, Rhinoceroses or "*Baddas*", "*Zibetas*" or Civet-cats, "*Arimou*" or "*Remou*", large Snakes, Porcupines, Stags or Deer, Hares, Bulls or wild Buffaloes, besides a large number of Apes or Monkeys, and a variety of insects.

Above all, there lives in the Peninsula the animal called "*Bruan*", so powerful and resistant, that it is impossible to wound its body, although it may receive many stabs with spears or slashes with choppers.

Moreover, the country contains a number of beautiful birds, such as Peacocks, Parrots, Partridges, Doves, Jungle Fowl, and numberless other birds with feathers of various colours: many of which are delightful by reason of their sweet melodious songs or the beauty of their plumage.

On the surface and at the bottom of the rivers are found many crocodiles or very large and frightful Lizards, some of which are white, I remember I once saw one five fathoms long; and one snake was found so huge that forty men could scarcely lift it.

Lastly, in the Peninsula there exist plants with such powerful properties that their effects cause universal surprise and astonishment; as is seen in the case of the poisonous "*Ipo*" tree.

The "*Ipo*" is a tree with a deadly poison, should its juice in any manner come into contact with a wound, however slightly the skin be broken, instant death results, and the same effect occurs if it be drunk, if the least drop of the juice should happen to fall on the body, very severe agony is caused, lastly, there is no antidote for this poison, so it were well that all should know of it in order that every one may avoid it

Surely, too, it is the cause of no small wonder that nature should create stones in the inside and in the middle of fruits, such as the stone in the Coco-nut and in many other fruits, or that nature should produce stones in the liver of animals, such as the stone in the Porcupine, the stone in the Cow, the stone in the Hare and in other animals. but to deal with these would require a special Treatise, we cannot discuss them further in the present Report which is concerned with auriferous minerals

To conclude entirely with the Peninsula, I will relate a curious phenomenon which occurs at the mouth and entrance of the River Panagim. here there are dense thickets of Bamboos, and among them there grow two very tall stout Bamboos which are set in such a manner that one of them towers over the other, now it is an actual fact that by day and by night human voices are heard proceeding from these Bamboos, one of them says "*Suda*", that is to say, "*Enough*", and the other replies "*Bolon*", which is as much as to say "*Not yet*"

I always regarded this as a worthless fairy-tale, until Affonso Vicente, Ambassador to Achem, assured me that he personally heard these voices saying "*suda*", "*bolon*", when he went to this place on the Panagim for the sole purpose of observing this most curious occurrence in the year 1595.

Samatra. Ptolemy in the twelfth Table of his Geography treats of the very ancient Island Taprobana which is to-day called the famous Samatra, endowed with such great riches since in ancient times its geographical situation was wrongly stated owing to inaccurate reports, I will now make a close examination, so to speak, of its exact position.

The Island Samatra lies situated exactly on the Equinoctial in such a way that the Equinoctial divides it into two parts: thus, that portion of land which extends from the Equinoctial to five degrees of North Latitude, is called the Tramontane or Northern Land, its proper designation being the Land of the Province and Kingdom or Empire of Achem, the other portion of land, extending from the Equinoctial to five and a half degrees and ending with a point which lies in six degrees of South latitude, is called the Southern Land, its proper designation being the Land of the Gold Region, or the Province and Kingdom of Monamcabos; this

country is divided again into two portions, the Western coast belonging to the Crown of Monamcabos, and the Eastern Coast, belonging to different Crowns and called the Land of Pepper.

The Empire of Achem originated with Sidimorogon, the first Emperor, chosen in the year 1406 after Christ, during the Pontificate of Gregorio the Twelfth, and the succession has always remained in the same Royal House continuously down to Rajamancor who was treacherously assassinated by Paduca Siri Soltão in order that the latter might thus become King or Emperor of Achem; he rules to-day, but these dominions rightfully belong not to him but to the King of Jor or Batusauar, or rather, I should say, to his son Raja Achem as being the Grandson of Rajamancor.

Within the Empire of Achem are included several other Kingdoms and Principalities, such as that of Pedir, Pacem, Gori, Ancaçan, Araçan, Tico, Barus, and Priamon, which are all Vassals and Tributaries of the Imperial Crown of Achem.

Thus the boundaries of the territory and jurisdiction of the Empire of Achem begin at the Port of Priamon on the Western coast of Samatra and continue along the Northern coast thereof until they reach the Port of Araçan on the Eastern coast, which is entirely peopled by Battas, folk who eat human flesh.

Perlat is the place where they discovered the ceasing springs of Earth Oil, its situation lies on the Eastern coast of Samatra in four degrees of North latitude, within the territorial limits of Achem.

The soil in this area of Perlat is so 'oliferous' and full of oil that when it is raked or dug with mattocks, this Earth Oil called 'Minsat Tanna' wells up from underground in such quantities that several clay-vessels or jars are filled daily so that the whole of the Eastern coast to Jamboer Point is supplied with oil for burning in the lamps at night.

In the interior of Samatra lies a salt-water lake containing an astonishing number of 'Taynha'-fish from this lake a certain amount of salt is obtained for the use of these very wild people.

And now I am finished with the Province of the Empire of Achem, and below I deal with the Empire of Manancabos, a very ancient Crown.

The Province of the Kingdom of Manancabos is called the Region of Gold: it comprises all that portion of land in Southern Samatra which begins at the Port of Priamon on the Western Coast of Taprobana, and continues along the Southern Coast, until it reaches the Port of Palimbão, situated on the Eastern coast; this portion of land is called the Golden Region or Region of Gold, on account of the many large gold-mines which have been found there, for the whole of this Country is auriferous, as may be seen by the gold in the rocky mountains and ranges of Campar, Andriguir, Siaca, Priamon, Tico, and Barus, and by the gold found in the high mountains of Guno Merrapi, and by the pebbles and the quarries of Batan Api, and by the flat lands of Padan, and by the streams

of the River of Sunetrat and by those of Pancalan Capas, and lastly by the mineral-bearing lands of Galian Mas.

It is noteworthy that throughout this Region of Gold, the country is mountainous and rugged, well provided with mountain ranges and high peaks; such lands always produce a greater quantity of gold than the fields and flat lands.

The Empire originated with Manancambin, the first Emperor, who was chosen in the year 1039 before the Birth of Christ, during the Reign of Solomon, when the latter was building the Temple of Jerusalem; the succession has always remained in the same house and family down to Rajagaro who now occupies the throne, though he is not so powerful as his Governor or "*Xabandar*", who during his tenure of office as "*Xabandar*" of Sunetrat has grown so rich by means of the gold-trade that in his house the gold-dust is measured in measuring-tubs just as one measures out wheat, and is stored in "*Madanâs*" or Martavan jars.

The King's Court is situated in the centre of the Region of Gold, at the place called Galian Mas, where he is served by Manancabos, so-called from 'Manancambin'.

Having given a sufficient account of the Golden Region, or the Kingdom of Manancabos, I will now refer to the Pepper Kingdom and the Gold Mines.

The Pepper Country comprises the Territories of different Crowns, such as Palimban, Jambe, Andriguir, Campar, Siaca and Bencales; these are Ports for round black Pepper, called Pepper-corns. Although pepper is obtainable in all these ports, the greater quantity is to be found in Jambe, Andriguir, and Campar (which places usually produce all the Pepper required by the Captain of Malaca) and in the ports, and along the shores, of the Rivers which run right up into the Region of Gold

All these Ports are situated on the Eastern coast of Southern Samatra, and are included in that portion of land which lies between the Kingdom of Palimban and Bencales or Arrancan

Campar is the Port for gold, its site lies on the Eastern coast of Southern Samatra, in one degree South, it possesses an abundant River which extends as far as the Region of Gold or Pancalan Capas, a place belonging to Manancabos, or to speak more accurately, as far as Sunetrat, where is situated the *Xabandar's* office of the "*Xabandar*" Chiay Chetin who controls the trade and the dealings in gold from the Golden Region.

The King of Campar enjoys the profits of certain gold-mines, especially the gold from the Shores and Banks of the Rivers in his Territory, and above all that from the Shores of the Sunetrat: this gold is recovered in the following manner.—

Every day certain men of the King's house assemble, armed with cleverly-devised sieves, to sift the sands from the Shores and Banks of the streams which constitute the Sunetrat, the River of Campar; and they always find the gold mingled and mixed with the sand in their sieves; in this way the King obtains a great deal of gold in the form of powder, like grains of mustard or fish-scales.

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Gold in the shape of large fish-scales is recovered in the fields in the following manner:—

The King's Miners dig up the ground in the fields, and the earth therefrom is placed on tables in the sun to dry; after it has been dried by the heat of the sun, the gold appears in the cracks in the earth, which the miners crumble with their hands in order to separate the gold from it.

Andrigrui is also a Port for Gold and for large quantities of round Pepper, its position lies on the East coast of South Samatra, in about two degrees South, the branches of its own River join with the River of Campar, so that it is possible to take ship from one Port to the other along an inland waterway; gold is found by sifting the sand on the Banks of this river, as in Campar; furthermore, gold is found in the form of "*brinjal*"-pips in the plains of black soil.

Priamon is a port for gold; it lies situated on the Western coast of Southern Samatra, in one and a half degrees South; it is a Manancabo Kingdom which was forcibly incorporated in the Empire of Achem, and pays to the latter a tribute of gold from the Golden Region; with which it communicates by means of its abundant River, much frequented by boats of the Jaos who carry salt for sale, thus being the most valuable commodity in demand along the whole of that Western coast of Samatra.

Tico, also a Port for gold, lies on the Western coast of Southern Samatra in half a degree of South latitude. it also was forcibly incorporated in the Empire of Achem, and pays a tribute of gold from the Golden Region.

Barus is a Port not only for gold, but for a great quantity of Camphor, "*Bejrum*", "*Aguila*", "*Calamba*", Civet, Indigo and Ivory, besides some Cinnamon, Saffron, Ginger in great abundance, Cassia fistula, and Tamarinds its position lies on the Western coast of Northern Samatra, in one degree of North latitude.

Finally, gold is found in a number of lofty Islands which are situated in this sea off the Western coast of Samatra, as in the following cases:—

Antonio Rodrigues de Luna sailing in a Galliot of his along this opposite, or Western, coast of Samatra, met with a storm and put in to shore for shelter. there the Negroes sold him a little gold which they said came from their Islands which lay within sight of that opposite coast of Samatra, and were called "*Pulo Mas*", which is as much as to say "*Island of Gold*"

Antonio Dias Samatra, the Pilot who was called '*Samatra*' because he was the first Portuguese to navigate that Western coast of Taprobana, also asserts in his log-books and navigation-papers that on this coast he came across Negroes who offered to sell him gold from mines in some Islands of gold.

Diogo Gil and other Portuguese captured by the King of Achem assert the existence of a Golden Isle in the Sea off the Western coast of Samatra, opposite the point of Daya, since the inhabitants thereof brought gold for sale to the Port of Achem.

The Necoda Timanaïque of Masulepatan was driven by a storm from the point of Gale in Ceilan towards the Equinoctial line, where he visited an Island of gold, for on making the land he happened to find among the refuse in a furnace, which had fallen to pieces with the lapse of time, some bars or pieces of gold underneath at the bottom of the furnace; whereupon the Necoda wanted to re-fit the *Alfragata* (or *Guelue*) and *Lagucl* in the creek at Batecala.

The "*Xabandar*" of Muar showed me a little gold from some Islands situated in the sea near the Port of Priamon, and the Malay or Manancabo who found it told me he had been to this Island of gold: as proof of his statement, he said it was well supplied with short Palms which yielded small coco-nuts.

The King of the Maldivas, Dom Manoel, was told by his subjects, the Callôs, that they had discovered an Auriferous Island containing flat, sandy land, almost adjoining the Island Suadu.

A few pearls and large numbers of Seed-pearls are found on the shoals in the sea off Ujon, on the Western coast of Samatra.

Bencales is a small Port producing excellent shad-fish which yield the roes called "*Turubos*" of Bencales: here is the permanent residence of a "*Xabandar*" appointed by the King of Jor or Batusauar, for the place is annexed to his Royal Crown.

It is a peculiarity of the sea along this stretch of coast that the only fish which are found there are the shad-fish, whence they obtain the roes called "*Turubos*" of Bencales, which are usually sent for sale to the Port of Malaca.

Pedir is the most ancient sea-port in Samatra: hither was brought all the gold and ivory of the country, for the trade with the Port of Tanasorir or Tanasophir in the Golden Chersonese of Malaca.

Having now described the principal gold-mines of Taprobana and the Isles off the Western coast or opposite coast of Samatra, I will now mention the other especial products which are characteristic of this land, but my account will be a brief one, because the nature and constitution of the country is almost the same as in Malaca or the Peninsula.

This is apparent from the fact that the thick woods contain "*Agula*", "*Calamba*", Camphor, "*Bejuim*", a little Cinnamon, Indigo, Cassia fistula, a large quantity of Pepper, both round as well as large or long, besides a great deal of Aromatic "*Betre*" and "*Areca*" or Indian nut, Ginger, Tamarinds, Saffron, "*Cacumba*", and many Coco-nut palms and wild palms which produce the white "*Nipa*"-wines.

The forests and woods usually contain trees yielding oily Pitch, Gum, Resins, Medicinal Plants, and herbs of such power that the properties which they contain excite wonder and astonishment.

Moreover the island is well supplied with trees bearing tasty fruits, very similar to those of Malaca; and it also produces every

kind of grain, a great deal of "*Sagu*", tapioca, and an infinite quantity of Rice, Honey, Wax, Butter, Milk, Oils, Garlic and Onions.

The mountains and ridges are the home of numerous large elephants, Rhinoceroses or "*Badas*", "*Zibetas*" or Civet Cats, "*Arimou*" or "*Reimão*", many Porcupines, Deer or Stags, Hares, and countless breeding cows, besides a quantity of Buffaloes and wild Bulls, as well as great numbers of birds and fishes.

So Samatra is very rich and prolific in provisions and white "*Nipa*"-wines, above all, it is beautified with a number of different flowers and watered with excellent springs of pure water.

### GREATER JAVA.

Marco Paulo the Venetian in Book III Chapter XIII applies the name Greater Jaua to the Island which comprised the Empire of Mataron, while the Lesser Jaua, so he states in the same book, lies situated in twenty-four degrees of South latitude, in the Sea of Lantchidol or Southern Sea, and the unknown Ocean.

The statement is confirmed by Ludovico Vartomano in his writings and by many other Geographers, so Greater Jaua is an Island lying in the Sea of Lantchidol, its Northern coast being situated in seven degrees of South latitude and its Southern coast in ten degrees South. it runs rather from West to East, with more than a hundred and fifty leagues of coast-line, than from North to South, for its latitude covers not more than two degrees, which is equivalent to thirty-six leagues.

The Island is divided into many Provinces and Kingdoms, of which the principal ones are the following—Sunda Calapa, Cherebon, Brondon, Surubaia, Japara, Mandalique, Tuban, Pacaruan, Panaruca, Palimban, Balamboan, and finally Mataron which holds imperial sway over the whole of Greater Jaua.

The Empire of Mataron originated with Coja Baçar, the first Emperor, chosen in the Year 106, that is, later than the Empire of Samatra, though other Malaio annals state the contrary, alleging that the Empire of Mataron is more ancient than the Empire of Samatra, having been founded by Chiai Jauat, whence his subjects called themselves '*Jauas*', and the Island, too, obtained its name, '*Island of Jauat*'. I, also, am inclined to think that this must have been the case, for this Empire has always flourished and prospered exceedingly, and the succession has continued in the house and family of Chiai Jauat, down to the Emperor Tuan who now so happily fills the throne.

The people of Jaua usually call themselves '*Jaos*'; the colour of their skins is chestnut with a yellow tinge; they are of a fierce disposition, bold, daring, and careless of death; clever, skilful, with a mechanical turn of mind, and eager for any work which will bring them advantage and profit; they are merchants, great navigators, and hydrographers; moreover, they are fond of music, they go in for musical instruments, for balls and dances; they are also extremely

addicted to every form of luxury and pleasure, consequently, while they were Idolaters in olden times, they now profess the Maumethan or Serracian Creed.

The Land is most fertile, very luxuriant and fresh, one large orchard of thickly-growing, sweet-scented and aromatic trees, with fruits similar to those of Malaca or the Peninsula, and it is more abundantly provided with provisions, meat, fish, shell-fish, rice, grains, and medicines, than any other country in the Eastern Sea, for each year there arrive at the port of Malaca more than two hundred boats, which are called *Juncos* and *Tangões*, resembling *Alfragatas*, loaded with common rice, *pulot* rice, every kind of grain, ginger, garlic, onions, butter, oils, honey, wax, cassia fistula, a little cinnamon, tamarinds, coco-nuts, fowls, birds, saffron, "*cacumbas*", every kind of medicinal herb, large quantities of meat, and pickled and dried fish; lastly, they bring an enormous quantity of earthenware articles for daily use, a large number of mats, well-woven baskets, rather curious and pretty, as well as other valuable fancy-articles, besides many kinds of weapons, such as lances, darts, blow-pipes, and "*crises*" for sale, in addition, they bring large quantities of spices which they trade for other articles.

Panaruca is a Port for trade and commerce, the King of this Kingdom was on intimate terms with the Portuguese and very friendly towards them, he gave a general permission for the establishment of Christianity in his Territories, a start was made in the year 1580, when the Captain and Governor of Malaca was Dom João da Gama, by whose order and through the medium of Dom João Ribeiro Gaio. Bishop of Malaca, Churches were built and Crosses erected in the place allocated for the Settlement of the Christians, who were maintained in the Doctrine by the Capuchin Monks of Sam Francisco: this Christian settlement is now quite abolished and destroyed and entirely abandoned.

In the year 1593 there occurred in Panaruca an alarming incident which is worthy of remembrance it happened that up in the heights of the Mountains and lofty summits there was an eruption of some brim-stone mines, accompanied by so great a roar that all the people of Panaruca were utterly terrified; for, during a period of eight days, there occurred continuous rumblings like thunder, and flashes of fire were emitted from the Mountains called the "*Gunos*" of Panaruca, during the whole of those eight days it rained such a quantity of ashes, or rather I should say, so thick a sediment of ash fell from the air, that all the fields, streets, squares, public places, and roofs of the houses were so piled up with ash, that the people could not pass along the high-ways, moreover, the fact that the air was so thick and dust-laden or full of ash, caused such intense darkness and gloom that universal night seemed to prevail.

Sunda is a metropolitan sea-port for the trade and commerce of Jaua: and is, therefore, much frequented by merchants from Alexandria, Meca, Guzarata, Cambaya, Indostan, and China, as  
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well as by Malaios and other foreign peoples; so much so that, owing to the fame of its trade, Duke Mauricio of Holland despatched Cornelio de Ortiman with three Galleons and one Pinnace in order that he might establish trade with Sunda, should the three Galleons return with a cargo of spices to Port in Holland; they did in fact arrive in safety, during the year 1597.

Mataron is the Imperial Court of Java, its mountains and ranges are said to contain large Gold-mines; while in other parts of the Island extensive Mines of Sulphur, nitre, and several colours of different hues have been discovered.

Balambangan is said to be a very rich Kingdom, it lies on the opposite coast, that is, Southern Coast of Java, where an abundant River containing Precious Stones was discovered, it produces precious stones in such quantity and of such quality that it out-rivals every other mine, for the Precious Stones are measured out in measuring-jars, just as one measures wheat.

The Necoda Saraca brought a little gold from the mines of an Island which is situated off the Western Coast of Java; and it is certain that Gold exists in this Sea, because I have been assured by reliable people that these Islands contain Gold, which is taken therefrom to the Port of Sunda for sale.

Lesser Jaua Marco Paulo the Venetian in the book above-mentioned, and Lodovico Vartomano in his writings, assert the existence of the Lesser Jaua situated in the unknown Ocean, or the Sea of Lantchidol, which is properly called the South Sea, in twenty-four degrees of South latitude; this is confirmed by other geographers, the same thing is alleged by Petro Plancio and Baptista in their "*Orbes terrarum*", and Atlases of the world

The Lesser Jaua is divided into eight Kingdoms. the chief ones are Ferleche, Fansur, Basman, Lambri, and Samara, which they say contain many spices never seen in Europe, the People of Lesser Jaua are very fierce and utterly wild, so that the other Peoples of the surrounding Islands hold no intercourse with them for trade and commerce.

Borneo. Some Geographers have held that the Island of Bornea and the Lesser Jaua are identical, but Borneo fails to comply with all the conditions which Marco Paulo the Venetian mentions in Book III Chapter XIII, where he says that the natives of Lesser Jaua are people of such ferocity that on account of their natural inhumanity the other Nations hold no intercourse with them and do not communicate with them for purposes of trade and commerce, he also says that the Lesser Jaua contains an abundance of spices never seen in Europe.

This does not apply to Borneo, where the People are quite easy to deal with, and hold intercourse with all the other people of the surrounding Islands, moreover, it does not contain spices never seen in Europe; in fact, Borneo does not contain all the known spices, there is no Clove, Nutmeg, or Mace, though there is a large quantity of Camphor, "*Aguila*", "*Calamba*", "*Bejuim*", Mercury, Indigo,

and, generally speaking, the great majority of the productions which always occur in the Peninsula.

So quite clearly Borneo is not the Lesser Jaua. The Island of Borneo is situated exactly beneath the Equinoctial, in such a way that the Equinoctial divides it into two parts, that is to say, into a Northern and Southern part.

The Northern part extends from the Equinoctial until it ends in seven degrees of North latitude; the other, the Southern part, extends from the Equinoctial until it terminates in two degrees of South latitude.

So all the Northern part is called the Province of Borneo, and the other, the Southern part, is called the Province of Magermacen.

The people bear a physical resemblance to the Jaos and for this reason some Geographers have said that the Island of Borneo was the Lesser Jaua.

The Empire of Borneo originated with Chiaborne, the first Emperor, chosen in the year 1159, during the Pontificate of Alexandre the Third, and the succession has remained in the same house and Family down to Rajacapor, who rules at the present day, enjoying friendly trading-relations with the Spaniards of Manila, and the Portuguese of Malaca.

The Borneans bear a physical resemblance to the Malaios and have almost the same disposition, customs, clothes, arms, and religion, being Serracenos. The Trees and fruits resemble those of the Peninsula, though Borneo yields a greater quantity of Camphor, and a certain amount of Ambergris is found in the sea off the point of Saouzo.

The Land is auriferous, there being some Gold-mines in the high mountains called the "*Gunos-banuas*", where, they say, live certain white people, with long hair, who hold no communication with the other people of the Island, except on the occasion when they come down from the mountains to bring their gold for sale.

The Country contains large mines of Copper and Brass, as is well known from the trade in those metals.

Tanjonratos is a point of land in the Northern part of Bornea, situated on the West coast, in two degrees of North latitude; on the Shoals in the Sea off this point very large pearls are found almost the size of a bird's egg: these Pearls are produced in the interior of certain shells called "*Carran*", as large as an African shield.

Sucadana and Laue are two abundant Rivers in the Southern country of Borneo, wherein large quantities of Precious Stones are found.

Macaçar. The Island Macaçar lies situated exactly under the Equinoctial, in such a way that the Equinoctial divides it into two portions of land, that is to say, a Northern and a Southern portion; the Northern portion extends from the Equinoctial towards the Tramontane or North till it ends in one degree of North latitude; the other, Southern, portion extends from the Equinoctial to the

Auster or South until it ends in five degrees of South latitude: thus, this Island is divided into four large Provinces, namely, Macaçar, Boguis, Celebes and Lubos: the lands on the Western coast of the Island belong to the Crown of the Empire of Macaçar, those on the Eastern Coast to the Crown of Celebes, and those on the Southern Coast to the Crown of Lubos.

The seat of the Empire is on the coast of Macaçar: it was founded by Godinaro, the first Emperor, chosen in the year 1112, during the reign of King Dom Affonso, first King of Portugal, and in the Pontificate of Pascoal the Second: the succession has always remained in the same family down to Laujanribot, the present ruler, who is the son of King Dom João of Macaçar.

This Emperor Dom João of Macaçar was baptized by the Reverend Father Vicente Viegas, Vicar-General and Chanter of the Mother See of Malaca, in the year 1555, during the Pontificate of Paulo the First, João de Eredia, my Father, being his Godfather: owing to our negligence it came to pass that he grew cold in the Catholic Faith, so that at the present day he and all his descendants profess the Maumethan Creed

Lubo is a powerful Kingdom of great wealth, for to this Port come certain chestnut-coloured people with long hair and no clothes, they arrive in small boats and bring Gold for sale, this gold, which they wrap in the leaves of trees, takes the form of red stones; nobody knows which Island is the homeland of these people. The Captain of Maluco, Diogo Dazambuja, received information about the matter and formed the intention of discovering this Gold

Regarding this King of Lubo they relate an unprecedented marvel which is worth recording, namely that unlike all other animals which in general are red-blooded, he has no red blood in his composition: this is really an actual fact, and is worthy of record because it is something new which has never before been seen, and it ought therefore to cause wonder and astonishment: such is the statement made by Persons of credit and authority, for instance Antonio Vilhegas, Captain of Solor, who heard it from the people of Lubo, and especially from a certain "*Necoda*" who derived his knowledge from actual observation, for he with his own eyes saw the King of Lubo's white blood, when the latter cut and wounded himself with a knife as he took an oath according to his custom, this is all quite well-known to every one of the Macaçares. They say, too, that the King of Guarale in Timor, and the King of Botum have white blood.

Mandar is a Port for the trade in Tortoise-shell. this is found in the sea off the coast in such quantities that the shells or plates form the cargoes of the "*Tangôes*" of the Jaos who trade with Malaca. tortoise-shell also occurs in the Ports of Mamoio and Curicuri, which are situated on the Western coast of Macaçar.

The Land is auriferous, for the natives declare that Gold-mines exist in the ranges and mountains of Boguir. One also finds

large mines of Copper and Brass in the high cliffs, a quantity of "Tambaga" in the fields, and above all a great deal of sulphur, nitre, and other minerals.

On the Shoals in the Sea around this Island are found many Seed-pearls, besides Pearls as big as a bird's egg, which are produced in the interior of Shells called "Caran" which are as large as a Shield.

In the Sea off this Island one usually finds a quantity of big Coral, red, yellow, white, and black, which is washed ashore by storms; in addition, one finds ambergris, for I knew a merchant who bought twelve cruzados of Ambergris which the Negroes sold him in return for Pitch, and later on he sold it to the Chelis Contractors for twelve thousand cruzados.

As the Fruits and also the Medicinal Plants and Provisions are similar to those of the Peninsula, and as the physical appearance of the People, their Arms and their Dress are the same, I need not dwell on them further.

Philippines. Fernão de Magalhães discovered these Islands, at any rate the Island called Cebu, where he died in the year 1521.

These islands are numerous, as may be seen from the fact that they extend from seven degrees of North latitude to twenty degrees, the largest are Mindanao and Luconia, where large Gold-mines occur, this is the reason why they were conquered by the Spaniards by Order of the King Dom Philippe, in honour of whom they were called 'the Philippines'.

Laquias. The Commentaries of Affonso Dalbuquerque mention these Laquias Islands, in consequence of their containing many Gold-mines, for the lumps and blocks of Gold, which the people of Gorea or Corea brought for sale at the Port of Malaca, consisted of gold from these Islands, which are called the Laquias, Major and Minor.

Laquia Major is situated in twenty-seven degrees of North latitude.

Laquia Minor is situated in twenty-two degrees of North latitude.

Japon. The Blessed Father Francis Xavier of the Company of Jesus was the first to make the Evangelical Faith known to the Japões.

The Japanas Islands are numerous: the chief of them are called Japon or Meaco, Xima, and Xicoca.

The seat of the Empire is in Meaco, in the largest Island, which is properly called Japon, here very extensive silver-mines occur on the Northern coast of the island: the latitude of the Island begins in twenty-eight degrees and terminates in thirty-nine degrees of North latitude.

Maluco. Affonso Dalbuquerque after conquering the Province of Malaca, gave orders that Antonio de Abreu the Cosmographer should be provided with three Alfragatas well supplied with men, arms, munitions and provisions, so that he might proceed with all

despatch from the Port of Malaca to the Eastern Sea or Great Gulf, to discover the famous Malucas Islands; he discovered them all and took possession of them in the name of the King Dom Manoel of Portugal on the twenty-fifth of April, 1503: so for the first time does history record that the cloves of Maluco came within the dominion and jurisdiction of the Crown of Portugal.

Now Fernão de Magalhães reached the Port of Maluco, as he had promised the Emperor he would, by sailing through his Magalanic Strait (the strait which he had himself discovered in a latitude of fifty-five degrees South) and through the Western Sea, that is to say, his ship called the 'Vitoria', with Sebastião Delcano on board, reached the Port of Tidore in the year 1521: but this voyage did not affect the ancient dominion of the Portuguese, which was anterior to that of Spain, as can be seen from the many Engravings cut by Antonio d'Abreu on the Cliffs and Rocks of Maluco, representing the happy Arms of the Crown of Portugal: this occurred nineteen years before Magalhães discovered the Strait which bears his name and reached the Port of Tidore in the name of the Emperor

So that by the law of priority the dominion of Portugal takes precedence. and, what is even stronger, in consequence of the order made by Pope Alexandre the Sixth in the year 1493, Maluco was included in the territory and jurisdiction of the Crown of Portugal; for Alexandre the Sixth, in view of the disputes between these two powerful Kingdoms, gave the following order

"Limitem statuumus Meridianum circulum 100 leucis distantem a qualibet Insularum capitis viridis et earum quas vocent Assores".

That is to say "We fix the Meridional Circle, that it be a line 100 leagues distant from and West of one of the Islands of Cape Verde or of the Assores". To explain more fully, it must be understood that the terrestrial World as a whole is divided into three hundred and sixty degrees, so it is one half of this, one hundred and eighty degrees, which represents the portion allocated to each of the Crowns.

Hence the one hundred and eighty degrees to the West belong to the Crown of Castile and the one hundred and eighty degrees to the East belong to the Crown of Portugal. So that if ever a few degrees were to be subtracted from the one hundred and eighty degrees to the West, exactly the same number should be subtracted from the one hundred and eighty degrees to the East, in order always to equalize the portion of each of the Crowns: for this reason the fixing of the Meridian is of great importance, since the greater the distance from Cape Verde, the worse it is for the Portion of the Portuguese

The Spaniards, however, being dissatisfied with this division made by Alexandre the Sixth induced the Portuguese to come to their way of thinking: so these and other discontented parties

agreed to the following final decision ordained by Pope Clemente the Seventh in the year 1524.—

“*Constitutus est communis limes Meridianus 370 leucis in occasum distans ab Insula S. Antonii Insularum Capitis viridis occidentissima*”; which is as much as to say.—“A fixed Meridian is prescribed, 370 leagues to the West of and distant from the Island of Santo Antonio, which is the most Westerly of the Cape Verde Islands”.

In this way, the above-mentioned three hundred and seventy leagues, representing twenty-two degrees of Western latitude, commenced further West than the first Meridian as prescribed by Alexandre the Sixth in the year 1493, running through the Point constituted by the Island of Santiago or São Nicoláo or São Vicente.

It must be understood that each degree is seventeen and a half Spanish leagues, which represents thirty-five leagues for each two degrees and seventy leagues for each four degrees.

Hence the distance between the meridional Point on the land of Cape Verde and this Meridian of Clemente the Seventh comprises some thirty degrees of longitude according to geographical or hydrographical computation, which represents five hundred and twenty-five leagues and makes two hours difference in time, allowing two hundred and sixty-two and a half leagues for each hour.

But even if one should seek precisely to determine the exact position of the one hundred and eighty degrees of longitude which belong to the portion of the Crown of Portugal, it is quite impossible to determine the exact calculation of these degrees in the territories belonging to Spain, because in those places it could not be calculated even by mathematical theorems. The only way would be for some learned Cosmographer to go to the Island of Maluco itself, and from the Vertical and Meridian thereof, observe some Eclipse, solar or lunar so that from the difference in the hours of time at the position of Maluco and at the Cape Verde Islands respectively he could completely and accurately determine the portion of Portugal.

For if the difference in the hours of time were less than twelve hours, or were the exact twelve corresponding to the one hundred and eighty degrees, it certainly falls within the portion of the Portuguese; but if it turned out that the difference in the hours of time were more than twelve hours, it clearly belongs to the Crown of Castile, according to the order made by Pope Alexandre the Sixth.

This could also be determined by the New Art of Navigation from East to West, by the mechanical calculation of the hours with a clock worked by wheels. But it cannot be determined in the way in which all the Cosmographers pretend to fix the position of the line determining the one hundred and eighty degrees, in order not to displease the Christian Princes, what is more, even if it turns out that Castile possesses any right to the clove, yet Maluco be-

longs to the Portuguese by reason of the Gift made by the King of Castile to the Crown of Portugal.

The Malucas Islands consist of Ternate, Tidore, Motir, Machian, and Bachan; these are quite small but they adjoin another bigger Island called Gilolo, which is situated immediately below the Equinoctial; this is conspicuous for four Points or Promontories of land, running out from West to East in such a position that the most Northerly Point, called the coast of Moro, is situated in two and a half degrees of North latitude, the second Point lies in one degree of North latitude, the third Point runs exactly along the Equinoctial, while the fourth and last is situated in one degree of South latitude.

The forests and woods or groves of all these Malucas Islands contain the aromatic trees of the precious Clove so highly esteemed throughout the whole World, especially by the peoples of Europe, whose Kings have ever sought this Jewel for their Crowns, despatching discoverers to trace fresh routes to the Malucas Islands, which yield such stocks of Clove that they provide cargoes not only for the trading Galleons of the Portuguese, but also for the numerous Alfragatas of the Spaniards, and for the Guelues of the Moros of Meca and Alexandria.

The Clove resembles the laurel, but it has narrower leaves, produces numerous branches and a great quantity of flowers, which are first of all white, then green, next red, and finally, when dried, become black; the Cloves grow in bunches in the branches. the flowers, when green, surpass all other flowers for sweetness of scent.

Ternate is one of the Malucas Islands and the chief of them, it was conquered by force of arms, and that is the reason why at the present day it is heavily fortified with walls and bastions of stone and mortar, with numerous bronze cannon, arms, munitions, provisions, and men necessary for its defence, under a Nobleman, His Majesty's Captain.

The native people of this Island and of the other Malucas Islands resemble Jaos coloured black, and they employ the same weapons, except that they carry a round shield, as tall as a man, which is properly called a "*Solauaco*", and a sword five fingers wide and single-edged, which is called a "*Tagole*".

For the rest, things are the same as in the Peninsula, so I need not dilate on them.

Carbuncles. The Emperor Dom Carlos the Fifth despatched a powerful fleet of Galleons and Alfragatas with a large number of Spaniards under Captain Morones to proceed by way of the Magalanic Strait to conquer Lucões, but that famous Captain Gonçalo Pereira Marramaque, the General commanding in the seas surrounding the Malucas Islands, determined to frustrate this design because of the spices.

For the better success of his plan, the General set out from the Port of Ternate with his whole fleet in search of the Spaniards,

but when he had proceeded as far as Ciaos Islands, he met with a storm which totally scattered his fleet, so that while the General returned to Ternate, one of the Galliot's which had accompanied him was carried away by the currents off the coast of Moro and discovered an Island situated in the sea off the Eastern coast of Gilolo, where the Galliot put in for water.

The people of this Island understood the language of Gilolo, and they related many things about these Islands and the other surrounding Islands to the Captain of the Galliot, and in particular the following story, which is told in several different ways but the best account is this:—While some Fishermen from the Island of the watering-place were engaged in fishing, they met with a large wooden Raft, which the current was carrying across the sea; wishing to know what was the matter, the Fishermen came up to this Raft, and on the top of it they found four naked blackmen, who resembled the people of Gilolo in appearance.

Not understanding their strange language very well, the fishermen brought them to land and made them very welcome there.

As soon as they felt at home and understood the language of the Island of the watering-place, the strangers frankly related how they were natives of another inhabited Island, and how the currents of a river had carried them away from land, till they had drifted for three days before being found by the Fishermen from the Island of the watering-place. And they maintained with great insistence that in their native Island they did not use fire-light, but for purpose of illumination at night they used the light of certain luminous stones obtained from animals called "*Lacocachos*", which were so numerous that the majority of the people usually possessed a luminous stone or Carbuncular stone to use for the purpose of illumination at night.

These people live in the tops of trees growing in the streams they eat fish, and a great deal of shell-fish, toasted or dried by the heat of the sun, also yams, and Fruits, they cover themselves with the bark of trees; this bark, when dried, they pound with smooth stones till the pounded bark takes the appearance of coarse cloth or dimity. The truth of this matter is proved by a Letter from General Gonçalo Pereira Marramaque to Dom Leonis Pereira, Captain and Governor of Malaca, giving an account of the expedition which he undertook against the Fleet of Captain Alorones: the Letter was seen by several Persons of credit and authority, especially João Serrano de Negreiros, Notary of the Council at the City of Malaca.

The matter is confirmed by Antonio Ribeiro de Basto, a Member of the Council and the principal Executor of the aforesaid Captain Marramaque who died before effecting the discovery of the Carbuncular Island.

Hence one may feel certain about the existence of this Island with its luminous stones, for it is certified in this manner by

Captain Gonçalo Pereira Marramaque and confirmed by the actual Kings of Ternate and Tidore, who conversed with the Person who saw the carbuncle stones and knew the animal "*Lacocacho*", which resembles a "*Zibeta*" or Civet-cat; all this is common knowledge throughout all the Province of Maluco, as the Captains of Ternate could say.

The Oriental Carbuncle is a luminous stone, the shape of a Bird's egg, found in the forehead of the animal called "*Lacocacho*", which in appearance closely resembles the "*Zibeta*" or Civet-cat; its colour is chestnut, or tinged with dark yellow, these "*Lacocachos*" are usually found hidden in hollows during the day-time, while at night they come out to look for food.

The Carbuncular Island is situated in the sea off the Eastern coast of Gilolo and not far from the land, for it is said that in fine weather the land of the Carbuncular Island can be seen from the Mountains of Gilolo, so it must be exactly on the Equinoctial, or very close to it.

On this subject a great deal might be written, but the gist of it all consists in saying that there could be no finer discovery in the World than the discovery of the Carbuncle

*Banda Banda* is a small Island situated in five degrees South latitude, throughout the Island the land is aromatic, for the trees bear Mace and Nutmegs, spices highly esteemed throughout the World

The Mace tree resembles the Peach tree, but has very short round leaves; the fruit is covered with a thick skin which opens as it ripens, and through the leaf-covered skin is revealed the Nutmeg, which at first is red like a Pomegranate, a beautiful sight, but as the nut gradually dries, the red colour fades, and turns to orange.

The Bandanese are Maumethanos, and therefore show greater favours to the Idolatrous Merchants and Serracenos than to the Christians and Portuguese.

*Ceyran*. The Island of *Ceyran* is situated in four degrees of South latitude, it has always remained outside the pale of Portuguese trade though much frequented by Jáos Merchants, who declare that it contains much Mace and Nutmeg, and they also assert that it contains people with large ears, like elephants' ears, and certain other monsters; as described by Pliny in Book VII of his Natural History.

*Amboyno*. This is another small Island situated in four and a half degrees of South latitude: it was conquered by the Portuguese, who built there the Fortress of stone and mortar, well furnished with artillery, arms, ammunition, provisions, and men necessary for its defence, under a Nobleman, His Majesty's Captain.

*Solor* is another small Island situated in eight degrees of South latitude: although long ago inhabited by Idolaters, it is now inhabited by Christians converted by the Predicant Friars of São

Domingos, who built there a Fortress wherein resides His Majesty's Captain. The land contains sulphur-ores and saltpetre

Bima is an Island situated in eight degrees of South latitude; it produces large numbers of breeding horses and a great quantity of Cinnamon, also some white Sandal-wood and immense amounts of sappan or Brazil wood. The land contains sulphur-ores and saltpetre.

Ende. The Island of Ende is situated in nine degrees of South latitude; Christianity has been established there through the Predicant Friars of São Domingos, and therefore Churches and Holy Temples have been built there. The land produces much Cinnamon and a quantity of meat-foods, fish, rice, and grains, which could support a large population, it yields, moreover, some white sandal-wood and a great deal of sulphur and saltpetre.

Bale is a small Island situated in the South Sea, in eight degrees of South latitude, between the Eastern coast of Java (the Balanbuan district) and Abima, and lies almost in the middle of the gulf, which is called the Gulf of Bale, through which the English or Hollanders usually sail when they are seeking for spices. The King of the Island is called Rajagaa, he is descended from the Royal Family of Balambuan; so far he has carried on little trade and commerce with the Portuguese, confining all his favours to the English and Serracenos or Moros from Meca, being himself a Maumethano

The King of Bale might be called exceedingly happy and fortunate, for he deserves to be designated the Lord of the luminous Greyhound or the Dog of the Carbuncles, wherewith he might excite the great envy of all the Princes in the world. The luminous Greyhound or Dog of the Carbuncles, called 'Balangangan' because it was born at Balangangan, the land of Precious Stones, resembled in appearance a great black shaggy Dog, it had four eyes, I mean to say that besides its two natural eyes with which it saw, it had in addition in its forehead two other eyes resembling stones; these shone with light so brightly that they lit up the King's houses, as though the light came from two brands or torches, so that the light from the stones rendered candle-lights unnecessary at night. This is certified with great insistence by a Christian, called Paulo of Bale, who was a page of the aforesaid King, and guardian or feeder of the aforesaid Dog of the Carbuncles, which was fastened round the neck with a thick chain of gold; the account is also certified by other persons, who found themselves at that Court in the year 1580

Timor. The Island of Timora is Gold-bearing Land, situated in nine degrees of South latitude: it is one of the finest and most prosperous of all the Islands in the Eastern Sea, for besides containing a great quantity of white sandal-wood, tortoiseshell, wax, honey, white and red cotton, fruits, and provisions, such as meats, fishes, shell-fish, rice, grains of every sort, and many plants

and medicines, it also has as its greatest asset many mines of Gold, "*Tambaga suaca*".

The Empire of this Island is divided into two parts, that is to say, North and South; the part along the Southern coast belongs to the Imperial Crown of Camanaça.

The Ports for sandal-wood on the Northern coast, called the inner coast of Timor, are Mena, Ceruião, Assan, Batigude and Adem.

The Ports for sandal-wood on the Southern coast, called the outer coast of Timor, are Camanaça, Boro, Serrin, Samoro, Fotere, Limomaçin, Batamean and Amenaban.

Tibar is a Port on the Northern coast, it supplies a large quantity of wax and honey, which could provide cargoes for several Alfragatas.

Macalere is another Port on the Southern coast, where there are found an infinite number of tortoises, which could provide cargoes for the Alfragatas

Boulo is a Town in Timor in the lands of its Territory and in the lands of Dalui and Macadiche grow many trees of red Cotton, almost the colour of pomegranate, which serves for the manufacture of red cloth in these territories.

Adem is a Port on the South coast, where they have discovered some mines of "*tambaga suaca*" which forms in cracks in the soil, like columns of stone

Tutuluro is a Town in the Province of Samoro, so too is Fatoboia, where they discovered that most successful Gold-mine, which resembles a lofty Rock, according to João Baptista de la Bera Cruz, who asserts that he saw the Gold at quite close quarters when the King of Samoro visited the Mine of Gold, which glistened when the rays of the sun fell on it

Here rises a perennial spring or stream of water which leads down to the Ports of Serrin and Tirismatauay, this stream is called the River of Gold; and it was here that the same João Baptista and Domingos de Torres stood picking out the Gold with their own hands, so there can be no doubt as to the reality of the gold.

Besides the Empires, there are in the Island of Timor many powerful Kings who have amassed a great deal of Gold, both by means of trade and commerce in sandal-wood, and by means of Auriferous mines: hence all of them possess, as a rule, great riches in the shape of gold, Silver, and Precious Stones

The Emperor of Mena and the King of Luca became Christians, being baptized by the Predicant Fathers of São Domingos and owing to the neglect of the latter, they turned Moros or Idolaters, as they always had been.

The Island of Gold The Lamacheres Fishermen of the Island of Solor, while engaged in their fishing, were caught in a storm so fierce that they were quite unable to return to land, so they yielded to the force of the storm, which was such that in five days it carried them to the Island of Gold, which is situated in the Sea off the opposite or outer coast of Timor, which is properly called the Southern coast.

And so the Fishermen reached the land of Gold and attempted to find food, as they had eaten nothing during the period of the storm. They enjoyed such excellent good fortune that while they were raking the earth in search of Yams and Potatoes, they found so much Gold that they filled their Boat until it could carry no more cargo.

After taking in water and provisions necessary for the return journey to their native Country, they waited for another storm in the opposite direction, and when the storm came they went from the said Island of Gold until they reached the Island of Ende Grande, where they discharged all their Gold, much to the envy of the Endes.

In consequence, these same Endes and the Lamacheres Fishermen determined to repeat the voyage, and when they were all about to set out both the Endes and the Lamacheres were overtaken by a fear so great that they did not dare, owing to ignorance, to cross the Sea of Gold.

And it may well seem that Almighty God desires to entrust this work to Manoel Godinho de Eredia, the Cosmographer, by Order of the most happy Lord Count Admiral, Viceroy of India intra-and extra-Ganges, that the said Eredia may be the instrument of effecting an increase in the new Patrimonies of the Crown of Portugal, and of enriching the said Lord Count and the Lusitanian Nation.

All men, therefore, should recognize with gratitude this notable service, not least the said Lord, since if it is successful it will deserve to be regarded as one of the happiest and most fortunate events in the world, for the glory of Portugal.

Hence, in any event, the Discoverer ought, for many reasons, to be well equipped for the expedition in search of Gold.

First: because of being the first to obtain the Gold for the Crown of Portugal.

Secondly: because of facilitating the discovery of Gold.

Thirdly: because the Gold-Mines are the largest in the world.

Fourthly: because the Discoverer is a learned Cosmographer.

Fifthly: because of examining the descriptions of the Austral Islands on the way.

Sixthly: because of the new Christianity.

Seventhly: because the Discoverer is a wise Captain, who essays to render very great services to the King of Portugal and to the most happy Dom Francisco da Gama, Count of Vidigueira, Admiral, and Viceroy of the Indias intra-and extra-Ganges, and Lord of the Gold, Carbuncle, and Spices in Portugal's Eastern Sea.

2 A letter. 1599.

(Cf. pp. 280 and 286 *infra*)

While professing no knowledge of Portuguese history, the translator thinks it reasonably certain that the clue to the date and circumstances of this letter is to be found in the following passage 1930] *Royal Asiatic Society*.

of Couto (*Decada*. XII. Bk. III. Ch. X):—

“By this fleet there came news to the Count Viceroy of the death of his son D. Vasco, which he felt much, having no other.”

The fleet reached Goa in 1599.

(*The Travels of Pedro Teixeira*. (*Hakluyt Society*: 1892) p. lxxxiv).

The letter, then, would be written by Eredia to the Viceroy, Francisco da Gama, in 1599.

The British Museum has a Photolithograph of the original: Manuscript Room, No. 29,300 h. It bears a MS note “Presented by the Duke of Saldanha, Portuguese Ambassador, 18 Mar. 1875.”

It also bears two printed endorsements:—

- (1) “O original autographo existe no arquivo da Torre do Trombo” [*i.e.* the Repository of the Archives at Lisbon].
- (2) “Portugal. Secção photographica Photolithographia Novembro de 1874”

A facsimile of the letter, with a French translation, will be found in Janssen's *Malaca, l'Inde Méridionale et le Cathay*.

Your Lordship,

On the arrival of the ships they informed me that Your Lordship had some sad news, and therefore as a loyal servant I hastened at once to the Palace here, to express my sorrow at the death of Dom Vasco de Gama, whom God has taken to his eternal glory; often though I presented myself, I could not obtain admittance, since Your Lordship was in complete seclusion and retirement, as was natural. However, I wish Your Lordship all the happiness and prosperity which you have in the past enjoyed or which you yourself have desired. I myself have seen what I had hoped would eventuate, ships arriving from Portugal after a prosperous voyage, bringing men who would be here in good time for the expedition in search of gold.

And as the expedition is more Your Lordship's than mine, I scarcely think it necessary to remind you that it is the 13th of September which is the most favourable time both for undertaking the voyage to Malaca and also for concentrating on the business of discovery; Your Lordship is well aware of this and is provided with the necessary information on all points; such being the case, I have been making such preparations as the main requirements demanded.

For once it is understood that the search for gold is decided upon, I can undertake to make the necessary provision, and should I prove to have omitted anything, it will suffice to give an authoritative direction. But I cannot refrain from reminding Your Lordship that the achievement of our object, the discovery of gold, is intimately connected with our understanding the recurrence of the seasons in the Sea of Gold, and this implies understanding the consecutive changes in weather which is as severe as in any part of the world. To be more explicit, it should be realized that in the

aid Sea of Gold winter storms occur from March until July, and that, if I can take sufficient advantage of the September monsoon, I can stay at Malaca during the whole of November, make the voyage as far as Solor during December and then set out in January for Tymor or Ende or Sabbo, I can spend the winter at some of these islands and there obtain better information regarding the gold, then during August or September in the name of Almighty God I can undertake the discovery of the happy Island of Gold

While, if I should take advantage of the April monsoon, then it would be necessary for me to stay at Malaca during June, July, August, September, October, and November, and leave for Solor in December.

This then is the manner in which I can render further service to God and the Kingdom of Portugal and Your Lordship, for I wish to be nothing more than Your Lordship's servant and an instrument for effecting the discovery of the gold, my conscience ever goads me to undertake this discovery, for God favours me in this enterprise, and therefore I pray Your Lordship will enable me to fix my mind's eye on the mirror of this splendid achievement, relying therein on Your Lordship's powerful assistance.

May Almighty God guard you with health and life to be the protection of this Oriental India and its States.

#### EMANUEL GODINHO DE EREDIA.

#### 3 History of the Martyrdom of Luiz Monteiro Coutinho: 1615.

According to Machado, the martyrdom took place in 1588, on the order of 'Raiamancor', King of Achem, and the book was dedicated to the most illustrious D. Aleixo de Menezes, Archbishop of Braga, the dedication being dated at Goa the 11th November, 1615 the book consisted of manuscript folios with various illustrations.

This work seems to have disappeared without trace

#### 4. TREATISE ON OPHIR 1616.

The original MS of this work, entitled TRATADO OPHIRICO is in the Bibliothèque Nationale, Paris No Suppl. 4567: it consists of 65 folios, with maps and illustrations

Included at the end of the TREATISE itself are two interesting documents, entitled respectively "REPORT ON MERIDIONAL INDIA, Discovered by M. G. De Heredia in the year 1610", and "SUMMARY OF THE LIFE OF MANUEL GODINHO DE HEREDIA."

Photographic reproductions of the folios comprising this treatise have been presented to the Selangor Museum by Sir W. George Maxwell, K.B.E., C.M.G.

So far as is known, no transcription or translation of this work has been published. There follows an English translation of the

Chapter-headings in the TREATISE, and a rendering of the REPORT and the SUMMARY.

TREATISE ON OPHIR  
COMPOSED  
BY MANUEL GODINHO  
DE EREDIA, MATHEMATICIAN,  
ADDRESSED  
TO DOM PHILIPPE KING OF SPAIN  
OUR LORD  
IN THE YEAR 1616.

FIRST PART  
CONCERNING  
THE DISTRICTS OF  
THARSIS AND OPHIR  
IN  
THE ANCIENT WORLD.

- CHAPTER 1. Concerning the division of the Ancient World.  
CHAPTER 2. Concerning the scanty knowledge of other Worlds.  
CHAPTER 3. Concerning Tharsis.  
CHAPTER 4. Concerning Ophir  
CHAPTER 5. Concerning the Asiatic Indias in general  
CHAPTER 6. Concerning India Major in Ophir  
CHAPTER 7. Concerning India Minor in Ophir.  
CHAPTER 8. Concerning the terrestrial Paradise.  
CHAPTER 9. Concerning the Inferno in the centre of the world.  
CHAPTER 10. Concerning the Golden region  
CHAPTER 11. Concerning the Kingdom of Siam.

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SECOND PART  
CONCERNING  
THE VOYAGES  
OF  
SOLOMON.

- CHAPTER 1. Concerning the voyages of Solomon.  
CHAPTER 2. Concerning Solomon's fleet.  
CHAPTER 3. Concerning Solomon's ports.  
CHAPTER 4. Concerning opinions about Ophir.  
CHAPTER 5. Concerning Serica or Attâ  
CHAPTER 6. Concerning Sim and Mansim.  
CHAPTER 7. Concerning the resemblance between the Sinas and  
the Phoenicians.  
CHAPTER 8. Concerning the Scyths.  
CHAPTER 9. Concerning the Kingdom of the Tartars.  
CHAPTER 10. Concerning Christianity in Attay.

THIRD PART  
CONCERNING  
THE REIGION OF  
ARSARETH,  
TARTARIA.

- CHAPTER 1. Concerning the captivity of Hosea, King of Samaria.
- CHAPTER 2. Concerning the River Euphrates.
- CHAPTER 3. Concerning the journey to Arsareth.
- CHAPTER 4. Concerning the region of Arsareth.
- CHAPTER 5. Concerning Astratan
- CHAPTER 6. Concerning Turcastan or Turan or Turca
- CHAPTER 7. Concerning Persia or Pharsis.
- CHAPTER 8. Concerning Indostan or Mogor
- CHAPTER 9. Concerning Gozarathe
- CHAPTER 10. Concerning Tartaria
- CHAPTER 11. Concerning the Caspian Sea.

**REPORT ON MERIDIONAL INDIA.**  
**Discovered By M. G. De Heredia**  
**in the year 1610.**

REPORT ON MERIDIONAL INDIA.

Meridional India comprises the continental land of Lucach which reaches Southwards beyond the Tropic of Capricorn and beyond the Antaictic Circle as far as the Pole, and from there extends as far as the land of Parrots, the region of Pithacoru: it includes the Java major wherein Beach is situated or Luca Antara, and the Java minor which yields spices, and other neighbouring islands such as Petan, Necuran, and Agania, all prolific in riches and gold and other metals and minerals, as well as clove, nutmegs, white and red sandalwood, and the herb "*birco*", besides other Aromatics, as is noted by Marco Polo the Venetian who speaks as an eye-witness, for he resided for some time in those Southern parts, especially in Java minor, as he sets out in his Book 3 chapter 13.

It is worthy of remark that in the year 1269—in the time of Pope Clemente the Fourth and Gregorio the Tenth, while Dom Affonso the Third was King of Portugal—, 231 years before the Discovery of the Oriental Indias, Marco Polo the Venetian (son of Nicolao Polo, a merchant engaged in the Constantinople trade) wishing to see the world in his father's company, set out from

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Venice; going from Constantinople by the road through Persia and Samarcad or Turcastan, and the Desert of Lop, he passed to the Province of Cathay, Court of the Emperor Cublay or the Gram Cam; thence he crossed to China Mangin, corruptly Namquim, and at the Port of Quinsay, Chinsaõ or Chincheo, he embarked in a Junk or Lorcha for a port in Bantan or Sunda (in Java wherein Mataron is situated); thence through the bay and canals of Bale, by certain Islands Sondur and Condor, he passed to the Southern Sea, and reached Java major containing Beach or Veach, land of gold, where this mineral abounded; and after leaving to Westward the shoal of Maletur with its traffic in spices, he passed to the South to the Island of Petan, whence he crossed to Java minor, prolific in Aromatics and spices.

Java minor with its spices was in ancient times the chief emporium of the South for the trade in spices and Aromatics and other riches it was for a cargo of spices that Marco Polo the Venetian Merchant sailed to those parts, he found a great volume of trade in all those Ports of Ferlech, Dragoian, Lambri, Fanfur, Basma, and Samara, passing to Constantinople by way of the Red Sea

Java major containing Beach in ancient days exported gold, it was because the country was so rich in gold that it was called Veach among the native Jaos who inhabited those Islands, a most savage and decadent race, who recovered a great quantity of gold in the Gravel or lumps of Earth

Ptolemy calls this Java major "Javadi or Javadiva, land of gold", as he shows in Table 12

This Java major was reached by Francisco de Rezende of Malaca in a junk driven out of its course from Timor; the Jaos of the country would not allow the people from Malaca to land, and they recovered some gold on the shore in water up to their waists judging by a native boat which was carried away from land and came to shore at Balambuan in our Java (containing Mataron and Bantaõ and Sunda), we think that this was the Java major or Luca Antara discovered in the year 1601

Necuram and Agania abound in cloves, mace, nutmegs, sandalwoods, and all kinds of Atomic spices, in addition to the herb "*birco*"

Petan, with many woods of clove-trees, appears to be uninhabited for a boat from China, belonging to Macao, after loading a cargo in Timor, reached this island in calm weather, landing at a part where they found no people, they obtained water, also fuel from the woods of clove-trees

Luca Piatto was in ancient times inhabited by a civilized race, as is shown by the buildings of elegant construction, with towers, walls, and houses of brick and stone, its many towns have no inhabitants, being entirely depopulated, either from pestilence or from some flood, this account was given by a boat which was carried out of its course from Timor.

Luca Tambini, another Island, is inhabited by women, like Amazons, with bows and arrows on horseback. there are no men. this was observed by the occupants of a boat which was carried out of its course from Timor.

It is worth noting that the inhabitants of Java major and Java minor and the other surrounding Islands, Necuran, Agania. Petan, Condur and Sondor are savage Jaos. all the people are Idolaters, though Mouros were found at Ferlech in the year 1269.

The countries of Java major and Java minor produce a great quantity of gold and metals and minerals, clove, mace, nutmegs, sandalwoods, the herb "*burco*", and ivory; they contain elephants, rhinoceroses or "*badas*" and many animals and birds, rare and valuable, as well as all kinds of provisions

Chiay Masiuro, King of Damut, Prince that he was, wished to make an expedition in order to explore this Meridional India, he embarked with some subjects and sailors in a boat called a "*carlus*" propelled by oar and sail, supplied with necessaries, and set out from Balambuan towards the South. after a voyage of 12 days' duration, he arrived at Luca Antara or Java major, an island of 600 Spanish leagues in circumference; here the said Chiay Masiuro was well-received and entertained by the "*Xebandar*" or Governor, for the King of Luca Antara had gone by river up-country to his country-seat, Chiay Masiuro enjoyed the freshness of the country and its delights, and noted the richness and abundance of this region, where he saw much gold, clove, mace, nutmegs, sandalwoods, and other spices and aromatics and riches

After taking samples of everything, he embarked by permission of the King of Luca Antara and his "*Xalondar*" and Governor who by way of a present for the journey gave him two handfulls of coins

Running for 6 days before the monsoon wind from the South, he arrived back at the port of Balambuan in Java (wherein Bantan and Sunda are situated) in the presence of certain Portuguese, all the merchants there believed the account of his journey.

After hearing this account, the "*Descobridor*" Manuel Godinho de Heredia gave secret instructions to a servant of his to go, disguised and unknown, to Java (containing Mataron, Bantan and Sunda) to acquire more accurate information about this expedition on the opposite or Southern coast of Java in the great bay of the Fishermen, this servant joined the fishermen and crossed in 6 days to the coast of Luca Antara.

After noting its richness and satisfying himself as to the existence of this Meridional India, he returned to the bay of the Fishermen, and then gave information about his enterprise in the year 1610.

*Letter of Advice to the Descubridor regarding the enterprise in Meridional India.*

"On your Lordship's instructions, at the risk of my life I set out from the bay of the Fishermen in a small boat with 12 men engaged at the expense of Your Lordship, who put it within my power to perform this service, and this service I did actually perform in such manner that I lost sight of Java (containing Sunda) and then on a subsequent day, after 3 day's travelling, the Mountains of Luca Antara came into sight; for another 3 days I followed the land, and then disembarked on a coast which was deserted, for I was not observed by any stranger, and I and my companion on the shore were the only inhabitants, I remained there 3 days and confirmed the truth of Chiay Masiuro's account regarding the quantity of gold, and all kinds of metals and minerals, and precious stones, cloves, nutmegs, mace, and sandalwoods, and other riches.

After making the necessary provision I took to the boat, and having a favourable wind, I arrived back after another 6 days at the bay of the Fishermen, where I arrived very ill, and I stayed in the house of my friend the fisherman who conferred on me countless favours because he knew Your Lordship in Malaca through his acquaintance with the Bishop Dom João Ryberto Gaio

From the bay of Mattaron in Java (containing Sunda). The 14th of August, in the year 1610 "

In ancient times merchants carried on extensive intercourse and trade from Luca Antara with our Java containing Mataron and Sunda, but it ceased on account of wars and conflicts between the States.

This intercourse and inter-navigation was broken off for a period of 331 years, and no further communication took place until the year 1600, when by the just decree of Heaven it happened that the boat from Luca Antara, in which Beach is situated, was carried out of its course by a storm and reached the shore at Balambuan, where the occupants were well-received by the people of the country

In all their customs these Jaos of Luca Antara resemble the Jaos of Sunda, and there is only a slight difference in their language, much the same as between the Castellans and the Portuguese, their hair extends as far as the shoulders; the tonsure resembles the tonsure of Bale, with a curiously curved contour. in general they resemble the Jaos of Sunda in figure.

From all over the world there is trade with this port in Meridional India, whence issue cargoes of gold, clove, nutmegs, mace, sandalwoods, and other aromatics and spices and riches, going to the Ports of the Oriental Indias and Cathai, principally to the ports of Cathai as stated and to the Ports of the Red Sea or Erithrean Sea, thence going by land in camel-caravans by way

of Sues or Cossair they arrived after 25 days at Canna, a place on the River Nile; there they were placed on boats which were carried down by the current till they reached Alexandria in Egypt, whence they were distributed throughout Europe

Owing to the value of this trade the ancients endeavoured to facilitate the route by diverting the Nile through Canna and Trajan's canal to the Red Sea, cutting through the Isthmus for 12 leagues, as King Sesostris had attempted, but the design was never executed because an inundation occurred which flooded the flat lands, presumably because the level of one sea was higher than the other.

In the opposite direction we find that the mainland of Lucach runs southwards to the Pole and thence extends as far as the region of Parrots, called the region of Pithacoru, and to other Promontories in the South, it is said that it does not extend to the Magalanic Strait, because according to observations and written accounts, there is a mass of islands in that locality

The mainland of Lucach is mostly inhabited by a white race, in figure resembling the Spaniards of our Spain, they are badly clothed, wearing shirts which are woven of plant-fibres, as arms they carry wooden staves, for they have no iron weapons, as was noticed by the corsairs on the flag-ship of Jaio d' Usquerqe who was taking the ship from China to Holland and Zealand; when passing by the high land of Lucach, he wished to obtain water and fuel as the country was very fresh and wooded, some corsairs were on the beach disembarking from their boat on land, with their arquebuses, but they were unable to proceed and had to return to the ship, on account of the stout resistance shown by these white people who killed some Hollanders with their staves: they recovered their ship with difficulty, defending themselves with their arquebuses, and continued their voyage to a safe port: this was in the year 1604

This same mainland of Lucach extends eastwards as far as the Meridian of Timor, here live a white race which is more refined and civilized, wearing clothes of cotton and silk, and using "*cabaias*" or chemises of red, according to the account given by the Bandanese and Maluco natives, and in the Histories of the Indias

Rui de Melo de Sampaio, Captain of the ship "S Paulo", accidentally discovered that Southern Land called the region of Parrots or region of Pithacoru, lying on the Meridian opposite to the Island of St Lourenço, in a latitude of 48 degrees South; and although the sailors recounted that it was a great Island, very fresh, still one presumes that it was the mainland which extends from Lucach.

This land was visited by the Flagship of Cornelio Malodiva, which had been carried out of its course by currents and separated from the rest of the fleet which was travelling from Holland to

*Malaca; wishing to land for water and fuel, they disembarked in their boat; they met with no resistance on the shore, on the contrary they received good treatment.*

The people of this region are white, and in figure resemble the Portuguese, they are badly clothed, wearing shirts woven from plants; they have no other weapons than darts for hurling, and bows and arrows; they enjoy all kinds of foodstuffs; they use a number of Portuguese words, and in the largest village the sailors saw a considerable quantity of bronze artillery bearing the Royal Arms of Lusitania. The corsairs were astonished at this state of things: they returned to the flagship provided with their necessary requirements and continued their voyage to the port of Malaca in the year 1606.

These Portuguese are descended from Francisco de Albuquerque and Pedro Varda Veiga and other Portuguese belonging to the two ships which disappeared far ahead off the Cape of Good Hope in the year 1503.

As it was suspected that they had reached the coast in that region, King Dom Manuel ordered the captains to have a search made through the instrumentality of Cy de Barbosa and Pedro Coresma in two ships: they could not find any trace of these people along the coast of the Cape of Good Hope, or along the coast of St Lourenço this was in the year 1506.

On board the ship "S Paulo" which reached the coast of Samatra, were found some notes made by the Pilot, stating that that country was a great Island like Nova Guinea, and that along its southern coast it had a large bay and trading-ports from which large sailing-ships passed to the country of Lucach; and that the bay was inhabited by a race of white natives and that another race as white as Portuguese lived on the northern Promontory, where stood the Metal Artillery and the Arms of Portugal.

So that this land in the south, the region of Pithacoru, was discovered by Rui de Mello de Sampaio in the year 1560.

On this expedition for the discovery of Meridional India, The King Our Lord Dom Phelippe the Third of Spain despatched Manuel Godinho de Heredia with the title of "Adelantado" and the Habit of Christ, together with the twentieth part of the revenues therefrom, by virtue of his Commission given in the year 1601; and by an Instruction written at Lisbon on the 14th February 1594, the states there were to be taken with a view to their incorporation in the Crown of Portugal, according to the Bulls of Popes Nicolao the Fifth and Sixto the Fourth.

Pope Paulo the Fifth granted a Jubilate and a plenary Indulgence and other favours towards realizing the happy expedition to Meridional India, and the Reverend Father Claudio Aquaviva, General of the Order of the Company of Jesus, conferred upon the "Descobridor" the Insignia of Jesus together with the emoluments of the said Order. . . in accordance with a letter written at Rome in the year 1610.

SUMMARY OF THE LIFE  
OF MANUEL GODINHO DE HEREDIA

Manuel Godinho de Heredia, son of Juan de Heredia Aquaviva, was connected, through Lourenço Fernandez de Heredia, with the noble family of Dom Phelippe de Heredia, Count of Fuentes in Aragon, and, through Juan Francisco Aquaviva, with the noble family of the Duke of Attri, Lord of Teramo; both of whom, being kinsmen, have always displayed their graciousness by offering the escutcheons of their nobility: as is stated in the Duke of Attri's record and in the Count of Fuentes' record, which we mention below.

His mother was Dona Helena Vessiva, daughter of Dom Juan, King of Supa in Macazar, ally of King Dom Juan the Third of Portugal. she was baptized in the hermitage of S Raphael at Machoquique by the Reverend Father Vicente Viegas, Administrator of Malaca, at the request of the Kings of Macazar acting on the advice of the above-mentioned Juan de Heredia, who then sailed away from the port of Machoquique to Malaca with the companion with whom he had formed an attachment, Dona Helena Vessiva, Mistress of the State of Machoquique, and on her departure the ruling power was assumed by her parents, as is stated in the record of the King of Macazar, Carraem Talot.

This Juan de Heredia Aquaviva, by his lawful wife, Dona Helena Vessiva, was the father of Father Domingos Godines de Heredia, Master of the School belonging to the See of Malaca, of Father Francisco Godinho Aquaviva, Canon of the same See, of Anna Godinha de Heredia, and of Manuel Godinho de Heredia Aquaviva, Discoverer of Meridional India.

This Manuel Godinho de Heredia Aquaviva was born at mid night on Sunday the 16th of July in the Year 1563, as a boy he received his first education at the College of the Company of Jesus at Malaca, at the age of 13 years he went at his own expense from Malaca to the Court of Goa where he was received into the seminary by order of the Visitor Goncalo Alvares, Professor, at this university he studied grammar, arts, philosophical and other sciences, and mathematics.

After completing his studies, in which he displayed great aptitude, he was received into the order of the Company of Jesus by the Father Visitor Alexandro Valignano in the Year 1579 there he showed his ability, and he was teacher of mathematics for many years.

But as he displayed a natural inclination for making discoveries, his Superiors wished that his talents might be utilized in the service of the State for the benefit of Christianity, so they bade him farewell for good in the Year 1580.

Being now a layman he devoted himself to the service of cosmography, with the title of "Cosmographer Major" of the State; he drew up some very excellent maps of the oriental Indias and of Asia, replacing the old drawings in the world-maps and atlases by

new chorographic representations of Cathay and Meridional India; all these maps he submitted to the King Our Lord Dom Phelippe the Third of Spain; in consequence whereof he was instructed to effect the Discovery of Meridional India, with the title of "Adelantado," with the Habit of Christ and with a twentieth of the revenues from those states if he could obtain possession of them and incorporate them in the Crown of Portugal.

By an Instruction written at Lisbon on the 14th of February 1594, and by a Commission dated 1601 issued by virtue of that Instruction, the said Manuel Godinho de Heredia was despatched on this undertaking by the Viceroy Dom Francisco do Gama, Count, Admiral; and the Viceroy Aires de Saldanha granted him many favours on his passage to Malaca, where he arrived in the year 1601.

When he was prepared to commence his voyage of discovery, he was informed by the General of the South, André Furtado de Mendoca that the southern channels were held by corsairs belonging to the fleet of Jacob Usquerque who had seized the ship from China which was on its way to Holland. And it was necessary to detain the "Descobridor" at the fortress of Malaca to assist in defending it against the guerilla assaults of the Malaios. In conjunction with his military duties he prospected for minerals, and on the order of the Viceroy Aires de Saldanha and on the instruction of André Furtado de Mendoca, General of the South, he founded the fortress of Muar at the mouth of the Muar River, to act as a trade factory and for the defence of the Malaca district. He also founded other fortresses in the straits and in other places which need not be specifically mentioned. He also made dispositions to prevent assistance in the form of men or provisions from entering the river-mouths in the Malaio territory of Jor.

Further, in his capacity of "Descobridor" he prepared maps of the straits, having at his disposal the whole southern fleet of rowing-boats, namely 12 galliots and 60 'bargantis' or 'bantis'. With this fleet, too, he continued the performance of his naval duties, he destroyed the relief ships belonging to the pirates and other ships which set out with people from Aracan in Samatra to succour the Malaios; he sank many provision ships and made sallies by land to attack the Malaios, he fired their villages and palmgroves or 'ducoes' (which resemble orchards and fruit-gardens), and caused great damage by his attacks. Furthermore, at his own expense he accompanied the General, Andre Furtado de Mendoca, at the conquest of the fortress of Jor, and assisted in every possible manner in the fortification and defence of Malaca, until illness supervened. Even when indisposed, he did not abstain from continuing his geological duties at his own expense; he explored the whole country within the territory of Malaca between the Rivers Muar and Panagin, and discovered the mines of gold, silver, 'calem' and all kinds of metals, minerals and precious stones, besides new pearl-fisheries, and mercury, alum, saltpetre, and other riches; of these discoveries authentic records exist.

Being attacked by illness and receiving in that country little help towards getting information about Luca Antara and no good news about the expedition thither, he embarked for the Court of Goa, in order to return with the Viceroy Dom Martimao de Castro; later, he wanted to travel in the Viceroy's company to Malaca, but could not do so, on account of his being very ill and crippled with "beregere", however, at Cochim he was given his letter to the Governor Dom Francisco Aleixo de Menezes and provided with a relief galliot for the spring, when news arrived of the death at Malaca of the Viceroy Dom Martimao, who was succeeded by the Governor of the State; so in spite of his earnest endeavours the position of affairs became worse and worse

He wrote to the King our Lord, communicating the good news about Luca Antara or Java the greater being explored by Chiay Masiuro, King of Damut

The King our Lord wrote from Madrid to the Viceroy Rui Lourenco de Fava regarding the enterprise in Meridional India, that the "Descobridor" Manuel Godinho de Heredia should be granted many honours and privileges, and he ordered the confirmation of the Commissions issued in his name by the Viceroys Dom Francisco de Gama, Count, Admiral, and Ayres de Saldanha, for this felicitous voyage, and he commanded that the matter should be arranged at the Court of Goa in order that this voyage might be undertaken at once, since it involved the incorporation of those states in the Crown of Portugal

The Pope Paulo the Fifth favoured the undertaking with his approval and the Reverend Father Claudio, General of the Order of the Company of Jesus, bestowed the Insignia of Jesus upon the "Descobridor" together with the rewards of the Order, as well as other favours, in order to declare Christianit, and to aggrandize the Church of the new World

By order of the same Viceroy Rui Lourenco de Tavora, the "Descobridor" explored the country in the district of Gozarate, and drew up chorographic representations thereof, for right down to the present day we have inadequate knowledge of the details of the region of Gozarate, improperly called Cambaia for Cambaeth, the metropolitan Town of the Bay he also made plans of Indostan, Turcastan, Astratan, Cathay and the Chinas

This was during the governorship of the above-named Viceroy, who was succeeded in the State by the Viceroy Dom Jeronimo D'Azavedo, the latter further availed himself of the "Descobridor's" services and instructed him to make a note of the Metals and Minerals in the district of Goa

The "Descobridor", in taking the necessary steps for assaying the Metals of this country, discovered the metal copper, "tambaga", at the Village of Corlin Cornegan (?) in Goa, and at other Villages in Goan territory; moreover he discovered iron-ores in the neighbouring islands of Diuor and Vanci. . . . .

In Malaca the "Descobridor" had discovered many mines of gold, silver, 'calem', copper, mercury, alum, saltpetre, lead, iron, and other metals besides minerals and precious stones including emeralds, diamonds, topazes and crystals, as well as new fisheries for Seed-pearls and pearls . . . all these he offered to the Captain-General Andre Furtado de Mendoca in the year 1603

He married Dona Vilante de Sampaio, by whom he had a son named Manuel Aquaviva, a handsome, talented and scholarly youth: he was born just before daybreak on the first of December, 1588, and succumbed to a convulsion at the age of 13 years.

He also had a daughter named Dona Anna de Heredia Aquaviva, who was very learned and industrious, and acquired a knowledge of the mathematical sciences: she was born at eight o'clock on the morning of Thursday, the 17th of April in the year 1587

The said Dona Anna de Heredia Aquaviva at the age of 16 years entered the estate of matrimony, taking as her husband Alvaro Pinto Coutinho, son of Joaó Pinto Coutinho, cousin of Vasio Ferdandes Coutinho of the family of Marshal Dom Fernando Coutinho

After her marriage she went with her husband to India

There by virtue of the Commission of 1601 the "Descobridor" arranged that in case his death occurred during the above-mentioned expedition to Meridional India, Dona Anna Heredia Aquaviva should be sole heiress of all his property

The said Dona Anna de Heredia bore her husband a daughter named Dona Mariana Aquaviva, who was born on the 8th of June in the year 1607, and possessed great expectations of honours and favours owing to the services of her grandfather, the "Descobridor"

She had the good fortune to be very beautiful and at the same time very clever and able; she was so industrious, too, that at an early age she understood the elements of mathematical geometry.

On account of his devoutness and his demeanour and his zeal the said Manuel Godinho de Heredia was admitted by the Most Illustrious Alexander Farnes, Bishop of Oporto, Cardinal and Vice-Chancellor of the Church of Rome, Protector of the Arch-Company of the Most Holy Sacred Conception, established in the Roman Church of St Lourenco at Damao, into the Confraternity of the Arch-Company, as appears from its records and documents, so that he enjoyed the privileges of the Arch-Company mentioned in the Apostolic Bull of the year 1589.

And at the same time, in the year 1589, the said "Descobridor" was admitted by the Superintendent of the Misericordia, Fernão da Foncequa, Knight of the Habit of Christ, into this Society and Confraternity for the service of God; and he fervently performed all manner of merciful and charitable works, always assisting in the burial of the Christians, even when they occurred during the winter storms, with great zeal and devotion.

## 5 MAPPEMONDE.

In the Summary of his life (p. 265 *supra*) Eredia relates how he re-drew the maps of various Asiatic countries, and submitted his maps to King Philip.

All his maps appear to have been consigned to oblivion except perhaps in one instance.

In 1848 the British Museum acquired from Senor de Michelena y Roxas a manuscript Mappemonde which came from Madrid: it now bears the number Add 17,647A

Lithographic reproductions of a part of this map will be found in ARCHAEOLOGIA, Volume XXXVIII, (1860), in Major's *Early Voyages to Australia* (*Hakluyt Society*: 1859), and in Janssen's book.

The most significant feature of this map is a large area of land which from its junction with the south-eastern portion of NOVA GUINEA runs south-west, west, and north-west till it reaches a point not far south of *Java mayor*; from this point it runs roughly south-west. no southern boundary of this land is indicated

At the most northerly point, south of *Java mayor*, there is a legend "*Nuca antara foi descuberta o ano 1601 por mano el godinho de Eredia por mandado de Vico Rey Aives de Saldaha*": "*Nuca Antara* was discovered in the year 1601 by Manoel Godinho de Fredia, by command of the Viceroy Ayres de Saldanha".

Beneath this, about half way down the western coast, there is another legend "*Terra descuberta pelos Holandceses a que chamaraõ, Enduacht, au õcordia*". "Land discovered by the Dutch, which they called Endracht or Concord"

The map is described by Major in ARCHAEOLOGIA, Volume XXXVIII (1860), pp 439-459: an extract of the description is printed as a supplement to the *Early Voyages to Australia*

Major there expressed the opinion that this map was a copy made at the beginning of the nineteenth or close of the eighteenth century by a person who was ignorant of the Portuguese language, as was evidenced by the errors of orthography. Major thought that the original was probably made by Eredia himself, and suggested the date 1620, after the discovery of Fendragt's Land by the Dutch in 1616 but before the discovery of the south coast by Pieter Nuyts in 1627

Possibly the date should be placed somewhat earlier, for other parts of the western coast were discovered by the "*Zeewulf*" in 1618, and by Houtman in 1619.

Later Major changed his views: after forming the conclusion that Eredia's account of '*Luca Antara*' was a deliberate fabrication he suggested that the present mappemonde was drawn by some person in Europe, and that the legend regarding '*Nuca antara*' was inserted on the strength of the map included by Eredia in the DESCRIPTION of MALACA, *cf.* p 216 *supra* (ARCHAEOLOGIA Volume XLIV (1873) p. 257).

Major gives no reason for thinking that the original mappemonde was not drawn by Eredia: but one may note

- (i) that the shape of the southern land is different in the two maps:
- (ii) that in the map sent with the DESCRIPTION OF MALACA, New Guinea is not joined to the southern land:
- (iii) that in the DESCRIPTION OF MALACA, Eredia uses the word LUCA a great number of times and with reference to at least 7 different places; he never writes NUCA.

### APPENDIX III.

#### TRANSLATIONS FROM JANSSEN'S MALACA, L' INDE MERIDIONALE ET LE CATHAY

1. Janssen's Foreword
2. Ruelens' Preface.
3. Note on the Manuscript at Brussels.

##### 1. Janssen's Foreword

The physical history of the globe is one of the subjects which are engaging the most active attention of contemporary science. On the one hand, men are scrutinizing the bowels of our planet with burning curiosity in an endeavour to elucidate the mystery of its origin, on the other hand, they have made and never cease from making superhuman efforts to obtain a thorough knowledge of our earth's surface.

The men who have discovered those vast continents styled new worlds, have been classed among the great benefactors of humanity, the navigators who have explored unknown countries at the cost of sacrificing themselves and enduring great hardships, sometimes at the risk of their lives, who have established intercourse between peoples who had previously had no reciprocal relations, those who have left accounts of their voyages or who have advanced our knowledge by their learned works, all these men, in different degrees no doubt, see their names to-day surrounded by a halo of glory. We eagerly follow up each slightest trace of their explorations and of their labours; we wish to know all the details of their fruitful lives: the most inaccurate map, the most artless or most summary description, references apparently of the very least importance, all these proofs of their activities are reverently collected, constituting materials for geographical studies and provoking controversies and researches which are in themselves often productive of unexpected or novel results.

Such was the idea which inspired our wish to publish this work of Godinho de Eredia, a work of which certain extracts and summaries, inadequate enough, have already been submitted at discussions of geographers

It seemed to us that it would be useful if we added to the documents already at the disposal of students, this work by a personage who is interesting in several respects.

For Godinho de Eredia was born and lived in the Far East; instructed in the studies cultivated in Europe at that period, he endeavoured to utilize his knowledge for the elucidation of various questions of ancient geography, some of which are still in dispute at the present day, he has left reports on his operations as an official explorer, he has constructed maps of countries which he traversed, in fact, he has preserved from oblivion things and facts among which science will perhaps find something worth extracting.

As a result of all these considerations we have been induced to bring forward into the light of day a work which is as curious in matter as in form, in reproducing the manuscript of Godinho de Eredia we have sought to preserve the appearance of the original, the maps, the illustrations, and a few specimen pages of the autograph manuscript have been executed in fac-simile

We have taken the opportunity to reproduce two other documents relating to Godinho de Eredia, one of them is a map mentioning the name of the *descobridor* and found among the collections in the British Museum by the late Mr. Major, conservator of the cartographical department in that Museum, the other is a letter, signed by Godinho de Eredia, belonging to the archives at Lisbon.

We thought we ought to publish the fac-simile of these documents simultaneously with the reproduction of the manuscript belonging to the Bibliothèque Royale at Brussels

Finally, our work ends with a French translation of the Portuguese texts

[Initialled]. L. J

## 2. Ruelens' Preface

On various occasions during the last ten years scholars have directed their attention to the document which here sees the light of day, but they have only been able to utilize summaries all too concise or notices all too inadequate

The time had come to undertake the publication *in toto* of the work of Manuel Godinho de Eredia and also to provide the materials for a complete understanding of the activities and labours of an interesting personage about whom little is known.

A member of the Belgian Geographical Society, a colleague of mine, whose studies, travels and tastes qualified him to undertake this work, has zealously devoted himself to the task and, we have no hesitation in saying, has surmounted very real and very numerous difficulties.

The document is now in existence, it is submitted for scientific discussion.

At the Geographical Congress at Antwerp, we revealed the existence of the original manuscript of Godinho's book; M. Léon Janssen has relied on that fact to call upon us for the preface to this printed edition

1930] *Royal Asiatic Society.*

The offer was too flattering for us to refuse the performance of this task, despite our too feeble authority. So in this introduction we shall state as briefly as we possibly can, what we know about the author of the DECLARACAM and wherein lies, in our opinion, the importance of this document.

At the western extremity of Europe, there stands out, like a sentinel on the border of the vast Ocean, a small kingdom which, though it forms only a speck on the map, yet has conquered and dominated more vast territories than were ever controlled by the conquering monarchies of old.

This Kingdom is Portugal

Energetic, intelligent, familiar with the perils of the sea, the Portuguese people seem to have had an aptitude for discoveries and enterprises in the most distant parts.

They did not have the glory of arriving first in the New World, but nobody can dispute the crowning honour of their geographical conquests in Asia and in Africa.

Henry the Navigator, Vasco de Gama, Barthelemi de Dias, Magellan, Pedro Alvarez Cabral, are names which find their place amongst the most illustrious.

At a certain period, thanks to the labours and the bravery of these men and their successors, Portugal was a centre of wealth and power, from her ports sailed innumerable ships which went forth to conquer populous and powerful countries, at enormous distances from their mother land.

When speaking of their exploits in the Indies, Raynal cannot refrain from exclaiming. "What men must these Portuguese have then been, and what extraordinary factors made them a nation of heroes?"

Almost the very whole of Africa, the continents and the archipelagoes of the equatorial ocean, all the lands, in short, which might exist beyond the famous demarcation line drawn by Pope Alexander the Sixth (which divided the globe into two parts, the one allocated to Portugal and the other to Spain), all these lands in turn became subject to Portugal. To detail them would be a long task.

At the end of the Sixteenth century, there was in Africa and in the adjacent seas, Tangier, Ceuta, Arzilla, Madeira, the Azores, the Cape Verde Islands, Guinea, the Island of St Thomas, the Congo and Angola, St Helena, and, beyond the Cape of Good Hope, the country of Zofala and Mozambique.

In Asia, in the Indies, they had forts and factories ranged on every coast from the Persian Gulf to Malabar, with one great city, Goa, which stood for the capital of their Asiatic possessions.

Beyond that, they had Ceylon, the Coromandel coast, the Malay Peninsula, with one flourishing town, and, lastly, the Moluccas.

In America, in spite of the demarcation line, they conquered Brazil

In 1580, Portugal had the misfortune to see the extinction of its national dynasty, King Henry by his will left his kingdom to Philip the Second, King of Spain, who, nevertheless, was compelled to conquer his inheritance

For this purpose, he despatched an army commanded by the same Duke of Alba who had performed a similar office in the Netherlands, and Portugal was annexed to the Crown of Spain

Three quarters of the world were then united under the sceptre of Philip the Second.

This annexation was a misfortune for Portugal, who would derive no advantage from the overseas conquests carried out by the Spaniards, but had to suffer from the implacable hatred which Spain and her King incurred, by way of revenge, at the hands of numerous nations throughout Europe

The Republic of the United Provinces had just been formed.

This, like Portugal, was a small country of little importance considered as territory, but it was washed by the sea and peopled by a vigorous race who sought in commercial expansion the wealth which was denied by their own land, held down and ever trampled under foot by armed forces

The Dutch vented all the violence of their hatred on the vast possessions of the King of Spain, and it was immediately under the blows which they inflicted that the redoubtable European colossus soon began to stagger

The possessions of the Crown of Portugal were the first victims of the bold Dutch expeditions, first, because of their proximity to the factories and the lands which the Dutch already held, and secondly, because they were better known in the Netherlands

In 1579, the very year of the Union of Utrecht, a Harlem youth, Hugo de Linschoten, sailed from the Texel he betook himself to Spain and thence to Portugal which had just been conquered.

He stayed at Lisbon to study its commerce, and there, in 1581, he witnessed the triumphal entry of Philip the Second and the obsequies of the Duke of Alba

A short time afterwards, Linschoten obtained permission to join an expedition which was preparing to conduct Vincent de Fonseca to the Indies on his appointment as Archbishop of that territory, and he left Lisbon with the fleet, composed of five vessels, on the 8th of April, 1583

During the course of 13 years, he travelled in the service of Portugal throughout all the Lusitanian possessions in the Far East, and all the lands with which the mother-country had commercial relations

During his journeys, he carefully noted every detail worthy of interest, and made sketches of views, scenes, costumes and plants; and on his return he wrote an account which may be regarded as the most complete geographical description of the Indies and the Archipelagoes, which men then possessed

Magnificently edited, the work of Linschoten <sup>(1)</sup> appeared first in Dutch in 1595—1596, then in Latin, French, German, and English, and enjoyed a great number of editions. It became a classic; one might describe it as the guide which directed the expeditions launched by the Netherlands over a long period and with great success against the Spanish and Lusitanian colonies.

Six years later, there was established, with a capital of six and a half million florins, the Association organized by six towns, which under the name of 'Company of the Oriental Indies' wrested from rival powers the sceptre of colonial dominion in the inter-tropical seas.

However, the beautiful countries of the Orient did not immediately change their masters nor did the sea-faring nations in all their expeditions immediately abandon every other object except to wrest away each others' conquests

The progress of geography, and the labours of the cartographers, particularly Ortelius and Mercator, represented on the world-maps immense void spaces, where unknown continents might perhaps be found.

At the end of the sixteenth century these voids were already filled up to a considerable extent, no doubt, but among the lands which were drawn, there were some which were merely imaginary countries, moreover, almost all the plans finish off the southern parts of the globe with the contours of a continent which in itself is almost as vast as all the other continents put together.

A number of discoveries had then still to be made: moreover, there was another attraction to stimulate the boldness of navigators, the hope of finding the LAND OF GOLD, the dream of several centuries

Whatever may have been the motives which directed the expeditions in the Far East, it cannot be doubted that at the beginning of the seventeenth century the Dutch and the Portuguese were the only peoples of Europe whose vessels one sees ploughing the island-studded seas which lie between the Indian Ocean and the Equatorial Ocean.

The English did not arrive till afterwards, availing themselves of the embittered strife which had been created between the two rival nations since Heemskerk's expedition against Bantam in 1601, they in their turn soon acquired possessions, and at the same time extended geographical knowledge.

It is at this period, during the first years of the seventeenth century, at the beginning of the struggles between the two peoples, that reference is made to the discovery of a land which has since become the fifth part of the world.

By whom was this discovery made?

The same thing has happened in the case of Australia as in the case of America, it was slightly known the whole time and by

(1) *Itinerario, Voyage ofte Shipvaert van Jan Huygen van Linschoten, etc Amstelredam, 1596, in f'*

the whole world before it was really discovered. The experts have been at great pains to find traces of knowledge of this land in the accounts of voyages from the time of Marco Polo, or in vague indications in certain maps.

These views have been published and discussed by Messrs R. H. Major, C. E. Meinicke, W. Howitt, J. E. Tenison Woods, A. Petermann, Colonel Yule and others. The question has been illuminated by conscientious studies, and important points in the history of cartography have been established.

The result of the whole discussion is that the first idea of the great land, since called New Holland, was due to the voyage of a small Dutch vessel, HET DUYFKEN (the Dove).<sup>(1)</sup>

This voyage has been traced several times since Alexander Dalrymple first mentioned it. M. de Jonge in his splendid work on the development of the Dutch Empire in the Indies, has embellished the account with fresh details and with meticulous exactness.

We will now analyze this geographical episode, on which the Dutch found their claims to the honour of being the first to reach the land of Australia.<sup>(2)</sup>

On the 18th December, 1603, there sailed from the Netherlands the first expedition which the Company General of the Indies, then recently established, despatched to the Far East. It consisted of 13 vessels, carrying 1180 men, under the command of Admiral Steven van der Hagen. One of the vessels was the yacht Het Duyfken. According to the instructions, it was especially intended to remain for some years in the Indies and to maintain communications between the various factories there.

In September 1605, it was in the neighbourhood of Bantam. One finds several references to its cruises in a document published by Alexander Dalrymple, an instruction given by the Governor-General of the Indies, Ant. van Diemen, to the Commander Abel Jansz Tasman and to the pilot Frans Jacobz Visscher.

This document bears the date 29th January, 1644. Here is the translation, according to the text published by M. de Jonge.

“To enhance, extend, and improve the operations and the trade of the Dutch Company of the Oriental Indies, successive Boards of Directors have issued express orders, on various occasions, for the reconnaissance of the great country of New Guineda, and the search for other unknown countries in the East and in the South.

(1) She was a yacht of 60 tons which served as despatch-boat in the expeditions in which she took part. She had a glorious destiny. In 1594, she left the Texel with three other vessels on the first Dutch campaign against the possessions of Portugal. In 1603, she formed part of the fleet commanded by Steven van der Hagen, in 1616, she assisted in the discovery of Lemaire's Strait. One can see a representation of this vessel in the frontispiece to the account of the first of these voyages, *Journal van de Reyse der Hollandtsehe Schepen, etc. Middelburg, Langenes, 1598.*

(2) J-K-J de Jonge *Opkomst van het Nederlandsch gezag in Oost-Indie. 'S Hage, 1862—78 T I—IX.*

The conversations which we have had, and the communications which have been addressed to you regarding the accounts, maps and other documents, have informed you, *inter alia*, that four voyages directed to this end have already taken place, meeting with moderate success: the first was in 1606, by order of Jean Willemz Verschoor, who was then in charge of the Company's affairs at Bantam. This voyage was accomplished by the yacht " 't Duyfken ", which, on the way, visited the islands of Key and Arouw, and discovered and reconnoitred only the southern coasts of New Guinea for a distance of 220 miles from 5 to 13 degrees South. She found that while this vast country was for the most part deserted, certain places were inhabited by savage and cruel blacks, who murdered several of the sailors, with the result that they could not give an account of the real condition of the country, or its productions and resources.

Lack of provisions and other necessities compelled the vessel to abandon the discovery and to return. The furthest point then discovered was in  $13\frac{3}{4}$  degrees South, and on the map of the expedition it is indicated by the name of Cape KEER-WEER (Cape Return) ".

" If one compares this reference in 1644 " says M. de Jonge " with what the English captain John Saris wrote in 1605 and 1606, it appears that the two pieces of evidence are mutually confirmatory ".

" On the 18th November, 1605, there sailed from Bantam a small Dutch pinnace to effect discoveries in the island called New Guinea, and, so it is said, she has brought back a large quantity of gold from there ".

At the date of 15th June in the following year, 1606, the Journal of Saris says once more, " There has arrived here at Bantam Nockhoda Tingall, a resident of Banda, on a Javanese junk, laden with mace and nutmeg, which he sells here to the people from Guzerate . . . .he informs me of the return to Banda of the Dutch pinnace which set out on a voyage of discovery in New Guinea

She made this Island and sent some men ashore to enter into relations with the natives, but the savages, who are cannibals, killed nine of them, and this compelled the vessel to return, under the impression that nothing useful could be done in these parts."

" So to my mind it is clear beyond all doubt " says M. de Jonge " that the DUYFKEN left Bantam on the 18th November, 1605, on Verschoor's orders, for New Guinea; on the way, she visited the islands of Key and Arouw, towards the beginning of 1606; she sailed along the South-West coast of New Guinea, as far as the river Oetanata in  $5^{\circ}$ , and then proceeding along Torres Strait, she arrived along the western coast of Australia, where she found the land in  $13^{\circ} 45'$ , at a point which has ever since been marked on the maps of the Company of the Indies by the name of Cape KEER-WEER.

It is probable that the DUYFKEN, on leaving Cape Frederick Henry and sailing towards the South, took a course too much to the Westward to have noticed Torres Strait. Had it been otherwise the error would not have persisted so long that New Guinea and New Holland together formed only a single huge continent, an error which lingered until the time of James Cook, although the Spaniard Luis Vaez de Torres had already found a passage between the two islands in 1606.

Eventually the commander of the yacht DUYFKEN, owing to lack of supplies, abandoned his discoveries and returned to Banda".

We accept the account which is given by MM. Major and de Jonge, and we find clear proof that there can be no question here of any discovery of Australia.

The vessel, after having passed the islands of Key and Arouw off the coast of New Guinea in  $5^{\circ}$ , proceeded along the coast from  $5^{\circ}$  to  $13\frac{3}{4}^{\circ}$  South for a distance of 220 miles, this is an impossibility.

This coast does not extend beyond  $10^{\circ} 20'$ , and in order to arrive at this extreme point, it is necessary to pass through Torres Strait.

Then, according to the account, the furthest point which was reached was at  $13^{\circ} 45'$ , at the new place since called KEER-WEER.

This cape, therefore, ought to be situated on Australian territory.

But, if one consults all the maps from those of F. de Wit, belonging to the end of the Seventeenth century, to the magnificent map annexed to the prize dissertation on the discoveries of the Dutch, by MM. Bennet and Van Wyk (1825), they all mark cape KEER-WEER on the western coast of New Guinea, in the same latitude as Frederick Henry island and further north than the VALSCHE KAAP which according to MM. Bennet and Van Wyk is situated at  $8^{\circ} 15'$  latitude by  $138^{\circ}$  longitude<sup>(1)</sup>.

Lastly, one further consideration: the "Duyfken", a small vessel of 60 tons, so we are told in the original account of Admiral Steven van der Hagen's voyage, after having left KEER-WEER, which lies in  $5^{\circ}$  latitude and  $129^{\circ}$  longitude, being in want of supplies and provisions, returned to Banda.

But if KEER-WEER was situated at  $13^{\circ} 45'$ , how would it have been possible, in circumstances of distress, to make a voyage of nearly 10 degrees? It seems to us, then, that there is an evident error, twice repeated<sup>(2)</sup>, in the designation of the latitude  $13^{\circ} 45'$ .

It plainly conflicts with the other latitudes given in the instructions and with those in the maps. The DUYFKEN did not pass beyond New Guinea in  $8^{\circ} 15'$ , and did not reach, by a long way, the strait which Torres had discovered during the month of August in the same year 1606.

(1) *Verhandeling over de Nederlandsche ontdekkingen in Amerika, Australië, enz door R G Bennet en J Van Wyk, Utrecht, 1827, in-8°*

(2) M Major, we know not on what authority, extends it to  $19\frac{3}{4}^{\circ}$

It was Flinders, who, in trying to trace the route which the DUYFKEN should have followed, first introduced confusion into peoples' ideas.

Relying on the document published by Dalrymple as though it were a unique piece of evidence he summarizes it in these terms:—"On the 18th November 1605 the DUYFKEN was despatched from Bantam, on a voyage of discovery in the direction of the New Guinea group, and, so it is believed, coasted the western side of this island as far as  $130^{\circ} 45'$  of South latitude. The extreme point to the Eastward reached by the vessel, was called cape KEER-WEER<sup>(1)</sup>.

The route of the DUYFKEN, on leaving New Guinea, ran Southward along the islands in Torres Strait, as far as that part of Australian territory which extends a little to the South and West of Cape York.

It was thought that all these lands were part of New Guinea and formed its western coast. The commander of the DUYFKEN, without knowing it, also made the first authentic discovery of a part of the great Southern land; this was about the month of March 1606, for he seems to have returned to Banda at the beginning of June".

What means the reference in this passage to  $130^{\circ} 45'$  South "latitude"; prima facie, there is evidently a mistake here; surely it is necessary to read "longitude", and if the figure is correct, it approximately determines the position of the "extreme point" called KEER-WEER. But in that case, it negatives the supposition that the DUYFKEN passed further south and reached Cape York without noticing the strait; a supposition which it is difficult enough to admit.

The result of all this, it seems to us, is that the DUYFKEN scarcely went beyond the point which we have designated, the point situated on New Guinea, whose position is stated by Flinders.

Moreover, of the several Dutch writers who have studied with such toil and such patriotic feeling the voyages and the discoveries of their compatriots, not one, before the time of Dalrymple and Flinders, mentions the expedition of the DUYFKEN, and in the very accounts in which this ship finds a place, not a single word is said about her discoveries in the Southern land.

Fresh details have been brought to light concerning this point of geography by a map belonging to the British Museum, by the manuscript at Brussels, here published, and by a manuscript at Paris, three documents which bear the name of a Portuguese who has remained almost unknown till the present day.

(1) Not having the original edition at hand, we avail ourselves of the German translation. "Reise nach der Austral Lande. von M Flinders, aus d engl. v. Ferd Goetze. Weimar. 1816"

It rests with us to explain the position of the question and of the discussions which have been raised both about the man and about the documents emanating from him.

Manoel Godinho de Eredia is a new figure in the history of geography, a curious and interesting figure; though, we hasten to add, he can lay no claim to any particularly brilliant halo.

During two centuries his name was forgotten without being entirely unknown.

Barbosa Machado, in his 'Lusitanian Library' mentions him with the qualification of "Distinguished mathematician", and refers to his manuscript "History of the Martyrdom of Luiz Montiero Continho", dated at Goa in 1615. In 1807 his "Treatise on the Golden Chersonese" was published.

But it was in 1861 that attention was seriously directed towards him

The learned author of the "Life of Prince Henry the Navigator", M. Richard Henry Major, in an article which takes the form of a letter to Sir Henry Ellis (ARCHAEOLOGIA<sup>(1)</sup> t. XXXVIII) represents him as a claimant, till then unknown, to the honour of having discovered the vast territory later named New-Holland. He relied on the evidence of a map reproduced in this volume stating in so many words that the discovery of this land was made in 1601 by Manoel Godinho de Eredia. This notice, however, did not appear sufficient to Major to establish historical truth and he hoped that fresh documents would come to confirm it.

Some time afterwards we informed him of the existence at Brussels of the manuscript here published; but other work prevented us from immediately giving more careful study to the question. It was only in 1871 at the Geographical Congress at Antwerp that there appeared in the report, t. II p. 513 (1872), our paper entitled "THE DISCOVERY OF AUSTRALIA, an account of the manuscript in the Royal Library at Brussels".

This manuscript is the one here published: it is a compilation in three treatises, written in the author's own hand and addressed from Goa to Philip III the King of Spain, on the 24th November 1613. The first treatise relates to the peninsula of Malacca, the second deals with the discovery of Meridional India: the third is a study in the comparative geography of eastern Asia.

This analysis of Eredia's unknown work attracted attention.

Some time later Major in two articles published in ARCHAEOLOGIA (t XLIV, 1873) again took up his study of the earliest documents relating to the Austral lands, and directing himself especially to the statements of Eredia, endeavoured to refute them.

Favourable as he had been at first to the author's claim, in the second of the articles he just as vigorously disparaged both the man and his statements. He treated the man as an impostor. One

(1) The letter is dated in 1861, but the volume of ARCHAEOLOGIA which includes it bears the date 1860

cannot feel too astonished at this sudden change. Meanwhile, in his first article Major had endeavoured to direct attention to five French maps or maps of French origin, marking below Java an island called Java la Grande and then a land which could not be, according to him, any other than Australia. These maps, of which the ultimate origin was perhaps Portuguese, go to prove the discovery of the world's fifth continent seventy years before the time of Godinho.

Unfortunately, no text, no account of any voyage, no notice, confirms or clears up the indications in these charts. They contain, then, only hypothetical or legendary allusions.

The epithet of 'impostor' which is applied to Godinho is clearly an exaggeration. The reader will judge for himself.

Godinho contents himself with giving an account of an expedition made by people other than himself, he relates what he has been told: nothing more. If he had wished deliberately to mislead or to lie, it would have been just as easy for him to have ascribed to himself a personal part in the action, to concoct a voyage performed by himself: such a device should present no difficulty to a man accustomed to travelling through the neighbouring archipelagoes. Instead of that he relates, very naively, it must be admitted, a strange account which can but surprise or perplex us at the present day. Yet M. Major himself felt how little justice there was in his allegation, for instead of rejecting the narratives of Godinho, he admits them and seeks to explain them. The writer, according to him, was mistaken on only one point: the application of the discoveries to the land of Australia. The expedition despatched by Godinho did not touch New Holland: what it discovered was the island of Madura.

Here one may ask if the explanation is serious. In fact this island, which figures on all the maps of that time, which one can see from Sourabaya (a locality which he names), a mile away from the coast, this island was as well known as Java itself, and Godinho was no more ignorant of it than anyone else. It is traced on one of his maps, folio 28.

But M. Major had not at that time inspected the manuscript and made himself familiar with all its contents.

A little later, at the Geographical Congress at Paris in 1875, Portugal exhibited the fac-simile of a letter of Godinho which apparently referred to the question of discovery, but which really tells us very little. It is reproduced at the end of the volume.

Meanwhile the discussion continued. Godinho's volume in autograph was exhibited at the Congress at Paris and was examined by several experts MM Dornseiffen, Tiele, Leupe and others in the Netherlands devoted articles to it in various reviews.

Finally, in 1878, in a remarkable work published in the Bulletin of the Geographical Society of Paris (Seventh series, tome XV p. 513), Dr E. T. Hamy describes and analyzes an important manuscript by Godinho, discovered at the National Library at Paris by M. Léon de Caussac.

It is a treatise, sent to the King, like the present work, from Goa, but at a later date, 1st December, 1616; it contains dissertations on Ophir, the voyages of King Solomon, Tartary etc., and ends with a "Summary of my Life", a very curious autobiography.

The author tells us that he was born at Malaca on the 16th July 1563, son of Juan de Heredia Aquaviva and Dona Helena Vessiva daughter of Don Juan, King of Supa in Macassar and lord of the State of Machoquique. In our manuscript he also recounts his origin and adds romantic details concerning the circumstances attending the marriage of his father, a Portuguese, with his mother, of native blood.

At 13 years of age he was sent to the College of the Jesuits, at Goa. In 1579, he entered the Company; but at the end of a year his passion for geography made him quit the religious habit.

Later, he became cosmographer-major of the State; in 1594 he was nominated DESCOBRIDOR, that is to say, as M. Hamy admirably explains, put in charge of the organization of discoveries destined "to add new patrimonies to the Crown of Portugal and to enrich the Portuguese nation".

The title of DESCOBRIDOR which some critics imagined to be a vain-glorious designation flaunted by Godinho, has a meaning analogous to ONTDECKEN in the Dutch commissions.

Moreover, Godinho carried out explorations as difficult as, and at that time, perhaps more venturesome than finding a new continent, he travelled through the interior of the peninsula of Malaca: he drew plans of it and no doubt he also furnished his superior officers with detailed memoranda. What he tells us in his report to the King, justifies us in saying, with M. Hamy, that in Malaca Godinho was really a discoverer.

In his first work presented to the King between 1597 and 1600, INFORMACAO DA AUREA CHERSONESO OU PENINSULA F DAS ILHAS AURIFERAS, CARBUNCULAS E AROMATICAS, published by Antonio Lourenco Caminha in the ORDENACAO DE INDIA DO SENHOR REI DON MANOEL, Lisbon, 1807, Godinho already proposed an expedition to the famous Isle of Gold, the enchanted country of which he had obtained information from the fishermen of Solor, but circumstances, namely, the attacks of the Dutch, prevented him from giving effect to the proposal. With a view to undertaking the defence of the peninsula of Malaca, Godinho constructed forts, made expeditions against the pirates, explored the interior of the country and drew up a list of the gold mines which existed there<sup>(1)</sup>.

Having contracted ailments which rendered him unfit for active service, Godinho retired to Goa, between 1605 and 1607. It was there that he wrote the first account of an expedition to the unknown land of Luca Antara, which might, well be Australia. This account is found in the present work, and the analysis of it which we gave

(1) It is published by Caminha after the INFORMACAO.

at the Geographical Congress at Antwerp has evoked discussion on this point in the world's history.

M. Hamy gives us, after the Paris manuscript, some curious complementary details about the expedition. Ten years after the discovery of this country, Godinho despatched a small ship, manned by a dozen men, in order to satisfy himself as to the truth of the account given by the first explorer. Their report, dated the 14th August 1610, confirms the truth of all the facts.

But the country which was seen by these two expeditions, was it Australia? that is to say, some part of New Holland?

The whole interest of this part of Godinho's work is contained in that question and in the reply which is given to it. Let us first re-state the gist of the discoverer's story.

In 1601 while Godinho was at Malaca, a boat manned by men coming from an unknown land was driven by a storm to Balambuan, near the south-eastern extremity of Java. These men, who were of a different race, were well received, and one of the territorial chiefs of Java named Chiaymasuro, king or chief of Damut, resolved to undertake a visit to the country of these shipwrecked men. He embarked with some companions in a rowing-vessel, and, after twelve days reached the coast of a great country called Luca Antara, on his return he related some really extra-ordinary marvels about it.

Nine years afterwards, as we have just stated, Godinho sent to this Luca Antara an emissary who confirmed the discovery.

The basis of Godinho's account, says M. Hamy, is very reasonable. Nevertheless, this learned Geographer, in a very erudite and concise dissertation, tries to prove that the land discovered by the two expeditions made at an interval of nine years was after all merely the Island of Sumba, known also, in the charts, under the name of the isle of Sandal, Sandelhout or Sandalwood, situated to the South of Bima and Flores, and 4 degrees from Java.

We cannot here take our turn to deliver ourselves of a dissertation on this point; but we may be permitted to observe that there was no need for the island of Sandal to be discovered by Godinho; it is shown on the map of the group containing Flores, Solor, and Timor (folio 48 verso) with the note "*Fortaleza do Ende minor*". This island cannot from its situation be any other than Sandalwood although in Godinho's map its dimensions are inadequate. But in any case this map shows that this group was sufficiently well known to our descobridor. It does not appear, it is true, on the map of the inter-tropical archipelago on page 28. We think we can recognize this island again in the map of the French edition of Linschoten, 1610; which in spite of the designation "Amsterdam, Henry Laurent" was really published at Frankfort by the firm of de Bry; one might add, too, that the island will be found to be marked in the map of 1616, which is part of Godinho's manuscript at Paris; this map is reproduced by M. Hamy. We find it difficult to accept the explanations given by M. Hamy as to Godinho's map of Luca

Antara and as to the turning movement to which he has made it submit in order to put it in accord with the modern maps. Moreover we cannot see Sumatra in the Java Minor which Godinho places above the austral continent.

Obsessed by the idea which he shared with all the geographers of that time, to trace the lands visited by Marco Polo, Godinho takes the names of countries mentioned by the Venetian traveller and adapts them, willy-nilly, to the newly-discovered lands.

The identification of Marco Polo's *Java Major* and *Java Minor* has been the subject of numberless discussions. Yule and many others before him have acknowledged that *Java Major* ought to be Sumatra and *Java Minor* the Java of our own day—Godinho's 'Java of Mataron'.

But one knows that this identification is not universally accepted, and the different maps in the *Declaracam* prove that Godinho was very well acquainted with Sumatra and Java, lands in which he had probably lived: and from his explanation it is clear on the evidence as a whole that his identifications relating to a great number of the names of places visited by Marco Polo differ from those of the modern geographers. For ourselves, there is no possibility of mistake; it is really Australia or at the very least the islands which fringe the north of the vast Australian continent, which is the subject of Godinho's maps and descriptions. That these maps are imperfect, that the descriptions are full of inaccuracies, we do not contest.

When one opens the accounts of those who sought for Eldorado in the 16th and 17th centuries, and those too of the voyagers charged with missions of discovery, when one looks at the sketches with which they illustrated their books and tries to sum up their stories of things which are strange, incredible, or at any rate, inaccurate, it becomes clear that Godinho's statements as a whole reduce themselves to a mere trifle: we regard them as the first intimations concerning an important discovery about which certain knowledge was obtained several years later. We have no cause to doubt the actuality of the alleged expeditions which he had attested by officers of standing.

The question, Who first had knowledge of the land of Australia, appears to us to be completely settled. It is highly probable that even during the course of the 16th century, Portuguese ships touched at one or other of its remote coasts; it is probable, too, that in some place where archives are deposited reports or maps will be discovered which throw some new light upon this subject.

"Nothing is more obscure than the Portuguese cartography" said Lelewel (II. 139); "it is only known to us by the copies or later imitations reproduced in Italy and Germany".

In the maps annexed by Godinho to his book one can readily discover more than one detail which he might have obtained from documents of this nature which are not known to us. And, for example, we will draw attention to the map on folio 28, where one

finds the outline of New Guinea drawn with remarkable accuracy. Even then, for Godinho, this great country was an island entirely detached from the whole continent; so he knew the result of the discovery of Torres Strait.

M. Hamy in a paper on the ancient cartography of New Guinea (Bulletin of the Geographical Society of Paris, 1879, Tome XIV p. 449) reproduces a map from the atlas of d'Ablancourt, published in 1700, at Amsterdam: in this map the separation of the two countries has not been effected; it marks, moreover, in the vicinity of  $6^{\circ}$ , the position of Cape KEER-WEER. The mention of this name has astonished M. Hamy. "One must not" he says "confound this Cape KEER-WEER which habitually figures in the Dutch maps of the 17th century, with that of the DUYFKEN'S voyage (1606). This latter is placed at  $13\frac{3}{4}^{\circ}$  in the instructions given to Tasman by the Company of the Indies; but the ancient Dutch geographers never mention it, and besides, no noticeable salient in the coast is to be found at the corresponding latitude. All this ought to raise doubts as to the extent of the voyage made by Willem Jansz on the DUYFKEN and as to the authenticity of the discovery of the Australian continent which is habitually attributed to him". We have ventured to go further than the learned French geographer and we have entirely rejected this discovery.

Godinho's descriptions of the country of Malaca, his multifarious comments about the inhabitants, products, and affairs, as well as his biographical details, namely, those which he has given about himself (dictated by a naive vanity, as we readily admit)—all this is not without interest. Nor are the portraits, with which he illustrates his work, anything but curious. That of Francis Xavier among others, does not resemble any of those which appear among the materials which the Bollandists collected in order to write the life of this saint in the *Acta Sanctorum*. It was this portrait which prompted the gift of Godinho's memoir to the Society of Jesus and to this very day the binding of the volume bears the title "*F. Xaverius M.S. 1613*" and the fly-leaf has the inscription—

"Societati Jesu Bruxellensi. J. B. de Haze, Canonicus  
Divae Gudilae donat Francisci Xaverii Indiarum apostoli  
gratia, cujus sanctissimi viri imago cenitur, folio 47<sup>o</sup>,  
1730".

We will not draw the attention of science to the geographical essays comparing the Oriental world of Ptolemy, Pliny, Aristotle, Marco Polo and Vartomannus with the world as known in the sixteenth century. That is a work whose value must be estimated according to the criteria of Godinho's day. It is not a little astonishing that it should have been accomplished in such a manner in the Far East, by a man with Indian blood in his veins, who had never been in Europe. It cannot be denied that our *Descobridor* possessed a remarkable degree of knowledge and erudition and that among those of mixed descent he could, up to a certain point, pass for a phoenix.

For all these reasons the *Declaracam* cannot remain buried in the cupboards of a library far from the author's country. Australia itself demands complete and entire knowledge of a document in which it is concerned. This vast continent, in which are arising to-day colonies whose prodigious development is without precedent in the annals of history, this continent can recover in Godinho's book materials for its own history. A decision of the Legislative Assembly of Victoria, dated 14th August, 1878, has sanctioned the publication of documents relating to the discovery of this province and to the first establishments which were founded there.

And in publishing the ship's log-book of the first European ship which arrived at Port Philip in 1802, Mr. John J. Shillinglaw has good reasons for saying, "when the future historians of Australia retrace this marvellous period of less than half a century, during which a coast where they fished for whales and where one saw scarcely more than a few grass huts on the shore of an unnamed river, has been transformed into this noble province of Victoria, they will realize the service rendered by those who possessed the slenderest records of the actual foundation of the Colony".

(*Historical Records of Port Philip: the first annals of the Colony of Victoria*, edited by John J. Shillinglaw. Melbourne, 1879)

It is with such considerations in view that we have conceived the publication of Godinho's work

"Study" "evidence" "document"—whatever name we may give it, this work dates from the time of the discovery of Australia; it announces, it heralds this event, even if one will not admit that it affirms it, written in the vicinity of the world's fifth part, giving geographical details about the whole archipelago, so rich and so fertile, a golden chain which connects the old world with the Austral land, Godinho's work contains something more than a mere account from which science will profit or derive the subject matter of discussions.

[Signed]. C. RUELENS.

#### Note

3

On the Manuscript of Manuel Godinho de Eredia in the Royal Library at Brussels

by

M Léon Janssen

On the 1st March, 1861, the late M Major, Conservator of the Cartographical Department at the British Museum, informed the Academy of Sciences in London of the discovery, in the collections of the British Museum, of a manuscript chart, apparently copied from an older chart, which indicated the Portuguese Manoel Godinho de Eredia as having discovered Australia.

This copy, spoiled by mistakes as it is, must have been the work of an inexperienced copyist, and M. Major, on the subject of

1930] *Royal Asiatic Society*.

the work, expressed the hope that it would one day be completed by the discovery of other documents concerning Godinho de Eredia, to whom the map in the British Museum attributed the honour of having been the first person to know about Australia.

On the other hand, on the 22nd March, 1875, the Academy of Sciences of the Institute of France, received from His Excellency Monsieur Jose da Silva Mendes Leal, then Ambassador of Portugal at Paris, a copy of a document found towards the end of the year 1874 in the archives of Lisbon.

This document had been reproduced with great accuracy by the efforts of Portuguese experts. It was a letter signed by Manuel Godinho de Eredia in which he asked some unknown person probably one of the Viceroy's of Malaca, that he might be designated to set out on the discovery of "the island of gold".

A document of vastly greater importance was found in the Royal Library at Brussels, where it had remained for a long time unnoticed, doubtless because it formed part of a special collection, and, probably too, because at the back it bore the inscription "F Xaverii, M. S 1613", which was not calculated to draw attention to it as a geographical document.

This manuscript, which M Ruelens, Conservator of the Royal Library of Belgium, has made known, was found amongst the immense material collected by the Bollandists for the relation of the "Acta Sanctorum" and it appears to have been included amongst these documents by the sacred historians because it contains a curious portrait of St. Francis Xavier, with a notice relating to the apostle of the Indies.

In 1732, the manuscript was given to the Society of Jesus by Canon De Haze, as is indicated by this inscription which appears on the first fly leaf

"Societati Jesu Bruxellensi, J H de Haze, canonicus  
divae Guduliae donat Francisci Xaverii, Indiarum Apostoli  
gratia, cujus sanctissimi viri imago cernitur folio 47°  
1732".

In 1773, after the suppression of the Order of the Jesuits in Belgium, the manuscript passed into the hands of the State and it figures to-day amongst the most interesting documents in the possession of our Royal Library.

Then, in 1871, while His Excellency Monsieur le Chevalier d'Antas was Minister of Portugal at Brussels, the project of reproducing this manuscript was formed. This project has remained unexecuted till to-day

Encouraged by His Excellency Monsieur le Comte de Thomar, Minister of Portugal at Brussels, who has been pleased to lend his valuable co-operation and advice in the whole matter of this publication, we have to-day succeeded in finishing the work of reproducing the manuscript of Godinho de Eredia in the possession of the Royal Library at Brussels.

The reproduction of the numerous plans and drawings which are included in the manuscript and the re-publication of his text, have been the object of the most scrupulous care; moreover, the errors in the document have been preserved, in order to obtain an absolutely faithful facsimile. I have thought it my duty to include, with the reproduction of the manuscript at Brussels, a facsimile of the letter which exists in the archives of Lisbon, and a copy of the chart found in London by M. Major.

These are the premises for the claims of Portugal to the discovery of Australia, and for the study of the curious figure of the Descobridor "Manuel Godinho de Eredia".

It follows, indeed, from the manuscript at Brussels, that in 1601, Godinho de Eredia knew of a land which the Dutch ship "Het Duifken" only came across in 1606: and meanwhile the Dutch claim for their ship "Het Duifken" the glory of having discovered Australia.

The documents which we here publish not only serve for the discussion of this question which is so interesting for the history of Portugal and for geographical science: they show us in Godinho de Eredia a learned man and a distinguished cosmographer: furthermore they furnish very complete and most interesting details (hitherto unpublished, we believe) regarding the territories of Malaca at the beginning of the seventeenth century.

BRUSSELS, *July*, 1881.

[Signed] LEON JANSSEN.

## NOTE ON THE SPELLING.

As a general rule, Eredia's spelling of proper names has been followed.

In the following cases Eredia's spelling has been varied:—

|                 |                   |                |                |
|-----------------|-------------------|----------------|----------------|
| Alans           | for Alanos.       | Julus          | for Julio      |
| Albert          | „ Alberto.        | Lisbon         | „ Lisboa.      |
| Amazons         | „ Amazonas.       | Lob            | „ Job.         |
| Appian          | „ Apiano.         | Lucan          | „ Lucano.      |
| Augustus        | „ Augusto.        | Macaçar        | „ Malacar.     |
| Aziongaber      | „ Ariongaber.     | Miletus        | „ Milithi.     |
| Banda           | „ Danda.          | Nile           | „ Nylo.        |
| Bede            | „ Beda.           | Osiris         | „ Osyris.      |
| Bencales        | „ Beneales.       | Ovid           | „ Ovidio.      |
| Benco           | „ Beneo.          | Palestine      | „ Palestina.   |
| Borneo          | „ Barnes.         | Phaedo         | „ Phoedo.      |
| Canaries        | „ Canarias        | Philippines    | „ Philippinas. |
| Carthage        | „ Carthago.       | Plato          | „ Platao.      |
| Castile         | „ Castilla,       |                | „ Plattao.     |
|                 | „ Castella        | Pliny          | „ Plinio.      |
| Constantinople  | „ Constantinopla. | Pomponius Mela | „ Pomponio     |
| Cornelius Nepos | „ Cornelio        |                | „ Mella.       |
|                 | Nepote            | Portuguese     | „ Portugezes,  |
| Critias         | „ Cricias         |                | „ Portugueses, |
| Curtius         | „ Curtio          |                | „ Portuguezes. |
| Egypt           | „ Aegipto,        | Ptolemy        | „ Ptholomeo,   |
|                 | Egipto.           |                | „ Ptholemeo.   |
| Ethiopia        | „ Oethiopia.      | Rome           | „ Roma         |
| Europe          | „ Europa.         | Saturn         | „ Saturno      |
| Gaius           | „ Gayo.           | Scyths         | „ Scithas,     |
| Galian Mas      | „ Galian Mar      |                | „ Scyths       |
| Galen           | „ Galeno.         |                | „ Scythas      |
| Germany         | „ Alemanha.       | Solomon        | „ Salomon.     |
| Goths           | „ Godos.          | Spain          | „ Espanha.     |
| Greece          | „ Grecia.         | Spaniards      | „ Espanhoes    |
| Greeks          | „ Gregos.         | Strabo         | „ Strabon      |
| Gymnosophists   | „ Gymnosophitas.  | Suneputat      | „ Nuneputat    |
| Herodotus       | „ Herodoto.       | Surubaia       | „ Suzubaia.    |
| Holland         | „ Olanda.         | Tartar         | „ Tartaro.     |
| Hollanders      | „ Olandeses.      | Taurus         | „ Tauro.       |
|                 | Olandezes.        | Theophrastu    | „ Theophrasto. |
| Homer           | „ Homero.         | Timaeus        | „ Timeo.       |
| Ilher           | „ Ilber.          | Turks          | „ Turcos.      |
| Israelites      | „ Israelitas.     | Ujontana       | „ Viontana.    |
| Italy           | „ Italia.         | Venetian       | „ Veneto.      |
| Japara          | „ Rapara.         |                | „ Venezeano.   |
| Jerome          | „ Jeromino.       | Venice         | „ Veneza.      |
| Josephus        | „ Josepho.        | Vitruvius      | „ Vitruvio     |





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Sir Thomas Stamford Raffles, F R. S.

## **Delegation to Java: Presentation of Sir Stamford Raffles' Bust to the Royal Batavian Society of Arts and Sciences.**

The frontispiece of this Journal illustrates a bronze bust of Sir Thomas Stamford Raffles' presented to the "Koninklijk Bataviaasch Genootschap van Kunsten en Wetenschappen" (Royal Batavia Society of Arts and Sciences) by the Malayan Branch of the Royal Asiatic Society on 23rd December, 1929.

The formal presentation was made by a delegation specially sent to Java and consisting of the President (Mr. C. Boden Kloss) accompanied by the Honorary Secretary (Mr. F. N. Chasen). The bust was received by the President of the Batavia Society (Mr. Ch. J. I. M. Welter) in the presence of a very distinguished gathering which His Excellency the Governor-General of Netherlands India graciously attended in person.

A fuller account of this ceremony and other proceedings is given below.

\* \* \* \*

The "Koninklijk Bataviaasch Genootschap van Kunsten en Wetenschappen" was established in 1779 and can thus claim to be the oldest European learned institution in Asia.

It is now enjoying a period of extreme intellectual prosperity and the enviable reputation it enjoys is world-wide

Its numerous publications are embodied in three series, the Transactions, the Journal and many Monographs. Its manifold activities include the maintenance of a large and well kept Ethnographical Museum at Weltevreden.

The history of the Society in brief is that it came into existence during the decline of the Dutch East India Company. After a moribund period it was refounded by Raffles and under Dutch rule, it has flourished for the last one hundred years.

\* \* \* \*

The British occupation of Java covered the period 1811-1816 and for most of the time Raffles was Lieutenant-Governor. It is well known however that Raffles was not entirely occupied by problems of governing and state: in his greatness and versatility he found time not only to engage in the active prosecution of natural history, archaeology and the study of the peoples he governed, but to stimulate and encourage similar tastes in others.

It is therefore only to be expected that Raffles took an active part in the affairs of the learned society he found in existence on

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<sup>1</sup> The original of this bust, made by Chantry in 1817 and now the property of the Zoological Society of London of which Raffles was one of the founders, is at present housed in the Society's Zoological Gardens in Regent's Park and thanks are due to the President and Council of the Society for permission to have the copy made

his arrival in Java. The Society indeed seems to have been moribund but Raffles as President rejuvenated it and the valedictory address presented to him on his departure from the country in 1816 marks the Society's appreciation of his efforts. It was in graceful acquiescence to a request contained in this address that Raffles consented to allow the Society to secure his bust "to be placed in the Hall of our Society, in that vacant niche which was intended to receive the Bust of our late Noble and revered Patron the Earl of Minto; the hopes we entertained on this point, having been, alas! disappointed, by the fatal event which deprived us of his distinguished Patronage and Protection, we turn to you, Honourable Sir, as alone worthy to replace him in our attachment and veneration." The terms of Raffles' accedence to this request were characteristic of the man. He wrote "I fear my Bust will be but a poor substitute for that which was once intended to adorn your hall, but however reluctant I feel to acknowledge myself worthy of this further mark of your flattering attention, I owe you too much respect to deny your request."

The bust was made but it never found its way to Batavia. The situation had altered. Java had been restored to the Dutch with whom Raffles was not popular because of his political views.

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The scene now changes to 1928 in which year the Royal Batavia Society celebrated its 150th anniversary. Among the delegates of the various learned societies who gathered in Java for the occasion the Malayan Branch of the Royal Asiatic Society was represented.

It was only to be expected that the informal discussions arising from the conference should revive memories of Raffles and of the bust that never reached Java. The immediate result was that the Malayan Branch of the Royal Asiatic Society decided to present a copy of the original bust to the Royal Batavia Society. The project was well received in Java and Mr. Boden Kloss therefore had the bust made in England in 1929 and brought it out with him on his return from leave at the end of that year.

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The first of the presentation ceremonies took place on the morning of the 23rd December in the cemetery at Tanah Abang, Weltevreden where wreaths were laid on the grave of Raffles' first wife, Olivia Mariamne Raffles.<sup>1</sup>

In the name of the Royal Batavia Society of which he is Chairman, Mr. Ch. J. I. M. Welter, Vice-President of the Council of the Indies placed the first wreath on the tomb and afterwards in a short address, which Mr. Boden Kloss acknowledged, referred to the loyal help and devoted support which Raffles had received

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<sup>1</sup> The actual grave at Weltevreden which has recently been renovated is often confused with the Cenotaph at Buitenzorg which Raffles erected to the memory of his wife

from his wife in Java. Wreaths were also laid on the tomb by Mr. Boden Kloss on the behalf of the Malayan Branch of the Royal Asiatic Society, Sir Josiah Crosby, K.B.E., H.B.M. Consul-General, the Royal Empire Society, the British Protestant Community, the British Club and the Raffles Society. The attendance at the grave side also included Prof. Dr. B. Schrieke, Prof. Godee Molsbergen (Custodian of the State Archives) and the Rev. C. T. Cribb (British Chaplain).

The formal presentation of the bust took place before a distinguished gathering at a special meeting of the Royal Batavia Society held on the evening of 23rd December.

His Excellency the Governor-General kindly came down to Weltevreden from Buitenzorg specially to attend the function and there were also present members of the Council of Netherlands India, the Naval Commander-in-Chief, the General Officer Commanding the Troops, the President of the Volkrad, the President of the High Court of Justice, Directors of various Government Departments, the Governor of West Java, members of the Consular Body and other Dutch Members of the Society.

The British Community was also well represented. The President of the Society (Mr. Ch. J. I. M. Welter) opened the proceedings with a short address of welcome to H. E. the Governor-General and the delegates from Singapore.

Mr. Boden Kloss then handed over the bust and said:—

“Your Excellency, Mr. President and Members of the Royal Batavian Society of Arts and Letters.

It was not until I took part in your recent sesquicentenary celebrations as the representative of His Excellency the Governor and High Commissioner of the Straits Settlements and Federated Malay States that we in British Malaya became aware that your Society had long ago planned to obtain for its hall a bust of its one-time President Stamford Raffles and we do not know to-day why that intention was frustrated. But we are a little glad that it is so for it gives us, whose home is in the town that Raffles founded, a happy opportunity to make good the more than century-old arrangement.

Mr. President, on behalf of the Malayan Branch of the Royal Asiatic Society, I have the pleasure of presenting the Koninklijk Bataviaasch Genootschap van Kunsten en Wetenschappen with this likeness of Sir Thomas Stamford Raffles. We wish it to be regarded as a token of friendship from one neighbour to another; as a token of the esteem which a comparatively young Society feels for a Society which is the oldest learned body in Asia. And we hope that whenever you look upon this Bust you will remember our sincere desire that your Society may enjoy a longer, more prosperous and—if it be possible—more useful career in the future than in the past.

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May all success attend the Royal Batavian Society and may its relations with the Malayan Society ever be as cordial as they are today."

Mr. Welter accepted the gift and in thanking the donors promised that it should always occupy a prominent place in the Museum. In the following very appreciative speech in English he then reviewed Raffles' career and his influence on Java:—

The man whose bust has just been offered so graciously to the Koninklijk Bataviaasch Genootschap van Kunsten en Wetenschappen in the name of the Malayan Branch of the Royal Asiatic Society by Mr. Boden Kloss was not only its President for many years but undoubtedly one of the most brilliant, if not the most brilliant, of the presidents who occupied the Chair in our Society during its long existence.

By the course of circumstances being at this moment the successor of Raffles in the Presidency of the Koninklijk Bataviaasch Genootschap van Kunsten en Wetenschappen, I feel it an obligation and at the same time an honour to may add to those that have been so courteously spoken by Mr. Boden Kloss, some words on behalf of our society.

A more competent speaker than I, Prof. Dr. Schrieke, will in the course of the evening give you a more elaborate exposition of the significance of Thomas Stamford Raffles for this Island of Java.

Nevertheless I feel it as unavoidable that I should try to throw a light—how ever feeble—on the life and the work of the man, to whom this evening is dedicated.

I could not do that better than by using as a guide one of his notable biographers, Coupland, from whom I have derived the following description of his character, life and work.

The most striking feature in the character of Raffles was his free and friendly relations with the natives as well as with the European community.

As at Penang and Malacca, so in Java, he made the most of every opportunity of personal intercourse with the people of the country. They were frequently in his house. He talked to them by the roadside and in their villages. When he resided for some months at Samarang, "the native chiefs were constant guests at his table." He carried on a lively correspondence with native princes and some of the Regents on scientific matters.

But it was not only with the human element in Java that Raffles made himself acquainted. He knew the island—its scenery, its mountains and jungles, its temples and monuments—as few have known it. To avoid the warm climate of Batavia he made his headquarters at Buitenzorg and from there he made long journeys, from time to time, through the wild heart of the country. "The rapidity with which he travelled", records one of his companions, "exceeded anything ever known on the

island before. The average rate was more than twelve miles per hour." "Indeed", he adds, with feeling, "several were sufferers from the very long journeys he made, riding sometimes sixty and seventy miles in one day, a fatigue to which very few constitution are equal in an Eastern climate."

But fast and far as he rode, he found time to notice and record everything of interest he saw. "I am collecting for you", he wrote to Marsden in 1812, "a variety of inscriptions found in different parts of Java . . . . Drawings of all the ruined temples and images are in hand." Again, a year later: "The "Juliana" takes home a very compact collection of quadrupeds, birds and insects, prepared by Dr. Horsfield for the Oriental Museum at the India House. A large collection of dried plants is also sent."

In 1815, he reports: "I have visited nearly all the remains of sculpture to be found in the island: they are far more extensive than at first I had any idea of . . . . . Many of the Hindu deities have been found in small brass and copper casts, of these I have a collection containing nearly every deity in the Hindu mythology."

Nor, of course, did he neglect his favourite linguistic studies. In the spare moments of four years administration he made his own vocabulary of the languages of Java, extending to more than seven thousand words.

And all the while he was trying to stimulate in the permanent European community an interest as keen as his own in the natural and cultural history of Java. One of the earliest acts of his administration was his revival of the Batavian Society of Arts and Sciences. "With the celebrated Rademacher", he told Marsden, "the Society seems to have lived and died, at least it has been nearly in a torpid state ever since" So he boldly refashioned its constitution and rules so as to encourage research, gradually conquered the prejudices of some old members who "shut the door against everything new", favoured it with more than one lengthy and learned discourse from the president's chair, and left it one of the most vigorous scientific bodies in the East.

After having given you this outline of Raffles person and work, you will not be astonished, that upon learning that Raffles would resign as lieutenant Governor of Java and its dependencies in the beginning of 1816, the Batavian Society of Arts and Sciences decided to honour its retiring President in a very special way.

On the 22nd of March, 1816 in the evening probably at the same hour as this, a solemn general meeting of the members of the Society was convoked in honour of the departing President.

In the proceedings of the Society of that year, that event was commemorated in these words, which I permit myself to quote here, because, since they are written by a contemporary of Raffles and a fellow-member of the board of Directors of the Society, they contain the most competent testimony about Raffles' tenure of office

as a President of Society. At the same time they are the most eloquent testimony which I have found about the prominent share which Raffles has taken in the management of the Society's affairs during more than four years.

I beg you to bear in mind that on the 22nd March of 1816 Raffles was no longer Lieutenant-Governor of Java and its Dependencies, that the Dutch Government was due to be restored within a short delay and that for that reason flattery and Bysantinism must have been utterly strange to the passage of the proceedings mentioned before, which runs as follows:—

As though the Society had not already suffered a sufficient loss by the death of its illustrious Patron, the Earl of Minto, whose name will always remain with us in a respectful and grateful memory, still more was felt the blow dealt to us by the departure of our meritorious president and generous restorer of the affairs of our Society, the Honourable Thomas Stamford Raffles. His modesty restrains in these proceedings the full effusion of those warm feelings of grateful attachment which fill the hearts of all the Members. (The Dutch version is much more peculiar and therefore I allow me to quote the Dutch also: 's Mans zedigheid wederhoudt te dezer plaatse de volle ontboezeming dier warme gevoelens van dankbare verkleefdheid waarvan de boezems van alle leden zijn doortrokken.)

But then the proceedings continue as follows:—

“ His zeal for the honour and the extension of the Society's interests, his incessant incitement and stimulating example, and especially the affability of his noble character will remain for long time with us in pleasant memory.”

In order to give expression to the feelings of the Society towards its departing president, an address was voted which I think it is necessary to read here before you, as it contains the immediate cause of the gathering of this evening of the Batavia Society of Arts and Sciences, after nearly one hundred and fourteen years.

“ Honorable Sir!

On the occasion of your resigning the office which you have so long and so ably filled in the Literary Society of Batavia, the Members of that Society cannot refrain from expressing the sentiments of regret which they feel, both for the causes which led to that resignation, and for the effect which they are apprehensive it may have on their future labours.

From the state of decay into which the Literary Society of Batavia had gradually fallen, owing to a combination of unfortunate circumstances, it was your active exertions and unwearied zeal in the promotion of literature and science that bid it rise once more, that favoured its proceedings, and has enabled it to resume its activity.

“ We acknowledge this with equal gratitude and pride, sentiments that with us will ever distinguish the period during which you presided over the Society and during which you have recalled it to a new existence.”

“ Allow us then, Honorable Sir, to offer you the sincere expressions of our respect, regard and attachment of our anxiety to continue, aided by your correspondence and assistance in Europe, of our warmest wishes for your complete recovery, and our hopes that in the career of active life to which your eminent abilities will hereafter doubtless call you, you may have leisure to devote some part of your time to those Literary and Scientific pursuits in which you are equally well qualified to take a conspicuous and important share.

Anxious to retain among us some durable memorial of the distinguished honor we are now to lose, we solicit your consent to authorize our Agents in London to procure your Bust for us, as soon as possible after your arrival, to be placed in the Hall of our Society, in that vacant niche which was intended to receive the Bust of our late Noble and revered illustrious Patron the Earl of Minto; the hopes we entertained on this point, having been, alas! disappointed, by the fatal event which deprived us of his distinguished Patronage and Protection, we turn to you, Honorable Sir, as alone worthy to replace him in our attachment and veneration.”

To this address Raffles answered as follows:—

“ Deeply impressed as I have always been with the sense of your kindness, and gratified as I have on all occasions felt, at the flattering marks of your attention and regard, I must confess that I was wholly unprepared for the high compliment which you have now paid me.

To your kindness, rather than to any merit of my own, I must acknowledge myself exclusively indebted, and I hope you will believe me fully sensible of this distinction, which enhances in so great a degree the obligation which I am under to your society

In my parting address on resigning the chair I have endeavoured to express my sentiments more fully, and I need only assure that to whatever part of the world it may be my destiny to proceed, I shall always be as proud of the honor, as I shall certainly be benefited by the advantage, of corresponding with your Society and of promoting to the utmost of my ability your laudable views and pursuits.

I fear my Bust will be a poor substitute for that which was once intended to adorn your hall, but however reluctant I feel to acknowledge myself worthy of this further mark of your flattering attention, I owe you too much respect to deny your request.

Accept, Gentlemen, the sincerest assurances of my esteem, regard and affection.

Believe me I shall ever retain a grateful and pleasing recollection of your kindness and of the hours of intellectual enjoyment I have passed in your Society.

May every success attend you! ”

One hundred and fourteen years have passed before Raffles promise was fulfilled.

Since it is fulfilled, I think it is useless to make inquiries into the reasons for the prolonged postponement and on this evening I, as for the time being, the successor of Raffles in the presidency of the Bataviaasch Genootschap van Kunsten en Wetenschappen and on behalf of that Society will only express our joy and our pride that we have in our midst the bust of the man whose heart beat so warmly for our Society and who in the time of its greatest distress saved it from total downfall.

For us Dutchmen the remembrance of Raffles is indissolubly associated with Java. Here lies his principal field of activity, both as a scientist and as a governor, here he has unfolded his gifts as an organisator and a statesman. It was in Java that he introduced for the first time in the history of the world the principles of modern colonial government, whose application has in many respects survived till now. Think of our system of land-taxation, known by the name of landrente. Think also of the right granted to the population to elect the chiefs of the villages, afterwards called by us "the palladium of liberty". Think of his administration reforms.

There is in the Holy Scripture a word of deep wisdom, like so many others, which says "Where your treasure is, there will your heart be." And Raffles heart was most certainly in Java.

That is the reason—a reason in my opinion raised far above all political controversies—which joins him to us, which makes him almost one of us. I would call it his love for this country. As far as I know English I could not express the feelings which Java inspired to Raffles by any other word than "love". It can not be expressed by the verb "to like" or "to be fond of" or any similar expression. It was undoubtedly more than that, a feeling much nearer to his inmost self, closer to his heart.

He who has read that wonderful book by Raffles, "The History of Java," must have found on many pages the expression of his love for that beautiful island and its inhabitants. In describing the intercourse which has subsisted in remote times between Western India and these Islands, he writes:

"Where was there a country that could more invite the retreat of holy men than the evergreen islands which rise in endless clusters on the smooth seas of the Malayan Archipelago, where elevation and tranquillity of devotion are fostered by all that is majestic and lovely in nature?"

And about its inhabitants, he wrote these appreciative words:

"In manners the Javans are easy and courteous and respectful even to timidity; they have a great sense of propriety and are never rude or abrupt. In their deportment they are pliant and graceful, the people of condition carrying with them

a considerable air of fashion, and receiving the gaze of the curious without being at all disconcerted. In their delivery they are in general very circumspect and even slow, though not deficient in animation when necessary."

The man who wrote a book like "The History of Java" must have had his pen directed not only by his brains but also by his heart.

When the events coming after the congress of Vienna cast their shadows before them in this part of the Far East, Raffles wrote to his home government:

"If I were to believe that the Javanese were ever again to be ruled on the former principles of government, I should indeed quit Java with a heavy heart; but a brighter prospect is, I hope, before them. Holland is not only re-established but, I hope, re-united. . . . I will hope that the people of Java will be as happy, if not happier, under the Dutch than under the English. I say happier, because Java will, in importance, be more to Holland than she could ever be to England; and the attention bestowed by the one country must naturally be greater than that likely to be afforded by the other."

It is impossible to deny greatness of soul to the man who, writing this, knew that the day on which he would be obliged to leave Java would be one of the saddest of his life.

The promise of Raffles has at last been fulfilled, thanks to the courteous initiative of the Malayan Branch of the Royal Asiatic Society, whose representative, Mr. Boden Kloss, has had the goodness to offer in this meeting the bust, of Raffles, thanks also to the kind intermediary of His Britannic Majesty's Consul-General Sir Josiah Crosby.

In behalf of the Bataviaasch Genootschap van Kunsten en Wetenschappen I accept that highly appreciated gift, while I tender to Mr. Boden Kloss and to Mr. Chasen our heartfelt thanks for their kind intermediary and beg them to convey the sentiments of our profound gratitude to the Malayan Branch of the Royal Asiatic Society.

And now the Bataviaasch Genootschap van Kunsten en Wetenschappen has also to fulfill a promise, given a hundred and fourteen years ago, in the address which I had the honour to read to you.

To the bust of the eminent president of our Society, the statesman and scientist, to whom our Society owes such a great debt of gratitude, to the Author of the History of the Islands, he loved so much, to the bust of Sir Thomas Stamford Raffles we will give a place of honour in the building of our Society as a mark of our profound thankfulness and veneration and as an everlasting memorial of our gratitude.

1930] *Royal Asiatic Society.*

Mr. Welter was followed by Professor Dr. B. Schrieke who is not only Director of the Department of Education but also Conservator of the Ethnographical Collection in the Society's Museum. Dr. Schrieke's address, which was also delivered in English, included reference to the administrative reforms conducted by Raffles in Java. It is printed in full herewith:—

Your Excellency, Mr. President, Members of the Committee of the Royal Batavia Society of Arts and Sciences Ladies and Gentlemen!

On this solemn occasion—now that our late President has returned among us after so long an absence—you may expect me to sketch Raffles's work in the domains of science, of zoology, of botany, of archaeology, of history, of ethnography, of native customary law; his work for this society. But, his keen interest in and his contributions to the advancement of these sciences are so generally known and so universally acknowledged that it would be superfluous to dwell upon them now. It would hardly be possible to throw any new light on these familiar facts. Besides, this side of his character forms so essential a part of his personality that it cannot be separated from his work as a whole. I know no better instance to prove this contention than his own accounts of the foundation of Singapore:

"Here I am at Singapore"—he writes to Marsden only two days after his arrival—, "true to my word, and in the enjoyment of all the pleasure which a footing on such classic ground must inspire. The lines of the old city, and of its defences, are still to be traced, and with in its ramparts the British Union waves unmolested."

"I must, however, tell you where you are to look for it on the map"—Raffles writes to the Duchess of Somerset—"Follow me from Calcutta, within the Nicobar and Andaman Islands, to Prince of Wales's Island, then accompany me down the Straits of Malacca past the town of Malacca, and round the south-western point of the Peninsula. You will then enter what are called the Straits of Singapore and in Marsden's map of Sumatra you will observe an Island to the north of these straits called Singapura; this is the spot, the site of the ancient maritime capital of the Malays, and within the walls of these fortifications, raised not less than six centuries ago, on which I have planted the British flag, where, I trust, it will long triumphantly wave."

"I shall say nothing of the importance which I attach to the permanence of the position I have taken up at Singapore; it is a child of my own. But for my Malay studies I should hardly have known that such a place existed."

As was archaeology, so also was the reviving of the Batavia Society a vital part of his personality. In Holland the beginnings of the interest in economics and philanthropy had created the "Society for advancement of agriculture" in 1776 and the

“Economic Branch of the Society of Sciences” in 1777. This example had been followed in Batavia in 1778. Here too the interest in economics had been prevailing. But the new science was mistrusted by those in power, and regarded as dangerous. Accordingly the Society was thwarted and its members became suspected.

Being an advocate of the new economic principles of free trade and feeling the need of knowledge as a basis for his wide political plans, Raffles reanimated the Batavia Society as a means of encouraging researches.

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This memorial meeting however in which we pay our homage to the man who rescued our society from oblivion, is not only to celebrate the happy return of our late president to the circle of his friends. When we think of what prevented him from coming and us from receiving him, we can only rejoice at a state of affairs which enables us to give him a most sincere welcome, to forget animosities and sensibilities which divided former generations, to think impartially of the significance of his efforts for this country.

In order to understand the influence of Raffles's administration on the history of Java, it is necessary to sketch the situation as it was in his times.

The Dutch East India Company had been in a state of decay for many years. Numerous proposals for improvement of the conditions had been put forward, some had been applied, but without success. The debts in Holland were increasing.

The Batavia Government could not pay the expenses of a proper administration. The reports of the official Committee of investigation (1790), published in 1792, did not give a solution. The proposed measures affected only the internal organisation of the Company, not the system as a whole. The Commissioners, sent to Java, did not improve the corrupt situation here: they came under the influence of the oligarchy in power. In 1795 the monopoly of the Company was withdrawn and in 1798 its business was transferred to the State. The situation was gloomy.

In these circumstances Dirk van Hogendorp, a late official of the Company, who, when still in Bengal, had become acquainted with the British administration in India, attacked the Company in his publications. According to his views the old system had to be abolished altogether. The source of all evil was the monopoly of the Company, the Company as a body of merchants not being the appropriate instrument for administering a colony, having for its object nothing more than the collection of colonial produce for commercial returns. The colony could not flourish as this kind of commerce—based on the indigenous feudal system, arbitrary cultivation and vexatious impositions—exhausted the country. The prosperity of the people was sacrificed to short-sighted mercantilism. There was no way out of the rapid decline. Therefore, the

administration and the defence of the territorial possessions in the Indies had to be taken over by the State and was to be paid out of a landrent and some other regular taxes and duties as it was in Bengal.

Java belongs to Holland—Dirk van Hogendorp explains—by right of conquest. Its inhabitants are our subjects. We therefore are entitled to the revenues of the island to pay the expenses of the administration and the defence and to a subvention for the home-country. But although the Javanese have given up their political freedom, they still retain their civil rights. If we give them protection against external foes and internal oppression, and impartial administration of justice and right of property, the Javanese will always feel happy under our rule and never foster revolutionary ideas. Their reason will tell them that without our protection they will never be able to defend themselves against foreign attacks and oppression by their own chiefs.

We, therefore, must eliminate the feudal system, indemnify their chiefs and give the right of property to the people. They will enjoy the profit of their own labour and become industrious. Forced labour has to be abolished. So there will be a stimulus to extend the cultivations. The competition among the merchants guarantees them the highest price for their products and enables them to buy the articles imported from Holland. This will encourage the industries at home. Raw material such as cotton, can be exported for the mills of the mother country. In Java there is still much waste land which is to be given to industrious people—native, Chinese or European—for private enterprise. Dutch capital, now for the greater part placed in foreign investments, must be invested in Java.

Dirk van Hogendorp's ideas made a great impression even upon his opponents.<sup>1</sup> People hardly dared to contradict his criticism of the corruption in Java and the defects of the company system. In 1802, when an effort was made to revive the Company under a new form, his radical views were widely discussed.

Some feared that overproduction might be the effect of the introduction of the new system, with the result that commerce would not pay. According to others the Regents would become disaffected and insurrections might ensue. Some asserted that the Javanese would become too wise and expel the Europeans. Others doubted if there would be capital to be invested and denied that imports of any value could be expected from Holland. In these circumstances foreign commerce would gain the upperhand. Others would not admit the example of British administration in Bengal. Free trade there was limited and the charter of the English East India Company was renewed in 1794. According to them the decay of the Dutch Company was only caused by the frequent wars since 1780 and the supremacy of the British on the sea. Others contended that the

<sup>1</sup> Vgl. J. A. Sillem, Dirk van Hogendorp (1761-1822) [1890], p. 347 sqq

native needs were so simple that there was no stimulus to exertion. If they were not forced to work, there would not be any cultivation of the soil, the Javanese being lazy by nature. It would be impossible to impose the new system upon the feudal organisation of native society in Java.

Owing to the political situation no decision as for the principle of the colonial policy could be given. The charter of the Company was not renewed; free trade was allowed, but the conditions in Java did not change. The State took the place of the Company and received the forced deliveries of products (coffee, rice, etc.)

There was still a deficit in the budget. Extraordinary measures, such as the sale of lands and the lease of villages were taken to cover the expenses and to sustain the value of the currency.

In these circumstances Daendels came to Java. His task was to establish Dutch authority, there, to organise an army and the defence of the island against a possible English attack.

Daendels did what was asked from him. He established the supreme authority of the central Government by curtailing the powers of the European Governors and Residents and of the native Princes and Regents whose feudal status he changed into that of regular officials, royal servants. He reorganised the army and erected fortifications by forced labour and feudal service. He constructed a direct military road from the West to the East of Java by forced labour. He extended the coffee plantations by forced labour. But the coffee could not be sold and the financial difficulties increased: the expenses could not be paid, although again lands had been sold, the amount of paper currency doubled and so-called voluntary loans were demanded. He could not relieve the colony from ruin.

Just as in Java people expected an English attack, in the same way, after Napoleon's conquest of Egypt, the British feared a French move against India.

The story of what happened is well known. Raffles in Penang studied the situation in the Dutch East Indies, knew of the general discontent about Daendels' rule. He entered into secret relations with some of the native princes. Thus, after the British occupation of Java, Raffles based his policy at first on re-establishing the power of princes and Regents. But after he had realised that the central authority had to be paramount, especially in a country still hardly developed economically and not properly roaded, he came into trouble with the princes and curtailed the powers of the Regents. He changed his policy, now basing it on the happiness and prosperity of the masses. He wished to break with the feudal institutions, to abolish forced labour and forced deliveries, to introduce right of property for the common people, to introduce landrent, to establish free trade. The ideas of Dirk van Hogendorp were carried into execution.

When we read his apology: "*Review of the administration, value and state of the Colony of Java with its dependencies, as it was as it is—and as it may be,*" we are struck by the fact how well informed he was about all that had happened before his arrival. Some pages read as if they were taken from Dirk van Hogendorp's books: the same method, the same arrangement of argument, the same arguments even. The resemblance cannot only be explained by the same firm confidence in "fixed and immutable principles of the human character and of human association", by the same economic principles, by the same spirit of philanthropy, the spirit of that period. Besides, we know that the system of landrent was introduced within three times twenty-four hours. Raffles' Dutch friend and advisor was Muntinghe, whose help Raffles was the first man to recognize, Muntinghe, on whose recommendation landrent was retained after Raffles' departure. Now, we know that Muntinghe was a strong advocate of Dirk van Hogendorp's views.<sup>1</sup>)

This does not detract from Raffles' merits. It is not necessary for a leader to be an original thinker. He must have his rule of conduct and know how to chose his instruments. He must be a keen discerner of human nature, he must have a profound knowledge of mankind. And—most essential—he must have the courage to decide. Raffles knew how to chose his men. Raffles—not being bound by the traditions of the old Company—had the courage to take a radical position, to break away from the old system, although he did not abolish the forced cultivation of coffee in the Priangan regencies.

We do not know if Raffles, had he stayed longer, would have changed his policy again, if he had realised that giving orders from Buitenzorg is not the same thing as introducing a new organisation of a human society, that curtailing the powers of the Regents is not identical with abolishing the feudal system, as long as the economic basis of the society remains the same, that the classical economic principles did not apply to village communities still on a primitive level of economic development, that industry in the cultivation and improvement of the land is not encouraged merely by creating an interest in the effort and fruits of that industry. In this sense, Gillespie's criticism was not unfounded.

However this may be, we do not know if Raffles would have changed his policy as he did in Bencoolen, where he supported feudal institutions. But still, his merits remain. *He was the first man to state that Java had to be governed for its own benefit, not for the benefit of the home country.* That contention was against the mercantile spirit still prevailing at that time. He reorganised the administration of justice and his whole government breathed a spirit of benevolence and of the earnest desire to give freedom and happiness to millions of his fellow creatures.

<sup>1</sup> J A Sillem, Dirk van Hogendorp, p. 361 sqq.

His rule however was not a financial success. Raffles, too, had to sell lands to meet the expenses. He had forgotten that he was the servant of the East India Company, a body of merchants who wanted to make profit, not to extend the borders of the British Empire. His appeals for retaining Java were not listened to. The British interest, as his ambitions saw it, was not realised in England, where the strong anti-imperialistic current in public opinion, which lasted until the seventies, had risen. The effects of the American revolution on public opinion, the rising school of Political Economy (Ricardo, Malthus, James Mill and MacCulloch) as the sworn foe of mercantilism and all its works, being of course opposed to the colonial system, the views of the Philosophical Radicals, who owned Bentham as their master, all tended to regard colonies as useless or even economically detrimental to Great Britain. Utilitarianism viewed them as impediments to commerce, drawbacks to prosperity, pumps for extracting the property of the many for the benefit of the few, the strongholds and asylums of despotism and misrule. In Parliament Joseph Hume and later Henry Parnell criticised the great expense to which Great Britain was put by reason of her colonial possessions. In his classic attack on mercantilism Adam Smith had already denounced the colonial system root and branch, going so far as to assert that it would be beneficial to the people of Great Britain as a whole if the colonies were abandoned and before him, Tucker, in his numerous writings, had called attention to the heavy burdens which the possession of colonies entailed on the mother country. While Adam Smith and Tucker had been arguing that the possession of colonies was pernicious to the interests of Great Britain, their contemporaries Price and Cartwright, whole-hearted disciples of John Locke, had denied her right to exercise political authority over them. The same view was taken by the Jacobinical Radicals, such as William Godwin.

Besides in Raffles' days England after the Napoleonic wars was passing through a serious financial and economic crisis which did not encourage colonial adventures.

And, finally, Raffles could not understand that things in South-East Asia depended on dynastic interests and international relations in Western Europe.

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Raffles went and the Dutch Commissioners came. Was it a wonder that they and the Governors-General who succeeded them were inclined only to look at the defects of Raffles administration in a period during which the same Raffles caused them so much trouble. But Raffles' system as a whole was retained.

There was free trade which denationalized commerce altogether. English and American merchants had the upperhand. There was no Dutch capital of any importance ready to be invested in Java. There was no import from Holland of any significance as there was no Dutch industry worth mentioning. There were but a few Dutch

people in Java. Dutch ships were rare and could not transport the colonial produce at the same low price as the English could. Merchant firms in Holland broke down. The expenses in Java went higher and higher by the frequent wars in the colony. The debts were increasing. The economic situation in Holland became worse and worse because of the Belgian insurrection.

\* \* \* \*

Then the *Netherlands trading Company* was founded and the *culture system* was inaugurated. The doctrine of the colonies existing for the benefit of the home country was still prevailing in Europe. So it was in Holland. Forced cultivation of commercial products was reintroduced. The guiding principle was the interest of Holland, but a moral justification of the new policy was not lacking.

Van den Bosch, who was sent to inaugurate the new system, was a remarkable man. In his economic theories there is much which reminds us of. . . .Karl Marx.<sup>1</sup>) But in the discussions which preceded the introduction of the new measures, the whole controversy of 1800--1804 was revived again Van den Bosch realised that there was no import from Holland of any importance to be expected: an industry had to be created. National navigation had to be encouraged. Free trade was a good thing but not at our own expense.

The same views were adopted by the public in Europe after 1870, when in France, Germany and Italy tariff walls were erected for the protection of the young national industries against the supremacy of the British trade.

The foundation of the Government were the Regents, the loyal Regents, our allies in the Java war, the natural rulers, the traditional trustees of the people. It was no good thinking in European standards in this country. Right of property was a thing entirely strange to the mind of the people. Therefore the new system, based on their traditional conception of justice, suited their needs, would be just in their eyes.

The classical economic principles did not apply to the population of Java. Why not force them to work for our and their own benefit? That was a means of educating them up to a higher level of civilisation. Why should this be called immoral? Was not compulsion the foundation of human society everywhere in the world, compulsion through men, compulsion through circumstances? Did not the Dutch journeyman, although nominally free, practically live under the compulsion of capital? Was not he forced by the economic circumstances, which often made his position worse than that of a slave? "Compulsion is found everywhere: its form only

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<sup>1</sup> Cf J J Westendorp Boerma, Johannes van den Bosch als sociaal hervormer. De Maatschappij der weldadigheid [1927], p. 210-233 (223), 6 sqq., 13 sqq.

depends on the circumstances and the climate. Where it is lacking, there is no civilisation. Thus, there could not be any scruples in introducing this inevitable and beneficial means if economic progress was the end."

Indeed, the culture system judged by the standards—even the European standards—of *that period* was not "immoral." The conditions of the working class, the workhouses, the supplies of children as labour from the orphan asylums and poor houses for the British and French factories and mills in the same period, were not less "immoral" than the effect of the culture system was in Java.

I shall not dwell any longer on the history of the culture system. The whole work of Raffles seemed to have broken down. Progressive policy had to be abandoned because of its financial impracticability.

But a new era—the economic basis of which was laid by the culture system—was coming. The interest in the old controversies was reanimated. Historical studies opened up the archives. The advocates of private enterprise contra Government exploitation combined with the humanitarians Raffles' administration was quoted as a proof of the possibility of a progressive colonial policy. At the bottom of the historical interest and the university theses of those days are found the liberal doctrines.

From the middle of the 19th century Raffles became an inspiration to the carrying into execution of a disinterested administration, a governing of Java for the Javanese.

I have sketched you the significance of Raffles' influence on the history of Java. Perhaps I may draw your attention to the fact that the literature on the period of the British occupation is still very poor. The contents of the archives in London, in Batavia are hardly studied, have hardly been published. Nobody has even used the *Java Government Gazette* of which our Batavia Society possesses a complete set. I venture to ask: Is there not in this fact an opportunity for hearty co-operation between our society and the *Malayan Branch of the Royal Asiatic Society* in a joint effort to publish the documents of that time. Such co-operation might result in a *monumentum aere perennius* for Sir Thomas Stamford Bingley Raffles.

Sir Josiah Crosby, К.В.Е., Н.В.М. Consul-General in Java, in a much applauded speech then alluded to the ceremonies held in September in honour of a former Dutch Governor of Java, Jan Pietersen Coen. He also thanked the Governor-General for honouring the ceremony with his presence and the several speakers for their sympathetic remarks.

The session was then closed by Mr. Welter.

After the meeting the delegates and Sir Josiah Crosby were received by the Governor-General.

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Thus after an interval of one hundred and fourteen years Raffles returned to Java. He was received in honor, in happy contrast that occasion when, subsequent to his retirement from the country to in 1816, he was not allowed to land.

The Malayan Branch of the Royal Asiatic Society is gratified that it should have had the opportunity to extend this friendly gesture to the oldest learned body in Malaysia and is deeply conscious of the kindness and hospitality extended to its delegates in Java, in particular it is grateful to Mr. Ch. J. I. M. Welter, Prof. B. Schrieke and Sir Josiah Crosby, K.B.E..

## Minangkabau Custom—Malacca.

By C. O. BLAGDEN.

The Malays in Malacca territory have a good many local differences in customary law, particularly as regards succession to property. In the case of land held on customary tenure these last are now recognized by our law (Malacca Lands Ordinance). Historically, a large part of the inland section of Malacca territory was formerly a native State under the suzerainty of Malacca but not administered by the Malacca government. This state, Naning, had its own customary law, based upon the customary law of Minangkabau, which differed fundamentally from the ordinary Malay customary law. Its boundaries did not coincide with those of the modern administrative division into districts but took in the northern parts of the districts of Alor Gajah and Jasin. Beyond those boundaries, in the territory of Malacca proper the Naning custom prevailed and still prevails in certain villages. Thus, in the Jasin District it seems that only the northernmost village, Batang Mēlaka, actually fell within the State of Naning at the time of its fall. But south of this village, in the mukims of Jus, Bukit Sēnggeh, Sēlandau, Nyalas and Chabau, the Minangkabau dialect is still spoken, and it coexists with the Minangkabau custom of female succession to land which prevails there to this day.

In the group of villages to the South of the preceding group, but still all inland, namely Kēsang, Ayer Panas, Rim, Jasin, Chinchin and Chohong, the succession to land is as a rule in fairly equal parts to both males and females, by family agreement (*pakat*). It would seem, however, that in case of dispute the Muhammadan law of inheritance, which gives the male twice the share of the female, would have to be applied, for the custom of equal partition does not appear to rest on any definitely recognized principle or established *adat*. But the point may be regarded as doubtful, unless there has been an authoritative ruling on the subject. These notes were made 30 years ago, and may be corrected and expanded by those with knowledge later than my own.

In the coast villages, Umbai, Sērkam, Tēdong, Sempang, Mērlimau, Sēbatu and Sungai Rambai, the succession is sometimes arranged by *pakat* and in that case sometimes in equal shares and sometimes in accordance with Muhammadan law. But it cannot be said that there is any custom of uniform observance in the matter, and Muhammadan law is generally recognized as being of binding authority if appealed to, and is accordingly tending to prevail over any other system of disposition. As is natural, the Kalis favour it, and it has no well established customary law (like the Minangkabau *adat*) to contend with here.

In two-thirds of the Jasin District, therefore, it seems probable that Muhammadan law, modified perhaps to some slight extent by

the Malay tendency to keep inherited (*pusaka*) land in the line from which it has descended, will ultimately prevail. But in the Northern group the Minangkabau custom is very tenacious and there is no reason to suppose that it will be abandoned in any near future about which it would be profitable to speculate at present. The following notes are therefore mainly concerned with that custom. They were communicated to me by Pēnghulu Dēmang Japar of Bukit Sēnggeh, Jasın, District.

#### Succession.

1. One daughter gets all, the sons (if any) only having a claim on the land for *bēlanja kahwin* (say \$20 or \$30 each).

2. Two or more daughters divide the land equally, subject to the above claim.

3. In the absence of daughters, and their descendants, sons inherit the land equally. [This is denied at Alor Gajah: there, in such a case, the land goes to the nearest female, not to the son or sons. It is admitted, however, that a son has a right to be supported out of the land, till (*quaere*) he is married, and he may also, not of right but by *pakat* (agreement, consent), be allowed a life-interest and the use of the land during his life. But he cannot pass on any rights to his children, and at his death the land must go to the nearest female representative, or representatives by the female line (*quaere*, being themselves females?). Case decided at Ramuan China Kēchil, 28.9.95].

4. Grand-daughters through daughters represent their (deceased) mothers, but have to share *per stirpes* with the other grandchildren (granddaughters) if the land has not previously been given to their mothers. [This is not very precisely expressed. Presumably it refers to the custom of giving portions of the family property (inherited land, *pusaka*) to daughters on their marriage. On the death of the mother such portions have to be taken into account in the division of the whole property, so that each surviving daughter, and the representatives *per stirpes* of each deceased daughter, eventually get equal shares on the ultimate division].

5. The land that has not been previously given to daughters is (in the event of none of the latter surviving to inherit it) taken by the grandchildren *per stirpes* irrespective of their sex and of the sex of their parents. The reason is that grandsons, unlike sons, have no *pērentah* over the land of their cousins (the female grandchildren), therefore they are entitled to share in the land itself. (This clearly represents a considerable departure from the leading principle of succession in the female line, which is at the root of the whole Minangkabau family system. Further enquiry should be made to ascertain whether this alleged local variation has really become established, and if so in what extent of territory it now prevails.)

6. A grandson through a daughter (*i.e.* being the son of a daughter, and having (presumably) no sisters) divides the land

equally with a son if it has not been previously given to the daughter (*i.e.*, the grandson's own mother). This also is a deviation from general principle.

7. A grandson or granddaughter through a daughter divides the land equally *per stirpes* with granddaughters or grandsons through sons. (Another such deviation: all these cases seem to call for further enquiry).

8. In the absence of descendants:—  
In the case of *pusaka* (inherited, family land) the *waris* get the whole: *viz.* the father or mother if living, or failing them the sisters or their representatives *per stirpes* equally, provided that if a deceased leaves a brother and a nephew through a sister, the land should be given to the brother as trustee for the nephew, the latter inheriting it on the death of the former. (Presumably this means that the brother is to be tenant for life with remainder to the nephew absolutely). In the absence of sisters and their descendants, brothers and their descendants inherit. Brothers are preferred to first cousins through females. (Another deviation from the leading principle).

9. If the deceased has parents living, they get the land in preference to their (*i.e.* the parents'?) children.

10. *Pusaka* land must, whenever possible, be kept in the family from which, through the female line, it was originally derived. (This is the leading principle of the Minangkabau law of family property. The great difference between Muhammadan law and Malay national custom, not merely in the *mukims* where the Minangkabau rules of succession (more or less modified locally) prevail but also where the land is divided equally among the children male and female (as is the case in the villages just inland of the coastline of Malacca, between the *ulu* and the actual coast-villages), is this: under Muhammadan law the property of a deceased would be divided among his relations quite irrespective of the line of descent by which it came to him (as is also the case with personal property under English law); by Malay custom, on the other hand, the relations who cannot claim descent through or relationship with that line, count for nothing. Thus A has had property from his mother, he dies and leaves surviving him B a half-brother on his father's side, and C an uncle, being the brother of A's mother. Under Muhammadan law B would get the land and C nothing. Under Malay custom C gets it, because it was A's *pusaka dari-pada ëmak-nya*, his inheritance *ex parte materna* (with which line of descent B and not C is connected). If the land had been *pëncharian* of A (e.g. originally cleared and brought into cultivation, or bought, by A himself), presumably B would even under Malay custom have had the stronger claim: probably he would have claimed and got the whole, certainly he would have claimed a share. In a case at Durian Tunggal, the land being admitted to be *pusaka*, B appeared as a witness but preferred no claim on his own account, explaining that he had nothing

to do with the land as he was the son of a different mother. In this he unwittingly followed a principle which also prevails in the English law of realty and marks one of the distinctions between it and the law of personality.

11. In the case of *pusaka* land, in the absence of descendants you must go back to the nearest ascendant in preference to all collaterals. (E.g. *Pusaka* land given by a mother to her daughter on the latter's marriage would go back to the mother surviving her daughter if the latter had died without issue).

12. In the case of *pēncharian* the ascendants of the person who acquired it have an equal claim with the collaterals: the land must be divided. (It is not stated on what principle the division is to take place: presumably the collaterals would take *per stirpes*, but it is not clear what the proportions would be as between them and any surviving ascendant).

13. *Pēncharian* develops into *pusaka* thus: A acquires it, his daughter inherits it, to her daughter it is *pusaka*. *Pusaka* becomes *pēncharian* by sale or any other legitimate mode of transfer to a stranger (that is, in blood, presumably any one outside the normal line of family succession).

#### *Alienation and Proprietary Rights.*

14. A person cannot transfer *pusaka* land to a stranger without the consent of his (her) children, or (in their absence: presumably in default of children) of the *waris* (brothers, primarily, and failing them, cousins). Distant collaterals, however, cannot prevent a transfer, but they have a right of pre-emption at the sale.

15. This (check on alienation) does not apply to *pēncharian*, except that in certain cases the unanimous opposition of the children should prevent the sale even of *pēncharian*, e.g. when it is anticipated that the funeral expenses will fall upon them and they will have no means to meet them. (This is a very vague rule and it may be doubted whether it does more than express an opinion, rather than an established custom).

16. Whether a particular piece of land is *pusaka* or *pēncharian* is a question of fact. transfer has to be proved by written documents or (failing them) by the (unanimous?) consent of the elders of the *kampung*. (It is plain that the tendency is to assume the land to be *pusaka*, so as to hedge it in with safeguards against improper alienation, *i.e.*, alienation to the detriment of the relatives and eventual heirs. But in most cases the fact must be locally notorious and not likely to be seriously disputed, for para. 13 shows that the transfer set up would have to be a fairly recent transaction. Evidently any land which could not be shown to have been thus recently transferred would be presumed to be *pusaka*).

17. Whenever a daughter marries, she gets a piece of land from her parents (or rather from her mother, presumably the father would at most be merely a consenting party, for he has no share in

the ownership). She does not, however, (as a rule) get the whole of her eventual share then, but only a part. When a son marries, no land is given to him, but his parents contribute \$20 as *hantaran* and from \$10 upwards towards the expenses of the wedding. The *hantaran* is given to the *waris* of the bride and is handed by them to the bride's parents as a contribution to the expenses of their part of the festivities. (Presumably this means that the expenses of the wedding feast, etc., are borne in the main by the bride's parents but by the bridegroom's parents to the extent of \$20. Thus the expenses to be borne by the bride's parents are variable, and more or less at their own discretion, while those that fall on the bridegroom's parents are limited by custom to this definite amount.)

18. On the death of the parents (here again one should, perhaps, read "mother", but possibly the father continues to have some kind of interest, not amounting to ownership, in the land after the decease of the mother), the sons get no share in the land; but they have a right to prevent its alienation or waste by the daughters or their husbands. The sons remain (as it were) guardians over the property of the family although possession (and usufruct) are vested in their sisters. The position of a son is not that of a possessor or owner, but of a person who has *përentah* over the land. (*Përentah* means "authority", and is a somewhat vague word in itself, but the nature of the authority is indicated by what has been stated). Cousins have no such rights.

19. But if a son is divorced from his wife, he has the right to go back to the land of his sister and she cannot exact rent for his occupation of any part of it. (Presumably this means merely that he can squat on it). So long as he is without a wife, he has a right to a share in the produce and occupation of the *pusaka* land. (This is a very remarkable relic of the old family communal tenure which was the basis of the whole system but has become much modified by actual division of the holdings among the individual women. Plainly under the old system, in spite of its matriarchal structure, the men had a very considerable weight in the management of the family property, and as long as they were unmarried also a share in the usufruct of it. Probably, however, this class of case would not be of long duration, as a man would generally marry again pretty soon).

\* \* \* \*

Dignities (*këbësaran*), like the *përentah* or authority over land above referred to, go according to the old custom to the *anak buah*, i.e., to a male descendant in the female line (e.g., son of a sister or female cousin). But in Malacca territory this rule is not always followed.

\* \* \* \*

Formerly people of the same *suku* could not intermarry; in these days they can. But the children of two sisters cannot, though the grandchildren can. The children of two brothers cannot; they are

in the position of *wali* (a term of Muhammadan law, evidently here we have the influence of Islam modifying the old custom). The children of a brother and a sister can intermarry.

Half-brothers and sisters, whether consanguineous or uterine, cannot intermarry.

### Minangkabau Law and Custom Regarding Property other than Land in the Ulu Mukims of Malacca.

(Probably this was also communicated by Pēnghulu Dēmang Japar, of Bukit Sēnggeh, Jasin District).

#### *Division of property other than land.*

The principle is "*Pēncharian bahagi, dapatan tinggal, bawa kēmbali*". That is to say, for purposes of division, property is divided into

(1) that which was acquired before marriage (*hërta mēmbawa*) or has been inherited (*pusaka*).

(2) that which has been acquired during the continuance of the marriage by the joint exertions (as is always presumed) of the married couple (*pēncharian laki bini*).

Therefore *pēncharian* means the acquisitions of the married couple during the continuance of the marriage, e.g., by their labour (not, it is presumed, by inheritance), *dapatan* is property that the husband finds in his wife's possession or ownership when at marriage he goes to live with her; it remains hers; *bawa* is what he brings with him; it remains his. (It is plain that the *dapatan* and the *bawa* may each, theoretically, include acquired and inherited property, also that the nature of the *dapatan* and *bawa* is essentially the same, their names differing merely because the terminology is constructed from the point of view of the husband, who goes to live on the family land of his wife. The principle is that there is no common ownership of property as between husband and wife at all, except in the *pēncharian laki bini*).

#### I. After the death of one party (*chërai mati*):

(a) the *pusaka* and *hërta mēmbawa* of the deceased i.e., husband, (if it is the wife that dies, her *pusaka* and the other property she possessed before the marriage) are divided among the children, male and female, in equal shares; failing children, they go to the *waris* of the deceased. (*Waris* is not defined here, but clearly means next of kin: whether, however, these are counted exclusively in the female line, is not stated, but it seems probable.)

(b) the *pēncharian laki bini* is handed over to the survivor (widow or widower), who has control over it, but ought to keep it for the children (presumably being, in the meantime, entitled to the use of it himself or herself). At the death of the survivor it must be divided, like the

property under (a), among the children. If there be no children, the *pëncharian laki bini* is divided equally between the survivor and the *waris* of the deceased. [When the survivor eventually dies, it is presumed that his (or her) moiety goes to his (or her) next of kin].

All this is, of course, subject to the payment in the first place of the usual funeral expenses and all just debts. Wills are hardly ever made.

(II). After divorce (*chërai hidup*):

(a) the *pusaka* and *hërta mëmbara* remain with their original owner (in the case of the wife, she retains her *pusaka* and the other property she possessed before the marriage).

(b) the *pëncharian laki bini* is divided equally between the two parties.

*Exceptions.* All the above must be understood as subject to the proviso that certain kinds of property, though actually part of the *pëncharian laki bini*, are not liable to be treated as such. Thus the following are not liable to be divided, but are exempt and to be treated as the woman's own property, viz., her actual clothes, mosquito curtain, pillows, sleeping mat, etc., and a small quantity of crockery. These, even if bought out of *pëncharian laki bini*, cannot be reclaimed by the husband. But this does not apply to jewellery or articles of value: their value must be divided if the husband claims it and if they are part of the *pëncharian laki bini*.

A house built by the husband after marriage on land belonging to the wife or her relations should in the event of divorce be estimated, and its value apportioned equally between the parties. (Thus the outgoing husband would get half the value, the wife retaining the house).

If a man plants trees on land belonging to his wife he cannot claim compensation for them in the event of divorce. "*Bërubong panjang, bërsidebar lebai*" is the saying applicable. But should he be thirsty and occasionally take a coconut from the trees, it is no offence. The same applies after the death of a wife, when the land goes to the *waris* in default of children. (This proviso seems more like an expression of opinion than a definite custom: plainly, as the husband can have no further interest in the land, his act would be of the nature of a trespass, though not necessarily to be treated as criminal; and the latitude allowed to him by the dictum is too vague to be capable of strict definition).

(It is noticeable that houses and trees are differently treated above, the latter are immoveables, the former are not. This is in general accordance with the facts of the case: the ordinary Malay house merely rests on stone bases and is not fixed to the soil. Even in cases where the piles on which it is constructed are driven into the soil, it would seem that the house is not considered as permanently attached to it).

## Notes on Some Further Archaeological Discoveries in Pahang.

By W. LINEHAN.

In my paper entitled "Some Discoveries on the Tembeling" published in the Journal of the M.B.R.A.S. of November, 1928, I described some objects of archaeological and antiquarian interest found in the Tembeling. The present paper deals with objects discovered mainly in the same region since my former article was written.

Mr. I. H. N. Evans of the F.M.S. Museums has been kind enough to peruse these notes and to comment thereon.

Plate X shows a four-eared vessel of red earthenware with incised linear decoration on the upper part which was found protruding from the ground on the banks of the Sat, a tributary of the Tembeling. The jar seems to be of a date not later than the Sung period (960—1279 A.D.). It was obtained through the kindness of Che Wan Ahmad, Penghulu of Ulu Tembeling. The vessel is apparently almost similar to that described in Mr. Evans' paper on "Antiquities from Sungei Batu Estate, South Kedah" (*Papers on the Ethnology and Archaeology of the Malay Peninsula*).

A four-eared jar of greyish clay approximating in shape to the vessel from the Sat but very much smaller was found in an ant-hill at Kuala Spia on the land of Che' Dal the local *Ketua* (Head-man).

Plate XI fig. 5 shows a stone-quoit disc which was found on the banks of the Tembeling a short distance below Jeram Kwi (under Lateh bin Khatib Pah). It is of black polished stone blunted at the edges. The quoit disc illustrated on plate XI fig. 6 is of a most unusual type. It is composed of stone weathered brown. It differs from the usual quoit disc in that its inner edge is lipped on one side. Its edges are dented from usage. It was found at Bukit Sari on the right bank of the Spia, a tributary of the Tembeling, by Lebai Nekman. Mr. Evans points out that there is a model of such a lipped disc of unknown provenance in the Perak Museum.

The specimen shown on Plate XI fig. 7 is apparently the fragment of an unfinished quoit disc. If so, the lines running from its outer edge must have been made after the object was fractured as the lines run around the object in its present condition and are evident at the point of fracture. The two concentric circular grooves in the object lead me to conjecture that the quoit disc, stone bracelet, and roundel or "cut-out" may have been manufactured in the one operation from the one piece of stone in which case the bracelet when detached from the stone would of course need a certain amount of elaboration. Mr. Evans remarks: "I agree. An unfinished quoit disc. The lines are veins, I am pretty certain. They can be traced on the broken edge to some extent and are present on both

flat sides, as you say. I do not believe that both a quoit disc and a bracelet were being made at one time. I think that the man started cutting out a small roundel and then changed his mind in favour of a large one, or the reverse. The "bracelet" would have been too thin, I think". The specimen was found at Pasir Temprah in the Tembeling.

The stone implement shown on Plate XII fig. 2 came from Kuala Peling, a small tributary of the Tembeling just above Kuala Sat. It is sharpened on one side and is not unlike a meat-axe in appearance. The implement is somewhat similar to that found at Kuala Nyong and described by Mr. Evans in the F.M.S. Museums Journal for June 1928 (Plate LII fig. 7).

On Plate XII fig. 3 is shown a three-holed implement rather like the object fig. 2 on the same plate. It was found at Labu, Sungai Tembeling. Wan Alam the finder informed me that in former times such implements were used by Malays for making a rattan rope with triple strands. According to him the strands were passed through the holes then tied at each end, then one end was twisted until the rope was completed. The way in which the outer edges of two of the holes in the stone are worn thin and the absence of markings which the rattan strands might be expected to make in the implement after long usage incline me rather to doubt the correctness of Wan Alam's explanation. It is of course possible that such implements when found by Malays were occasionally used for the above purpose but it seems unlikely that they were originally devised therefor.

The object shown on Plate XI fig 3 is a fragment of a five-sided bracelet of semi-opaque deep blue glass. It was unearthed at Poh, (Kampong Bantal) on the Tembeling (finder: Wan Abdulrahman). Mr. Evans remarks: "I believe this bracelet, to be of the iron age. We get exactly the same blue glass of the early porcelain age at Selinsing—a carry-over, no doubt".

While on the subject of bracelets it will not be out of place to refer to an armlet of greenish-blue glass in the possession of Dato' Maharaja Perba Jelai (Wan Tanjong), one of the four Major Chiefs of Pahang. The armlet (of which unfortunately I have omitted to take a photograph) is an heirloom in Wan Tanjong's family. It was worn by his grand-father Wan Dris when engaged in war-fare and was credited with the gift of making its wearer invulnerable. Its appearance, the magic properties attributed to it and the fact that the Malays do not use such objects make it likely that the armlet is a relic of the pre-malay inhabitants of Penang.

A fragment of a bronze object was picked up in the Pengau, a tributary of the Tembeling (finder: Imam Chik of Pagi). It bears linear decoration in relief. The object is one of the few specimens of bronze discovered in the Tembeling, the others being two fragments of bowls and the fragment of an object (unidentified) at Teluk Lubok Puai and Bukit Jong.

A most interesting find at Burau on the Pahang river is a shouldered adze head of stone (Plate XI fig. 2). This, apart from a specimen in the Taiping Museum, the provenance of which is unknown (vide Evans' *Ethnology and Archaeology of the Malay Peninsula* page 35) is the only shouldered adze head hitherto discovered in Malaya. The existence of the shouldered axe-head in the Peninsula is thus now definitely established.

The unfinished stone axe head shown on Plate XII fig. 1 was found at Pasir Sia on the Tembeling. Its very unusual size makes it worthy of illustration.

The stone implement shown on Plate XI fig. 8 may have been designed for delicate work such as the manufacture of ornaments. The Malays informed me that such implements when found by them were sometimes applied to the nose of a fighting buffalo to stimulate its courage. By them it is termed *pérangsang Kerbau*.

A lozenge-shaped object of black stone was obtained from Wan Manja of Bukit Karim, Ulu Tembeling. I am unable to conjecture what it was used for.

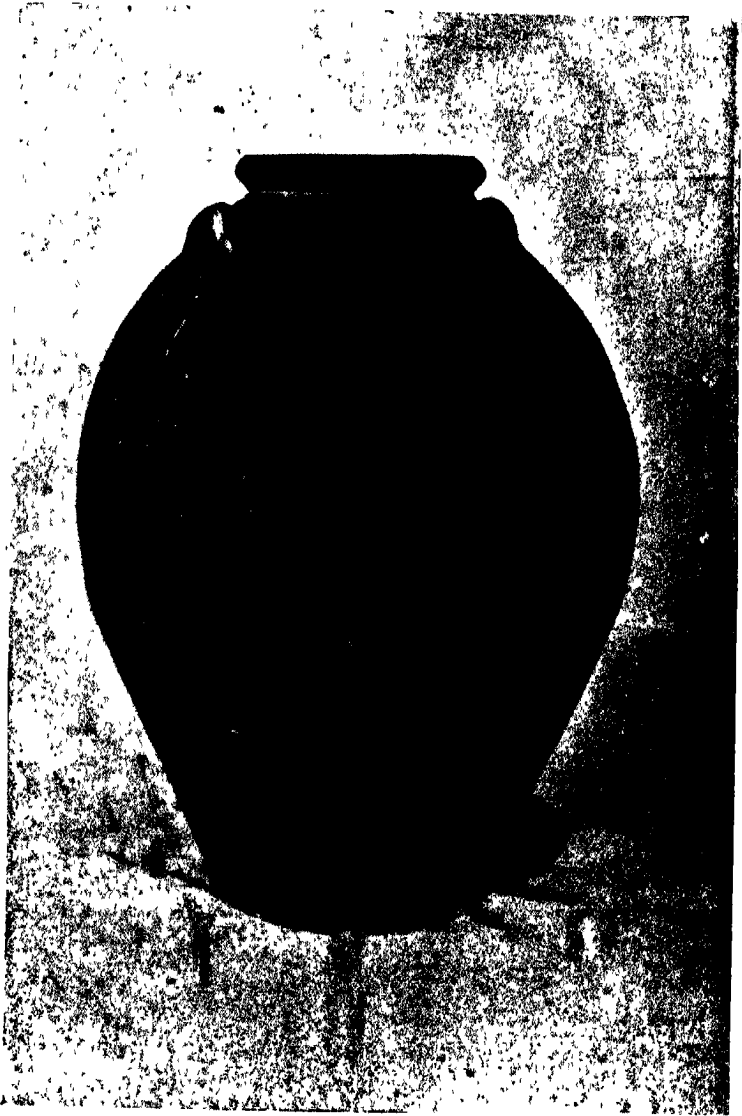
In May this year I got another opportunity of visiting Bukit Jong where last year were found a stone bracelet, two bronze fragments, a stone quoit disc and seven ancient iron implements. The following further objects were discovered:—

a stone bark pounder (plate XI, fig. 4), 5 ancient iron implements (plate XIII, figs. 2, 3, 4 and 5, one is not reproduced), 4 stone adze heads, a mould of baked clay, pieces of rock crystal, fragments of cord marked pottery, small quantities of iron slag, and an iron-stained stalactite.

The bark-pounder was revealed by a lucky stroke of the spade in the bank of the river about seven feet from the top. It, and the mould which I describe later were the only objects discovered apparently *in situ* they do not appear to have been disturbed by the action of the water. The pounder is of an unusual type in that it bears the traces of a tang at the proximal end. This feature seems to be absent from stone bark-pounders found elsewhere. The pounder is of whitish stone. One side of it was apparently used for sharpening purposes.

The iron implements were found in runnels leading from the bank to the river, in most cases under a shallow covering of sand. Two (plate XIII, figs. 2 and 3) are single-bladed knife-like objects. Another is similar to that shown as fig. 2 on plate XL in my paper referred to above.

The two socketed sickle-like implements (figs. 4 and 5) are of the same type as three implements discovered at Kuala Sungei Abai (in conjunction with a socketed iron spear-head) presented by me to the F.M.S. Museums last year. The same types of weapon or tool have been discovered at Sungkai and Sengat (J. F. M. S. M Volume XII, Part 5 June, 1928).

















The stone adze heads were also picked up in runnels leading from the bank to the river. They are of common type. Two of them are well-worn objects, another is in an unfinished condition. I discovered the clay mould in a niche in the rocks in conjunction with an iron-stained stalactite. The mould seems to have been designed for the manufacture of a simple type of cooking vessel. The position in which it was found (closely surrounded by rocks on all sides) leads me to conjecture that that was the place in which the manufacture of the vessel was to have taken place. The lumps of rock crystal discovered probably came from Gunong Tahan. It is possible that they were brought there for conversion into ornaments (beads, etc.).

Shortly after the discovery of the above objects a Malay lady (Che Selamah who resides a short distance above Bukit Jong) brought me a socketed spear head (Plate XIII fig. 1) similar to that discovered at Kuala Sungei Abai last year and a small porcelain jar (plate XI, fig. 1). She stated that she had got these objects at Bukit Jong. The body of the jar is of white clay with a dull greyish-blue decoration covered with glaze (which is worn away at the base). The ornamentation consists of six panels below surmounted by six smaller panels, each panel enclosing a floral design. The jar dates possibly from the early Ming period.

To sum up, the finds at Bukit Jong up to date are: a stone bracelet, a stone quoit disc., a stone bark-pounder, four stone adze heads, thirteen ancient iron implements (including spear head), fragments of cordmarked pottery, bronze fragments, a clay mould, lumps of rock crystal, iron slag, an iron-stained stalactite and a porcelain jar.

Assuming that the latter is an intrusion (no other porcelain specimens have been found) it is possible that at Bukit Jong we have two distinct cultures, stone and iron, or a transition culture stone-iron. It is not improbable that the use of stone implements continued for a long time after the introduction of iron—the earliest implements of iron are crude, fragile and badly adapted to the purposes for which they were designed. It would be unsafe to come to a definite conclusion until the place has been more carefully examined.

## A Trengganu "Keri."

By T. KITCHING.

Kuala Brang is the headquarters of the district of Ulu Trengganu, situated at the junction of the rivers Brang, Tersat and Trengganu, about 20 miles from the mouth of the Trengganu River. While on a visit there recently, I happened to notice the extremely fine specimens of "Keri" which were in general use. The "Keri" is a small sickle used for cutting out weeds from a field of growing padi, and is I believe commonly used throughout the Peninsula, but the peculiarity of the Kuala Brang "Keri" lies in the beautiful workmanship put into the handle—I have not seen anything like it elsewhere, even a few miles from Kuala Brang it is not to be found.

The handle is of rengas wood inlaid with "Timah hitam" or lead; where the lead comes from I could not ascertain—it is not used in the local Public Works Department buildings! Che Hashim the District Officer at Kuala Brang informs me that the making of these handles is a craft confined to a few people; the inlaying is certainly extremely well done, as the photograph shows.

Once each weeding season it is the local custom to have a sort of festival called *Main Balai* in which there is a competition for the prettiest *Keri*: The accompanying photograph was taken under this festival and shows the women waving their *Keri* in the air.

## Malayan Plants.

A collection made by A. W. HAMILTON of some of the commoner plants and littoral trees found on Singapore Island  
 Identifications and descriptions by R. E. HOLTUM

*Akt.* *Rhizophora conjugata* Linn Rhizophoraceae.

Leaves narrower than in *R. mucronata*, and thinner, showing lateral veins. Calyx 4-lobed, petals 4, stamens 11—12.

*Ambong ambong.* *Scaevola koenigii* Vahl. Goodeniaceae.

A common shrub on sandy seashores with bright green shining leaves, white flowers and white fruit. Widely distributed from India to Polynesia.

*Api-Api* *Avicennia alba* Bl. Verbenaceae.

Small tree of mangrove. Leaves simple, 3 in. long, narrowed to both ends, white beneath. Fruits in small clusters, about 1 in. long, 1/3 in. broad at base, narrowed to pointed tip.

*Asam riang-riang* *Vitis hastata* Miq. Ampelidaceae.

A herbaceous climber. Stem 4-winged. Leaves simple, base broad deeply cordate, narrowed gradually to apex. Tendrils opposite the leaves, red. Inflorescences about 1 in. long, opposite the leaves; flowers minute; fruit small round.



A FREGGANU KPRI







*Asin-Asin* *Sauropus albicans* Bl. Euphorbiaceae

A small shrub with straight lateral branches which resemble the leaves of leguminous plants. Euphorbiaceae. (also *chëkok manis* Singapore).

*Rumput aur.* *Commelina nudiflora* Commelinaceae—A creeping grass like plant with small blue flowers, common in waste places.

*Bayam (sayor).* Spinach. Probably *Amaranthus gangeticus* Linn., Amarantaceae. Erect herb, about 3 ft. tall, stem rather stout, bearing simple alternate ovate leaves, 2-3 in. long. Flowers small, in dense axillary inflorescences.

*Bayam bërduri.* *Amaranthus spinosus* Linn. Amarantaceae.

Erect herb more or less branched, to about 1 ft. tall, leaves simple alternate rather long-stalked, with two long spines at the base of each. Flowers minute greenish in long axillary or terminal inflorescences.

*Bayam bërduri merah* is only a form with a red pigment in the cells.

*Bayam merah* *Cetosia* sp., perhaps *C. argentea* Linn., Amarantaceae

*Bayam Pasir.* ? *Amaranthus viridis* Linn. Amarantaceae

*Bëbaru* *Hibiscus tiliaceus* Linn. Malvaceae.

Small tree, common near sea. Leaves pale beneath, rounded, to about 5 in. across, the base deeply cordate, the apex shortly acute. Flowers large, yellow, centre red-purple.

*Bëboros.* *Bruguiera caryophyllodes* Bl. Rhizophoraceae.

A small tree, allied to *bakau*, common in the mangrove of the Indo-Malayan region. Flowers small, green, sepals and petals numerous. (also *Boseng*.)

*Bëbuas.* *Premna foetida* Reinw. Verbenaceae.

A tall shrub, with large inflorescences of small greenish flowers.

*Bëlewar.* *Passiflora laurifolia* Linn. Passifloraceae.

A climber with rather stiff entire leaves and tendrils. Flower of elaborate structure (passion flower), fruit yellow-orange. (also *buah susu*.)

*Bëlukap* *Rhizophora mucronata* Lam. Rhizophoraceae.

One of the most characteristic trees of the mangrove, with stilt roots supporting the trunk laterally in the mud. The seeds germinate while still embedded in the mud. The seedling root is thick and fleshy, and reaches more than a foot long before it falls from the parent tree. These characters are found in all the members of the family. *R. mucronata* is the largest species. its leaves are large, simple and very leathery.

*Bëluntas.* *Pluchea indica* Less. Compositae.

A small shrub of tidal swamps, with small serrated leaves, and small mauve or white flowers, fruit plumed, as in many other Compositae. Indo-Malaya to Australia.

*Bërëmbang* *Sonneratia alba* Sm. Lythraceae.

This is very much like *S. Griffithii*, (vide *Përëpat*) and the distinction as regards leaves and fruit is a little difficult.

*Běřěmi.* *Herpestis monneira* H.B.K. Scrophulariaceae.

A prostrate succulent herb, with small leaves. Usually found in wet places, abundant.

*Bětak-bětak* *Excoecaria agallocha* Linn. Euphorbiaceae.

Tree of the mangrove, common. Very poisonous (see Gimlette). Contains a white latex. Leaves 2 in. long, simple, elliptic, alternate edge crenate. Inflorescence of minute flowers, axillary, catkin-like, the males to 2 in. long or more when fully expanded, the females much shorter and fewer flowered.

*Bijan* *Sesamum indicum* Linn. Pedaliaceae.

Erect herb with simple narrow leaves and mauve pink flowers resembling a foxglove. Gingly oil is extracted from the seeds.

*Chakar Bebek.* *Kalanchoe laciniata* DC.

A succulent plant with compound serrate leaves and an erect inflorescence of small yellow flowers. Crassulaceae (Stonecrop family) Probably introduced, but occasionally escaped from cultivation, especially in sandy places.

*Chěkor* *Kaempferia galanga* Linn. Zingiberaceae.

A small plant of the ginger family, cultivated. Distrib. India and Malaysia.

*Chěndawan biring* *Polystictus sanguineus*

A common wood-destroying fungus, bright red in colour.

*Daun Chendol* or *Pandan Sěrani* *Dracaena Porteri* Bak. Liliaceae.

A small, little branched shrub, common in lowland jungle. Leaves narrow 6-8 inches long. Fruit red.

*Cherek cherek.* *Clausena excavata* Burm. Rutaceae.

A shrub or small tree with long pinnate leaves, and small white flowers in a large terminal inflorescence; berries small pink.

*Chingam* *Scyphiphora hydrophyllacea* Gaertn. Rubiaceae.

A shrub occurring commonly in mangrove, leaves shining, opposite with rounded ends, flowers small, white, in rounded groups.

*Dokong anak* or *Ambin buah* *Phyllanthus urinaria* Linn.

Euphorbiaceae.

A small erect weed, with horizontal branches bearing crowded simple leaves. The minute flowers hang down below these branches.

(*Naga buana* *Phyllanthus Pulcher* Wall. similar to above).

*Dungun* *Hertiera littoralis* Dry. Sterculiaceae.

Seashore tree. Leaves alternate, simple, to 8 in. long and 5 in. broad, stiff, white beneath. Flowers small in axillary inflorescences. Fruit 1½ in. long, woody, ovoid, keeled.

*Rumput Ekor Kuda* *Thcmeda arguens* Hack Gramineae.

A grass of open dry places. Leaves 6-16 inches long, narrow, rough. Spikes in fan-shaped nodding heads, hairy.

*Gandarusa* *Gendarussa vulgaris* Nees Acanthaceae.

An erect shrub, with purple stem and long narrow leaves. Native of Eastern Asia, rarely fruits here.

**Gëgasing** *Ipomoea sagittaeifolia* Burm. Convolvulaceae.

A climber closely allied to the morning glories, with rather small pink flowers.

**Gelang.** *Portulaca oleracea* Linn. Portulacaceae.

Prostrate weed, with small fleshy leaves, usually reddish. Flowers star shaped, yellow. Common weed distributed through out the Tropics.

**Gelang Susu.** *Euphorbia hirta* Linn. Euphorbiaceae.

Allied to the preceding, but with leaves  $\frac{1}{2}$ - $\frac{3}{4}$  inch long, stems hairy.

**Gëlenggang** *Crotalaria Saltiana* Andr. Leguminosae.

Small shrub. Leaves 3 foliate, pale hairy beneath. Flowers yellow, numerous, in erect inflorescences. pods small cylindric.

**Gëlenggang Gajah** *Cassia alata* Linn. Leguminosae.

Stout shrub, little branched, with large pinnate leaves, leaflets oblong rounded at both ends, to 4 inches long and erect spikes of yellow flowers with yellow orange bracts and calyx. Fruit pod black, 6-8 ins. long, winged.

**Haroda** *Ruta graveolens* Linn. Rue Rutaceae.

Commonly cultivated.

**Daun Hian** *Artemisia vulgaris* Linn. Compositae.

Wormwood. Introduced and escaped from cultivation (Chinese Hiän).

**Jajak bëlanda** *Jatropha curcas* Linn. Euphorbiaceae.

A stout shrub with large leaves, inflorescence of small greenish flowers and yellow fruits about 1 inch in diameter.

**Jërëmong** *Elaeocarpus pedunculatus* Wall Tiliaceae.

Tree, Leaves simple, smooth, slightly serrate; flowers in pendulous racemes, small white, the petals fringed at the ends.

**Jëringau** *Acorus calamus* Linn. Araceae.

The sweet flag. A plant with long sedge-like leaves, widely distributed in the Northern hemisphere; probably introduced here and rarely flowers. Grows in wet places.

**Jëruju** *Acanthus ebracteatus* Wall. Acanthaceae.

A small shrub of the mangrove, with prickly holly-like leaves and white or mauve flowers.

**Kachang Kayu** *Caajanus indicus* Spreng. Leguminosae.

Leguminous shrub, to 6 ft. or more; leaves 3-foliate. minutely white hairy; flowers yellow, pods hairy. The Dal of India.

**Kachang Ketut.** *Canavalia obtusifolia*, DC. Leguminosae.

A trailing seashore plant. Leaves with three leaflets, which are blunt and narrowed to the base, 2-3 inches long and wide. Flowers rose pink or mauve. Pod oblong, beaked with three ridges. Seeds dark brown.

**Kadok.** *Piper chaba.* Piperaceae. The commonest wild pepper, often seen by waysides.

*Kait-kait* *Rubus angulosus* Focke Rosaceae.

Allied to the English brambles; scrambling thorny shrub, leaves large, rounded, soft hairy beneath, fruit small orange. Common in low-lands.

*Kantan.* *Phaeomeria imperialis* Lindl. Zingiberaceae.

Stem fleshy, below ground. Leafy shoots erect, 12 ft. or more tall, leaves to 2 ft. by 6 in. Flowers on a stalk 3 ft. tall, each flower bud covered with a large pink fleshy bract; flowers pink, the lip with a white edge.

*Kapas hantu.* *Hibiscus abelmoschus* Linn. Malvaceae.

Hairy shrub with 3 or 5-partite leaves, yellow flowers and large green fruits. Found all over the tropics, occurs sporadically in waste ground, or cultivated.

*Kēmangi.* *Ocimum canum* Sims. Labiatae.

Cultivated-widely distributed in tropical Asia and Africa.

*Kēmunting.* *Rhodomertus tomentosus* Wight Myrtaceae.

Bush, of rather similar appearance to the Melastomas. Leaves 3-veined small, pale beneath; flowers pink, with many stamens.

*Kēpiting.* *Cassia obtusifolia* Linn. Leguminosae.

A small leguminous bush, common in waste ground. Flowers bright yellow, pods slender cylindrical curved. Not conspicuously hairy (see next sp.)

*Kepiting.* (*kēling*) *Cassia hirsuta* Linn. Leguminosae.

Much like the preceding, but very hairy Introduced from America.

*Daun kērak nasi* *Torenia polygonoides* Benth Scrophulariaceae.

A small prostrate herb, with small roundish leaves; flowers white and brown. Common in waste ground.

*Kērēmak.* *Alternanthera sessilis* Brown Amarantaceae.

A small erect weed, allied to the Indian spinach and to the commonly cultivated Gomphrena (globe amaranth).

*Kērēndak.* *Carissa carandas* Linn. (Apocynaceae).

Spiny shrub with a pink fruit as big as a cherry.

*Kērok-kērok* *Ficus chrysocarpa* Reinw Urticaceae.

Shrub with large simple soft-hairy leaves, and brown hairy ovoid fruits.

*Kēsom* *Polygonum minus* Huds. Polygonaceae.

A small glabrous herb, leaves linear or lanceolate, about three inches long, sheath short with long cilia on the edge. Flowers in spikes, very minute, five or more in each bract

*Kētombak.* *Emilia sonchifolia* DC. Compositae.

A common composite weed with small pink flowers and plumed fruits like the groundsel.

*Kiambang* *Pistia Stratiotes* Linn. Araceae.

Floating plant, consisting of a tuft of bright green leaves about 2 ins. long; roots numerous, much branched. Cultivated by Chinese possibly native on some rivers of the Malay Peninsula (Ridley).

*Kupu mani* or *Selusoh Kuching*. *Acalypha indica* Linn.

Euphorbiaceae.

Erect herb, with ample serrate leaves. Flowers minute on short lateral branches, unisexual; the female enclosed in a triangular bract when in fruit.

*Lakum* *Vitis trifolia* Linn.

A climber with tendrils, trifoliolate rather fleshy leaves, and small green flowers, very common in the lowland of Malaya, in open places (Vitaceae, allied to the grape vine).

*Lëkir* *Amorphophallus Prasinu* Hk. Araceae.

Leaf compound solitary, on tall fleshy green stalk, mottled with gray; Common in lowland jungle. The large inflorescence grows from the tuberous stem after the leaves have died.

*Lënggadai* *Bruguiera caryophylloides* Bl Rhizophoraceae.

Tree of mangrove. Leaves to 4 in. by  $2\frac{1}{2}$  in., narrowed gradually to base, apex acute. Flowers small green, in groups of 2 or 3. Root of seedling, while hanging from parent tree about 8 in long.

*Lënggundi* *Vitex trifolia* Linn. Verbenaceae

Large shrub, leaves trifoliolate or simple, white beneath, flowers blue, in terminal inflorescence. A curious creeping form is found in the sand by seashores. Widely distributed in South Asia and Australia.

*Lëtup lëtup* *Passiflora foetida* Linn. Passifloraceae.

Creeping or climbing plant, with three lobed hairy leaves and spirally twisted tendrils. Calyx bladder-like, fruit small yellow, allied to the passion fruits, introduced from South America and now common throughout the Peninsular. Used as a cover crop.

*Lidah Badak* *Opuntia monacantha* Haw. Cactaceae

Stout succulent plant. The stem consists of flattened segments 8-10 ins. long and about 3 ins. wide, narrowed towards each end. The segments are covered with small protuberances which bear long thorns. Flowers yellow about 3 ins. across, fruits pear shaped, 3-4 in. long.

*Lidah Buaya* *Aloe* Sp. Liliaceae.

Succulent plant from South Africa, consisting of a rosette of thick fleshy leaves growing from a short stem. Leaves 1 ft. or more long, tapering to the apex, usually thorny along the edge and sometimes on the back also. The same Malay name would serve for almost any species. Flowers orange or yellow, numerous, on a erect branched inflorescence, usually 1-3 ft. tall.

*Lidah Jin* *Sansevieria zeylanica* Willd. Liliaceae.

Bowstring hemp. A plant of the lily family, allied to the Yuccas. The stiff erect leaves yield a fibre.

*Lidah pipit* *Portulaca quadrifida* Linn. Portulacaceae.

A prostrate weed with small narrow succulent leaves and yellow flowers.

*Limau kingkit* or *Limau kiya*. *Triphasia trifoliata* DC Rutaceae.

Shrub probably from China. Leaves trifoliate, leaflets more or less toothed, small, rather stiff, with two spines at the base of each. Fruit small, red containing sweet juice and a few seeds. (Chinese Kim-kit).

*Maman*. *Cleome viscosa* Linn. Capparidaceae.

A small stiff shrub with small trifoliate leaves, yellow flowers and slender dehiscent fruits which are covered with viscid hairs.

*Mampĕle* or *Kening nabi*. *Melia azadirachta* Linn. Meliaceae.

The nim tree of India, introduced and frequently cultivated.

*Manik tasbeh*. *Coix lachryma-jobi* Linn. Gramineae.

Coarse broad-leaved grass, about 3 ft. high; inflorescences numerous in the axils of the leaves. The fruits are enclosed by persistent sheathing bracts, which are hard, smooth and white when ripe, and about 2/5 in. long.

*Manjakani*.—the gall or oakapple of a species of *Quercus*.

(Imported from India).

*Mata kĕli*. *Solanum nigrum* Linn. Solanaceae.

This species is a common weed in England, but the tropical form differs in being a less robust plant, with smaller leaves and flowers.

*Mĕmpĕlas bunga*. *Tetracera assa* DC. Dilleniaceae.

A slender woody climber with white and pink flowers. Common in thickets and on the edge of jungle.

*Nilam* *Pogostemon Cablin* Benth. Labiatae.

Aromatic herb, cultivated for the perfume contained in its leaves (Patchouli).

*Nyirek*. *Carapa obovata* Bl. Meliaceae.

Tree of mangrove swamps. Leaves pinnate with 1 or 2 pairs of leaflets which have blunt tops and are narrowed to the base. Fruit round, as big as a large orange.

*Pakis*. *Nephrolepis biserrata*.

A common fern of open places, where the soil is good and in young secondary jungle (Many ferns are called pakis).

*Pĕdara* *Ximenia americana* Linn. Olacaceae.

Shrub or low branching tree, spiny. Leaves 1½ in. long, simple, ovate, slightly fleshy, smooth. Flowers small white; fruit plum-like, yellow, pulpy (Ridley).

*Pekak*. *Illicium verum* Hook. fil. Winteraceae.

Star anise. A fruit imported from China, yielding an oil similar to that of aniseed. The fruit is woody, star shaped, consisting of eight narrow carpels which dehisce along one edge, exposing a single brown seed in each. (Chinese Peh Kak).

*Pĕngaga*. *Hydrocotyle asiatica*.

A small creeping herb with orbicular leaves often found in grassy places. The only common local member of the family Umbelliferae; it belongs to the genus containing the English pennywort.

*Pēpitis.* *Dischidia Gaudichaudii* Don. Asclepiadaceae.

A very common climbing epiphytic plant, with very small orbicular leaves. Contains a white latex.

*Pēpulut.* *Urena lobata* Linn. Malvaceae.

A small erect shrub of the mallow family, with pink flowers and spiny fruits. Common by roadsides.

*Pērēpat.* *Sonneratia Griffithii* Kurz. Lythraceae.

A tree of the mangrove; its roots have erect branches growing up out of the mud serving as aerating organs. Leaves stiff smooth roundish with narrow base. Fruit smooth round, surrounded by the sepals like a star.

*Pēria nyonya.* *Ipomoea pulchella* Roth. Convolvulaceae.

Slender creeper with pink flowers, allied to the morning glories. Native in India and Indo-China, cultivated in Malay Peninsula.

*Pēria pantai.* *Colubrina asiatica* Brngn. Rhamnaceae.

Large shrub. Leaves simple, alternate, to 2 ins. long, ovate toothed, the apex acute. Flowers small greenish in axillary inflorescences; fruit  $\frac{1}{4}$  in, globose with three lateral grooves, the base joined to the cup-like remains of the calyx.

*Pētai belalang.* *Leucaena glauca* Benth. Leguminosae.

Large spreading shrub, thornless, with bipinnate leaves, leaflets very small. Flowers white in globose heads, which are borne on short stalks in the leaf axils. Each head of flowers produces a group of long pods. Allied to the Mimosas.

*Piai.* *Acrostichum aurum* Linn.

A large fern, found in tidal swamps throughout the tropics. Its fronds have large simple leaflets the upper ones being densely covered beneath with brown sporangia.

*Po'ok* *Mentha javanica* Bl. Labiatae.

A small strongly scented herb, stems hairy, leaves lanceolate toothed. Flowers in axillary whorls, calyx hairy with triangular teeth, corolla hairy pale lavender colour. (Chine Póh hó).

*Rēngkam.* *Sargassum* sp.

One of the common larger seaweeds of the coast.

*Rokam bēlanda* *Flacourtia cataphracta* Roxb. Flacourtiaceae.

Small tree. Leaves alternate, 3 ins. long narrowly elliptic, edges serrate. Fruit globose, dark reddish when ripe; styles joined together at apex of fruit (not separated as in *F. rukam*).

*Rotan dini.* *Flagellaria indica* Linn. Flagellariaceae.

A common slender climbing plant, with narrow leaves which end in tendrils. Flowers small white.

*Puku ruku* *Ocimum basilicum* Linn. Labiatae.

Aromatic labiate herb of the dead-nettle family. Widely distributed in tropical Asia, Africa, and the Pacific. Locally cultivated.

*Sēkēntut.* *Paederia foetida* Linn. Rubiaceae.

A slender climber with opposite simple leaves.

**Sělasek.** *Ocimum sanctum* Linn. Labiatae.  
Probably cultivated only: it has a wide distribution in S. Asia and Polynesia.

**Sěléguri.** *Sida rhombifolia* Linn Malvaceae

Small erect shrub, common in waste ground. Belongs to the mallow family; flowers small yellow (also *Sangga berduri*).

**Sěmalu or malu malu.** *Mimosa pudica* Linn. Leguminosae.

The sensitive plant. A native of America, early introduced into the East and now common everywhere (also *Kěman*,—Kedah).

**Sěmbong.** *Blumea balsamifera* DC Compositae.

The Ngai camphor. A tall straight shrub; leaves large softly hairy; flowers in a large terminal panicle, small yellow, Whole plant aromatic.

**Sěnecheng** *Dalbergia torta* Grah. Leguminosae.

Long climbing shrub, Leaves 5-foliolate, leaflets oblong blunt small. Flowers small white in dense axillary inflorescences. Pod flat, brown, with one or two seeds.

**Sěnsawan.** *Hedyotis auricularia* Linn. Rubiaceae.

Herb, to 2 ft. tall, common in waste ground. Leaves opposite, about  $1\frac{1}{2}$  x 1 in., softly hairy, flowers small white in axillary groups.

**Sěnyěnchang.** *Allophyllus ternatus* Lour. Sapindaceae.

Shrub or small tree Leaves 3-foliolate, leaflets to  $3\frac{1}{2}$  in. long, elliptic, acute, somewhat dentate Flowers small, in axillary racemes 5 in. long; fruit globose, red, size of a pea, sometimes twinned.

**Sěnudok.** *Melastoma polyanthus* Bl. Melastomaceae.

Very common shrub in open country, with three-veined leaves and mauve flowers Found in the South of the Malay Peninsula only, in the north it is replaced by another species, *M. malabathricum*

**Sěpanggil.** *Clerodendron paniculatum* Linn. Verbenaceae.

Small erect shrub with large roundish leaves and a large terminal pyramidal inflorescence of small red flowers. Cultivated, and in waste ground.

**Sěpěkong.** *Ageratum conyzoides*. Compositae.

The commonest local weed of the family Compositae; flowers mauve. It takes the place of the English groundsel and is similar in habit.

**Sěpulch.** *Eurycles sylvestris* Salisb. Amaryllidaceae.

Small lily-like plant, with short broad leaves and a group of small white flowers on an erect stalk. Distributed from Malaya to Australia, and said to be native, near the sea, in the north of the Peninsula. Commonly cultivated.

**Sěrai.** *Cymbopogon citratus* Stapf. Gramineae.

Lemon grass; of similar habit to *C. nardus*.

**Sërai Wangi.** *Cymbopogon nardus* Rendle. Gramineae.  
Citronella grass; a tall tufted grass, containing an aromatic oil.

**Sërunai (laut)** *Wedelia biflora* DC. Compositae.  
A scandent shrub with simple leaves and yellow daisy like flowers, common near the sea

**Sësop.** *Lumnitzera coccinea* W. & A. Combretaceae.  
Tall tree of mangrove swamps. Leaves about 3 ins. long by 1 in. broad, rounded at the apex, narrowed gradually to the base. Young stems red. Flowers bright scarlet in dense terminal inflorescences.

**Sëtada.** *Podocarpus polystachyus* R. Br. Coniferae.  
Small tree, common by seashores, densely bushy, with small very narrow stiff leaves, 2 ins. long. It has no flowers, belonging to a southern group of conifers.

**Sëtaraw.** *Costus speciosus* Sm. Zingiberaceae.  
Stems 6 ft. or more tall, spirally, twisted, bearing simple leaves and a large terminal inflorescence. Flowers large white, buds protected by large red bracts.

**Sëtu** *Enhalus koenigii* Rich. Hydrocharitaceae.  
Plant growing abundantly in shallow sea, near shore. Stem embedded in sand, leaf 2-3 ft. long, ½ in. wide. Female flowers borne on long stalks, rising to the surface of the water; male flowers on short stalks, becoming detached when mature and rising to the surface, where they float freely, pollinating the female flowers. When pollination is completed, the stalk of the female flower contracts spirally, and fruit ripens below the surface. Fruit ovoid with longitudinal bands of bristles, containing numerous seeds.

**Sisek Naga** *Desmodium heterophyllum* DC. Leguminosae.  
A small creeping leguminous plant, common in grassy places, leaves trifoliate flowers small pink:

**Sisek naga pëpëri** or **segan.** *Euphorbia thymifolia* Burm. Euphorbiaceae.

A common prostrate weed, with pink stems and very small crowded leaves about one-fifth inch long.

**Daun Sorok** *Lycopodium cernuum* Linn.

A more or less prostrate plant of moss like appearance, the longest shoots three feet or more long with numerous lateral branches, covered throughout with small moss like leaves. Often very abundant in waste places.

**Sudu sudu** *Euphorbia neriiifolium* Linn. Euphorbiaceae.

A shrub with thick fleshy stems and simple fleshy leaves at the ends of the branches, each with two thorns at the base; contains a white latex: it is native in southern India and cultivated in the Malay Peninsula.

*Tahi Babi.* *Adenostemma viscosum* Forst. Compositae.

A herbaceous weed similar in appearance to *Ageratum conyzoides*, but with larger leaves and fewer inflorescence of white, not mauve, flowers.

*Tangka* *Neptunia oleracea* Low Leguminosae.

Floating aquatic herb with horizontal stems. Outer part of the stem consists of a thick layer of soft white tissue, roots borne in bunches on the stem, much branched. Leaves bipinnate, leaflets small. Flowers small yellow in globose heads on stalks 1 in. or more long.

*Tapak Itek* *Ancilema nudiflorum* Br. Commelinaceae.

A small grass like herb with pale green leaves and small pink flowers. Belongs to the same family as *Rumput aur.*

*Tapak kuda* *Ipomoea pes-caprae* Roth. Convolvulaceae.

A common plant creeping in sand on seashores, leaves large stiff two lobed, flowers pink.

*Tëmangau* *Glochidion superbum* Baill. Euphorbiaceae.

Small tree. Leaves to about 10 in. by 5 in. hardly stalked broad and slightly cordate at the base, apex acute, stiffly coriaceous, covered with soft hairs above, and with longer brown hairs on the prominent veins beneath. Flowers small pink, in dense clusters, unisexual.

*Tëngar.* *Ceriops Candolleana* Arn. Rhizophoraceae.

A common small tree of the mangrove, allied to the Rhizophoras.

*Tëntulang.* *Euphorbia tirucalli* Linn. Euphorbiaceae.

Small tree with cylindrical branches and very small leaves; contains a white latex. native of Africa cultivated locally.

*Tërong përat* *Solanum aculeatissimum* Linn. So'anaceae.

A very prickly dwarf shrub. Flowers small white; fruit red like a small tomato. Common on sandy seashores (Ridley).

*Tërong pipit* *Solanum torvum* Sw. Solanaceae.

A small shrub common in waste ground. Leaves large hairy, flowers white with prominent yellow stamens, fruit half inch spherical yellow. Allied to the potato.

*Tinjau bëlukar* *Macaranga rubiginosa* Ridl. Euphorbiaceae.

Common small tree of *bëlukar*. Leaves alternate, longstalked ovateacuminate, about 6 ins. long by 2½ broad at base. Leaf stalks and veins beneath leaves red. Flowers small reddish in pendulous inflorescence on the lower part of the branches below the leaves.

*Daun tumbok daun* *Bryophyllum calycinum* Salisb. Crassulaceae.

A tall fleshy herb, leaves opposite, simple or three partite, oblong or elliptic, crenate. Flowers in a tall panicle, calyx purplish green, corolla green, reddish purple above. Probably introduced from Africa.

*Tumu* *Bruguiera gymnorrhiza* Lam. Rhizophoraceae.

Tree of mangrove swamps. Leaves 4 in. long  $2\frac{1}{2}$  in. broad elliptic apex acute; flowers solitary in leaf axils. Calyx bright red with 12 long narrow teeth; petal shorter than calyx bilobed.

*Turi* *Sesbania grandiflora* Pers. Leguminosae.

Small slender leguminous tree, with long pinnate leaves, large white papilionate flowers and long slender pods. Distributed from Mascarenes to N. Australia, but not reckoned native in Malay Peninsula by Ridley. (Also *Gēti*, Kedah).

*Tutop bumi* *Elephantopus scaber* Compositae.

A herb of the family Compositae. It has small mauve flowers and a rosette of leaves lying close to the surface of the earth; it is often found in grass plots.

*Ubar.* *Eugenia lepidocarpa* Wall. Myrtaceae.

Tree, leaves opposite, about 6 by  $2\frac{1}{2}$  ins., stiff, almost sessile very closely resembling those of *E. grandis*. (jambu laut) Differs from *E. grandis* in having a ribbed calyx; that of *E. grandis* is smooth.

*Udat* *Avicennia officinalis* Linn. Verbenaceae.

Common small tree in mangrove. Leaves 2 in. long apex rounded or acute base narrow, veins distinct, pale beneath. Fruit hairy, ovoid  $\frac{1}{4}$  in. long when ripe. (*A. lanata* Ridley appears to be only a form of this with leaves very hairy beneath.)

*Urang areng* *Eclipta alba* Hassk. Compositae.

A common weed, with small opposite leaves and small white flowers.

## Kedah Natural History Notes.

By A. W. HAMILTON.

*Bambun* or  
*Bangbun*

A small Mongoose, *Herpestes*.

A most intractable animal reputed by Malays to have a savage and painful bite.

It is fairly numerous in the tall reed beds of the Kedah coastal plain where it has runways and is alleged to live on fish or prawns. As it is seldom seen very few Malays even recognise the animal when met with.

*Mērēbah Bidan*

The yellow-crowned Bulbul, *Trachycomus zeylanicus* (Gm.).

A fine songster with clear melodious tones often kept as a cage bird. Elsewhere it is called *Bēbarau*.

*Chak uban*

The white-headed Munia, *Munia maja* (Linn.) (*Uban*, grey haired).

*Chak puting damar*

The black-headed Munia (or Chestnut-bellied Munia), *Munia atricapilla* (Vieill).

A small gregarious chestnut brown finch with a black head and neck. (*Puting damar*, the fag-end of a torch).

*Chak Tuli*

The sharp-tailed Munia, *Munia striata subsquamicollis* St. Baker. A small white brown speckled finch. (*Tuli*, deaf, on account of this finch's apparent indifference to the noise made to scare it from the crops).

*Gēlam*

The Chestnut Bittern, *Ixobrychus cinnamomeus* (Gm.). Common in reedy patches of paddy fields and light brown in colour as is a fish of the same name.

*Sēgan*

The nightjar, *Caprimulgus macrourus bimaculatus* Peale. *Sēgan*, lazy, owing to its laziness in waiting until the last possible minute before flying out of harm's way, and also as it does not trouble to make a nest but lays its eggs in a depression on the ground). Elsewhere this bird is called *burong tukang*—i.e., the workman as the "tock tock" of its note is like the blows of a hammer on a nail.

- Sěpah Pětëri** The scarlet-backed Flower-pecker. *Dicoeum cruentatum ignitum* (Begbie).  
The Malay name has been wrongly recorded as *Sěpa Putëri*, or *Supa Putri* (H. C. Robinson).
- Sěpah Pětëri*. The princess's betel quid. The story goes that *Tuan Pětëri Bulan*—The moon Princess—once expectorated her quid of betel nut and the crimson stream fell to earth and was turned into the scarlet-backed Flower-pecker.
- Chěnchala or Murai Gıla** The Fantail Flycatcher, *Rhipidura javanica*. Robinson gives the Malay name as *Měrbok Gıla*, obviously a mistake, as it bears no resemblance to the *Měrbok* or Barred ground Dove but does resemble in its black and white plumage and spread of tail the *Murai* or Magpie Robin. The sobriquet of *gıla* or mad is due to its erratic actions.
- Punai Halban** The green pigeon *Tieron vernans griseicapilla* (Sch).
- Chiap Chiap** The Crested Wood Quail, *Rollulus roulroul* (Scop.).
- Chok or Anak Chok** The Tree Sparrow, *Passer montanus malaccensis* Dubois. The common house sparrow of Malaya known in the south of the Peninsula as *pipit gěnting*.
- Kědëra (Laut)** Curlew Sandpiper. *Tringa ferruginea* (Brunn).  
Common on mud-flats
- Burong Kědëra** Pallas' Mynah, *Agrospar sturnius* (Pall.)  
A migrant that appears in flocks.
- Sěriap** The Purple Heron, *Ardea purpurea mani-lensis* Meyen.  
At one time this large heron was extremely numerous in Kedah particularly over the large marshy area in the region of Kota Sarang Sěmut now it is rarely met with. Malaya state that it nested on the top of the dense beds of *pěrěpok* reeds and Malayan Royalty used to proceed on Heron-egg collecting picnics mounted on elephants.

*Sintar Api*

The Malayan Banded Crake, *Rallina fasciata* (Raffles). A handsome rufous brown bird with resplendent red eyes whence its Malay Name *Sintar Api*, the fiery Sintar, in contra-distinction to *Burong Sintar* the Blue breasted Banded Rail. The banded crake inhabits light secondary jungle and thickets and is caught in large numbers during a short period in June and October by Malays who call the birds in a likely patch of ground during the day and having erected slight converging fences of twigs drive the birds after dark into a rotan basket trap placed at the apex of the fences. The bird is good eating.

*Sang Serut*

The wood partridge *Caloperdix ocella* (Temm). The name is said to be derived from the note of the two sexes when replying to each other.

*Mērēbah Chabai*

The stripe-throated Bulbul, *Pycnonotus finlaysoni* Strickl.. Kept occasionally as a cage bird.

*Mērēbah Kapor*

The yellow-vented Bulbul. *Pycnonotus Goiavier analis* Hossf.

The Malay name is due to its chalk coloured underparts.

*Kambing Gurun*

The Serow. *Capricornis sumatrensis* subsp.

All portions of this dweller on inaccessible limestone crags are looked on as efficacious remedies for various ills. The spittle or any oily extract 'Minyak' obtained from the serow's meat is believed by Malays to be a valuable healing unguent in cases of wounds, fractures or rheumatic ailments.

*Ikan Karin*  
*Ikan Sēmpilai*  
*Ikan Sēmpilai*  
*Batu*

*Ctenops vittatus*, the fighting fish *Betta* sp. (also *ikan pēlaga* or *bēlaga*) *Betta* sp. but larger than *Sēmpilai*.

The *Karin* and *Sēmpilai* are tiny fresh water fish found in ponds and ditches and kept for fighting by Malay Children and youths. The fish are put in separate glass jars which are placed in proximity so that the pugnacity of the inmates is aroused on sight of each other

and the *Karin* particularly bursts into all the colours of the rainbow. When sufficiently aroused both the combatants are placed in one jar and bets are laid on the result of the fight.

The *Sempilai batu* is a slightly larger fresh water fish said to be caught in hill streams and is also occasionally used for fighting; all are termed *ikan pelaga* or fighting fish but only members of the same genus are matched to fight together.

## The Relation of Weight to Wing Area in the Flight of Animals.

By E. BANKS.

*Curator, Sarawak Museum.*

Few subjects have been more discussed than the Flight of Animals but during four years comparative isolation I have been unable to consult most of what had previously been written and found whilst on leave that my contribution to the subject had already been made by a German some forty years ago (Mullenhoff 1885) an account of which may be found in Prof. Ray's article on Flight (Newton 1893-6).

It had been my intention to find some relation between the weights of various Bats, Birds and Insects and the wing area supporting and propelling them; others have sought such a relation since Mullenhoff's time but I know that I am presenting here fresh data, regarded from a rather different point of view and I think carrying the investigation a stage further than before.

Briefly Mullenhoff, Harting and others found heavier Birds to have a relatively smaller Wing Area than lighter ones,  $\sqrt[3]{\frac{\text{Wing Area}}{\text{Weight}}}$  being within limits fairly constant. Mouillard (1881) independently noted the same thing about relative Wing Area and though Von Ledenfeld (1904) discounted the accuracy of the above mentioned constant doubt has been thrown on the correctness of his own calculations (1906). I have not seen the most important works of Marey (1874) whilst that of Hankin, containing the most remarkable series of observations, deals more particularly with soaring Flight. I am indebted to Dr. de Fenis (1921) for publishing many Weights and Wing Areas of Bats.

One point should be made clear in which I have differed from former observers, for they have included the surface area of head, body and tail as well as Wings in computing their Wing Area whereas I have taken the area of the Wings only; whilst therefore I have been able to make use of Mullenhoff's data in support of my own I have been unable to mix them owing to this difference.

Most of my measurements were made in Borneo on specimens collected for the Museum here, comprising about 123 species of Birds, 40 of Bats and 186 of Insects; Mullenhoff measured 192 examples of 88 species of Birds, 12 Bats and 75 examples of about 50 species of Insects. To find the Wing Area of a specimen I laid it breast upwards on a sheet of paper and fully stretched one wing about at right angles to the body; in Birds this wing was then pressed flat and a pencil drawn round its edge, beginning pre-axially where humerus and body join and finishing post-axially at the humeral feathers lying beside the flank. The Area of this tracing

was accurately determined with a surveyors Planimeter; in Birds the tracing itself ignored the gaps between feather tips and the degree of concavity of the wing but as all birds got the same treatment and an average of several species of about the same weight was finally taken, individual or slightly inaccurate variations are not prominent. The wings on one side of the Insects were stripped off and pinned out separately, the area being determined as before, except for the Elytra of Beetles which were ignored; the chief source of error lies in the weighing of the Insects, some Bees losing as much as 12% owing to evaporation whilst being carried about. Wing areas measured as above were then doubled to give total Wing Area; all Weights were converted to Grammes and Wing Areas to Square Centimetres to conform with other observers.

There was at first no obvious connection between Weight and Wing Area until the measurements were treated in a becoming way. If for each individual the total area of all its wings be divided by its Weight and this figure be plotted against that Weight then the comparative increase or decrease in Wing Area relative to Weight may be seen at a glance, high figures indicating a relatively large Wing Area. To reproduce graphs of just this would serve no useful purpose for the main features may be seen in graphs illustrating other points as well, these graphs show even more clearly than other observers have pointed out, that small fliers have a much larger relative Wing Area than heavy fliers and that as weight increases relative Wing Area becomes at first very rapidly less and then decreases more gradually until there is little further change.

As it happened the ratio Wing Area to Weight was found to vary considerably, not that more than a few species were aberrant but that the plottings covered a wide but fairly regular range in depth varying about some mean representing a general decrease in relative Wing Area. Prof. Huxley then suggested dividing the material into its Orders or Sub-Orders, plotting separate curves for each and to further simplify matters to divide each Order or Sub-Order into groups by weight; taking for plotting purposes the mean Weight and Wing Area of these groups. This is shown in the accompanying graphs, two compiled from my own measurements and two in confirmation from those of Mullenhoff, the figure beside each point plotted indicating the number of examples whose mean has been taken; these measurements as well as individual ones, both of mine and his, will be found in the Tables at the end of the article.

Roughly speaking the curves in the graphs have somewhat similar slopes, it being clear that relative Wing Area decreases very sharply at first as Weight increases, decreases more gradually in middle weights and shows very little change as maximum Weights are reached; there is a strong tendency for high relative Wing Area Orders (as indicated by the upper curves) to have numerically and actually higher relative Wing Area light Weight species than low relative Wing Area Orders *e.g.*, there

are many Sparrow-like birds whose ratio Wing Area: Weight is between 4 and 6 but there is only one Pheasant-like bird of anywhere near the same Weight and its ratio Wing Area: Weight is much smaller. Strictly speaking the slopes are more nearly parallel in middle and high weights, the upper curves indicating a high relative Wing Area in the small Weights out of all proportion to relative Wing Area in the same small weights of the lower curves.

As was to be expected the curves derived from Mullenhoff's measurements are arranged in very much the same order as those derived from mine.

I mentioned that Mullenhoff, Harting and others obtained a "constant"  $3 \sqrt{\frac{\text{Wing Area}}{\text{Weight}}}$  and in the tables this will be found calculated individually and for each group, varying from 5.8 to 2.8 in Birds and Bats, from 12.6 to 1.6 in Insects, but mostly from 6 to 3 so that the "constant" is possibly the same for all, about 4, which as Prof. Levy points out is primarily a geometrical property and not a consequence of any essential biological factor.

It is of interest to give here the maximum and minimum of this "constant" for the various Orders, which are arranged roughly in descending order of magnitude of relative Wing Area.

|                 | Max. Min. |     | Max. Min.  |     |              | Max. Min. |     | Max. Min.  |     |
|-----------------|-----------|-----|------------|-----|--------------|-----------|-----|------------|-----|
|                 | Banks     |     | Mullenhoff |     |              | Banks     |     | Mullenhoff |     |
| Strigiformes    | 5.1       | 3.9 | 5          | 4.5 | Rhopalocera  | 12.6      | 2.7 | 12.8       | 4.8 |
| Lariformes      | 5         | 4.1 | 5.2        | 4.2 | Heterocera   | 10        | 2.8 | 4.2        | 3.4 |
| Ardeiformes     | 5.2       | 3.6 |            |     | Neuroptera   | 7.4       | 3.4 | 7.2        | 3.6 |
| Accipitriformes | 5.8       | 3.2 | 5.2        | 4.4 | Phasmidae    | 5.9       | 5   |            |     |
| Passeriformes   | 4.5       | 3.1 | 4          | 3.6 | Blattidae    | 4.2       | 2.5 |            |     |
| Piciformes      | 4.8       | 3.2 | 4.1        | 3.2 | Cicadidae    | 3.6       | 2.9 |            |     |
| Columbiformes   | 3.8       | 3.2 |            |     | Gryllacridae | 5.2       | 2.3 |            |     |
| Ralliformes     | 3.8       | 2.8 |            |     | Coleoptera   | 3.1       | 1.6 | 2.4        | 1.6 |
| Charadriiformes | 4.2       | 2.8 | 3.7        | 3.4 | Hemiptera    | 3.3       | 1.6 |            |     |
| Anseriformes    | 4.2       | 2.9 | 3.1        | 2.5 | Diptera      |           |     | 3.8        | 1.6 |
| Galliformes     | 4.2       | 2.9 | 3.6        | 2.6 | Hymenoptera  | 3.45      | 1.7 | 2.1        | 1.1 |
| Cheiroptera     | 5.2       | 2.8 | 4.3        | 3.6 |              |           |     |            |     |

From this it is clear that the maximum and minimum limits of the constant  $3 \sqrt{\frac{\text{Wing Area}}{\text{Weight}}}$  are numerically higher though not

necessarily farther apart in high value Orders than in low value ones, so that the extreme limits of variation are not to be found within any one Order.

There are various details of minor interest: in grouping by Weight many exceptional individuals lose their outstanding character

but some if included would sooner upset any reasonable average than themselves; thus the Argus Pheasant has an exceptional Wing Area owing to the enlargement of its secondary wing feathers as a Secondary Sexual character but there are three at the end of the table of Piciform Birds—the Nightjar, Frogmouth and Giant Swift—which for no apparent reason are very exceptional as regards their relative Wing Area.

It is also evident from the graphs and table that many Insects have a very much greater relative Wing Area than Birds, the ratio Wing Area: Weight reaching 300 or so in some of the former and not more than 10 in the latter, in which they are accompanied by some of the lowest Insects. With regard to the Birds, the good fast flyers such as Ducks, Partridges and Pheasants, Waders and Pigeons are the lowest ones as regards relative Wing Area and something of the same sort may be true for Insects. For the Birds, high relative Wing Area in an Order signifies many very light species but comparatively low relative Wing Area means few light species and a swift direct flight in general.

The male Flying Fox is usually heavier than his mate but has about the same Wing Area, for at a time when the female is carrying the young her weight must nearly approximate his and she require about the same Wing Area. Bats on the whole are surprisingly high as regards relative Wing Area; the Flying Squirrel (*Iomys thomsoni*) and the Flying Lemur—both of them only gliders—rather low down. Flying Lizards I have not included in the graphs but the ratio Wing Area: Weight is about 5 so that they would take a surprisingly high place among Birds considering they only glide. Mullenhoff's Flying Fish are of interest in taking a place below any Order of Birds and may point to them as being gliders, rather than flappers.

### Summary.

1. Lighter fliers have a larger Wing Area relative to Weight than heavy ones as has been shown before; this not only applies within the various Orders of Birds and Insects but the latter being lighter have on the whole much larger relative Wing Areas than the former.

2. The relation of Wing Area to Weight has been expressed graphically by a number of approximately parallel curves representing various Orders and Sub-Orders.

3. These curves show that relative Wing Area decreases very rapidly among light weight fliers as weight increases and that the decrease is less marked in middle-weights.

4. These curves are only approximately parallel; for high relative Wing Area Orders and Sub-Orders have comparatively much bigger relative Wing Areas in the light Weights than do low Relative Wing Area Orders.

5. Low relative Wing Area Orders and Sub-Orders have on the whole numerically fewer light Weight species than the other Orders.

6.  $3 \sqrt{\frac{\text{Wing Area}}{\text{Weight}}}$  is a "constant" (about 4) in Bats, Birds and Insects but is subject to some variation, particularly in Insects.

7. The difference between the maximum and minimum limits of variation of this "constant" is about the same in each Order and Sub-Order, but the actual limits are figuratively greater in high than low relative Wing Area Orders.

8. Strong, swift, direct fliers among Birds have the lowest relative Wing Areas and fewest light species.

Indifferent German prevents me doing full justice to Mullenhoff's remarkable article and it is unfortunate that it should be so inaccessible for there is a great deal more in it dealing with other aspects of flight.

Finally I have to thank Dr. D. L. MacKinnon of King's College for assistance and advice, Dr. D. M. S. Watson of University College and Prof. H. Levv of The Imperial College of Science and Technology, London, for kindly considering the Mechanical and Mathematical possibilities of this article. In particular my thanks are due to Prof. J. S. Huxley for his constant encouragement and advice and for suggesting a method of procedure without which this paper would not have reached a satisfactory conclusion; I feel fortunate in having had such an abundance of material and in having had him to direct operations.

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STRIGIFORMES.—(OWLS.)

|                         | Sex | Weight<br>in<br>grammes. | Mean Wt<br>of<br>group. | Wing Area<br>in<br>sq. cms. | Mean W. A.<br>of<br>group. | W. A.<br>Wt. | Mean W. A.<br>of<br>group. | $\sqrt{W. A.}$ | $\sqrt{Wt.}$ | Mean $\sqrt{W. A.}$<br>of<br>group. |
|-------------------------|-----|--------------------------|-------------------------|-----------------------------|----------------------------|--------------|----------------------------|----------------|--------------|-------------------------------------|
| Scops lempiji Horsf.    | ♀   | 71                       | 71                      | 453                         | 453                        | 6.4          | 6.4                        | 5.1            | 5.1          |                                     |
| Athene noctua Scop      | ♂   | 117                      |                         | 369                         |                            | 3.1          |                            | 3.9            |              |                                     |
| Ninox scutulata Raffles | ♂   | 177                      | 147                     | 503                         | 431                        | 2.8          | 3                          | 3.9            | 3.9          |                                     |
| Ketupa ketupa Horsf     | ♂   | 684                      | 684                     | 1958                        | 1958                       | 2.9          | 2.9                        | 5              | 5            |                                     |
| Huhua orientalis Horsf  | ♂   | 850                      | 850                     | 2216                        | 2216                       | 2.6          | 2.6                        | 4.9            | 4.9          |                                     |

LARIFORMES—(GULLS & TERNS)

|                             |   |     |     |     |     |     |     |     |     |  |
|-----------------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Sterna minutus sinensis Gm. | ♂ | 42  | 42  | 210 | 210 | 5   | 5   | 4.1 | 4.1 |  |
| Sterna melanauchen Temm     | ♀ | 92  |     | 342 |     | 3.7 |     | 4.1 |     |  |
| Anous stolidus L.           | ♀ | 156 | 124 | 748 | 545 | 4.4 | 4   | 5   | 4.5 |  |
| Sterna bergii Licht         | ♂ | 252 | 252 | 800 | 800 | 3.1 | 3.1 | 4.5 | 4.5 |  |

PELICANIFORMES

|                     |   |      |      |      |      |     |     |     |     |  |
|---------------------|---|------|------|------|------|-----|-----|-----|-----|--|
| Fregata ariel Gould | ♂ | 750  |      | 2021 |      | 2.7 |     | 4.9 | 4.9 |  |
| Sula sula           | ♀ | 793  | 771  | 1954 | 1987 | 2.4 | 2.5 | 4.8 |     |  |
| Plotus melanogaster | ♂ | 1360 | 1360 | 1941 | 1941 | 1.5 | 1.5 | 3.8 | 4.3 |  |

ARDEIFORMES—(HERONS)

|                            |   |     |     |      |      |     |      |     |     |  |
|----------------------------|---|-----|-----|------|------|-----|------|-----|-----|--|
| Ardetta sinensis           | ♂ | 92  |     | 260  |      | 3   |      | 3.6 |     |  |
| Ardetta cinnamomea Gm      | ♂ | 156 |     | 468  |      | 3   |      | 3.9 |     |  |
| Butorides javanica Horsf.  | ♀ | 184 |     | 591  |      | 3.2 |      | 4.2 |     |  |
| Dupetor flavicollis Lath   | ♂ | 205 |     | 963  |      | 4.7 |      | 5.2 |     |  |
| Ardeola bacchus Bp         | ♂ | 205 | 168 | 915  | 639  | 4.4 | 3.6  | 5.1 | 4.4 |  |
| Egretta eulophotes         | ♀ | 311 |     | 924  | 924  | 3   |      | 4.5 |     |  |
| Gorsachius melanolophus    | ♂ | 307 | 309 | 767  |      | 2.5 | 2.75 | 4   | 4.2 |  |
| Garzetta nigripes Temm     | ♂ | 453 | 453 | 1192 | 1192 | 2.6 | 2.6  | 4.5 | 4.5 |  |
| Mesophoyx intermedia Wagl. | ♀ | 708 | 708 | 2086 | 2086 | 2.9 | 2.9  | 5   | 5   |  |

ACCIPITRIFORMES—(EAGLES, HAWKS)

|                                |   |     |      |      |      |     |      |     |     |  |
|--------------------------------|---|-----|------|------|------|-----|------|-----|-----|--|
| Microheirax fringillaris Drap. | ♂ | 34  |      | 133  |      | 4   |      | 3.5 | 4.5 |  |
| Microheirax fringillaris Drap  | ♀ | 57  | 45.5 | 151  | 142  | 2.7 | 3.3  | 3.2 | 3.3 |  |
| Accipiter virgatus             | ♀ | 155 | 138  | 468  | 460  | 3   | 3.15 | 4   |     |  |
| Accipiter virgatus             | ♂ | 120 |      | 449  |      | 3.3 |      | 4.3 | 4.1 |  |
| Astur trivirgatus Temm.        | ♀ | 340 |      | 774  |      | 2.2 |      | 4   |     |  |
| Baza jerdoni Blyth             | ♂ | 390 | 365  | 1457 | 1115 | 4   | 3.1  | 5.2 | 4.6 |  |

## ACCIPITRIFORMES—(EAGLES, HAWKS.)—Continued.

|                                  | Sex | Weight<br>in<br>grams | Mean Wt.<br>of group. | Wing Area<br>in sq. cms. | Mean W. of group. | W. A.<br>Wt. | W. A.<br>Wt. | Mean Wt.<br>of group. | W. A.<br>Wt. | Mean Wt.<br>of group. | W. A.<br>Wt. |
|----------------------------------|-----|-----------------------|-----------------------|--------------------------|-------------------|--------------|--------------|-----------------------|--------------|-----------------------|--------------|
| Baza jerdoni Blyth               | ♂   | 474                   |                       | 1593                     |                   | 3.3          |              | 5.1                   |              |                       |              |
| Circus spilonotus Kaup           | ♂   | 510                   |                       | 1700                     |                   | 3.3          |              | 5.1                   |              |                       |              |
| Falco peregrinus Tunst.          | ♂   | 510                   | 498                   | 1087                     | 1460              | 2.1          | 2.9          | 4.1                   | 4.6          |                       |              |
| Haliaeetus intermedius Gurney    | ♂   | 570                   |                       | 2383                     |                   | 4.2          |              | 5.8                   |              |                       |              |
| Macaerhampus alcinus Westermann  | ♂   | 595                   | 582                   | 977                      | 1680              | 1.5          | 2.9          | 3.7                   | 4.7          |                       |              |
| Spilornis cheela bacha Daud      | ♂   | 722                   |                       | 2044                     |                   | 2.8          |              | 5.1                   |              |                       |              |
| Circus spilonotus Kaup           | ♀   | 728                   | 725                   | 2295                     | 2169              | 3.1          | 2.9          | 5.7                   | 5.4          |                       |              |
| Poliaetus humilis Mull & Schleg. | ♂   | 850                   |                       | 1928                     |                   | 2.2          |              | 4.6                   |              |                       |              |
| Falco peregrinus Tunst.          | ♀   | 906                   |                       | 1406                     |                   | 1.5          |              | 3.8                   |              |                       |              |
| Spizaetus limnaetus Horsf.       | ♀   | 1048                  | 933                   | 2552                     | 1962              | 2.1          | 2            | 5                     | 4.4          |                       |              |
| Haliaeetus leucogaster Gm.       | ♂   | 1925                  | 1925                  | 4845                     | 4845              | 2.5          | 2.5          | 5.7                   | 5.7          |                       |              |
| Poliaetus ichthyaeus             | ♀   | 3265                  | 3265                  |                          |                   |              |              |                       |              |                       |              |

## PASSERIFORMES.

|                                 |   |     |      |     |     |     |     |     |     |  |  |
|---------------------------------|---|-----|------|-----|-----|-----|-----|-----|-----|--|--|
| Hirundo gutturalis Scop.        | ♀ | 17  |      | 106 |     | 6   |     | 3.1 |     |  |  |
| Rhipidura javanica Sparrm.      | ♀ | 14  |      | 121 |     | 8.6 |     | 4.5 |     |  |  |
| Furnesia supercilialis Salv.    | ♀ | 11  |      | 45  |     | 4   |     | 3   |     |  |  |
| Prionochilus xanthopygius Salv. | ♀ | 7   |      | 54  |     | 7.7 |     | 3.8 |     |  |  |
| Orthotomus cinerascens Blyth    | ♂ | 7   |      | 35  |     | 5   |     | 3   |     |  |  |
| Pratincola rubicola L.          | ♀ | 11  |      | 67  |     | 6   |     | 3.6 |     |  |  |
| Aegithina viridis Bp.           | ♂ | 14  | 11.5 | 69  | 71  | 5   | 6   | 3.4 | 3.5 |  |  |
| Chloropsis viridinucha Sharpe   | ♀ | 21  |      | 133 |     | 6.3 |     | 4.1 |     |  |  |
| Anthus obscurus Lath.           | ♀ | 24  |      | 110 |     | 4.5 |     | 3.6 |     |  |  |
| Iole sp.                        | ♀ | 35  |      | 121 |     | 3.4 |     | 3.3 |     |  |  |
| Lalage terat Bodd.              | ♀ | 28  |      | 140 |     | 5   |     | 3.9 |     |  |  |
| Pycnonotus plumosus Blyth       | ♀ | 28  |      | 125 |     | 4.4 |     | 3.6 |     |  |  |
| Artamus leucogaster Valenc.     | ♀ | 42  | 30   | 203 | 140 | 4.8 | 4.7 | 4.1 | 3.7 |  |  |
| Dissemurus paradiseus L.        | ♀ | 68  |      | 305 |     | 4.5 |     | 4.2 |     |  |  |
| Petrophila manila Bodd          | ♂ | 57  |      | 195 |     | 3.4 |     | 3.6 |     |  |  |
| Pitta granatina Temm.           | ♀ | 57  |      | 185 |     | 3.2 |     | 3.5 |     |  |  |
| Irena criniger                  | ♂ | 64  |      | 224 |     | 3.5 |     | 3.7 |     |  |  |
| Platylophus coronatus           | ♀ | 88  | 61.5 | 321 | 246 | 3.6 | 3.6 | 3.7 | 3.7 |  |  |
| Pityriasis gymnocephala Temm.   | ♂ | 127 | 127  | 433 | 433 | 3.4 | 3.4 | 4.1 | 4.1 |  |  |
| Platysmurus aterrimus Temm.     | ♀ | 198 | 198  | 555 | 555 | 2.8 | 2.8 | 4   | 4   |  |  |
| Eulabes javensis Osb.           | ♀ | 312 |      | 603 |     | 1.9 |     | 3.6 |     |  |  |
| Corvus compilor Rich.           | ♀ | 454 | 383  | 912 | 757 | 2   | 2   | 3.9 | 3.7 |  |  |

## PICIFORMES.

|                            |   |    |    |     |     |     |     |     |     |  |  |
|----------------------------|---|----|----|-----|-----|-----|-----|-----|-----|--|--|
| Macropteryx comata Temm.   | ♂ | 21 |    | 110 |     | 5   |     | 3.8 |     |  |  |
| Cypaelus subfurcatus Blyth | ♀ | 28 |    | 121 |     | 4.3 |     | 3.6 |     |  |  |
| Alcedo ispida bengalensis  | ♀ | 28 | 26 | 102 | 111 | 3.6 | 4.3 | 3.3 | 3.6 |  |  |

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PICIFORMES.—Continued.

|                                  | Sex | Weight<br>in<br>grammes. | Mean Wt.<br>of<br>group. | Wing Area<br>in sq. cms. | Mean W. A.<br>of<br>group. | W. A.<br>Wt. | Mean<br>Wt.<br>of<br>group. | $\sqrt{W. A.}$ | $\sqrt[3]{Wt.}$ | Mean<br>$\sqrt{W. A.}$<br>$\sqrt[3]{Wt.}$<br>of<br>group. |
|----------------------------------|-----|--------------------------|--------------------------|--------------------------|----------------------------|--------------|-----------------------------|----------------|-----------------|---|
| Halcyon chloris Bodd.            | ♂   | 71                       |                          | 254                      |                            | 3.6          |                             |                |                 | 3.8   |
| Chotorea mystacophanes Temm.     | ♂   | 71                       |                          | 200                      |                            | 2.8          |                             |                |                 | 3.4   |
| Caloramphus fuliginosus Temm.    | ♂   | 42                       |                          | 126                      |                            | 3            |                             |                |                 | 3.2   |
| Calyptomena viridis Raffi.       | ♂   | 57                       |                          | 182                      |                            | 3.2          |                             |                |                 | 3.5   |
| Gauropicoides rafflesii Vig.     | ♂   | 71                       |                          | 292                      |                            | 4.1          |                             |                |                 | 4   |
| Nyctiorhis amicta Temm.          | ♂   | 64                       | 63                       | 305                      | 226                        | 4.7          | 3.6                         |                |                 | 4.3   |
| Halcyon concretus Temm.          | ♂   | 85                       |                          | 255                      |                            | 3            |                             |                |                 | 3.6   |
| Chrysophlegma mallacense Lath.   | ♂   | 99                       |                          | 299                      |                            | 4.1          |                             |                |                 | 4   |
| Pyrotrogon kasumba Raffi.        | ♂   | 92                       |                          | 254                      |                            | 2.7          |                             |                |                 | 3.5   |
| Centropus javanicus Dumont       | ♂   | 149                      |                          | 428                      |                            | 2.9          |                             |                |                 | 3.9   |
| Zanclostomus javanicus Horsf.    | ♂   | 205                      | 126                      | 500                      | 347                        | 2.4          | 2.8                         |                |                 | 3.8   |
| Centropus sinensis Steph.        | ♀   | 316                      |                          | 1000                     |                            | 3.1          |                             |                |                 | 4.6   |
| Thriponax javensis Horsf.        | ♀   | 368                      | 342                      | 1065                     | 1032                       | 3            | 3                           |                |                 | 4.5   |
| Aloponherpes pulverulentus Temm. | ♂   | 482                      |                          | 927                      |                            | 1.9          |                             |                |                 | 3.7   |
| Carpoccyx radiatus Temm.         | ♂   | 482                      | 482                      | 974                      | 950                        | 2            | 2                           |                |                 | 4   |
| Anthracoceros malayanus Raffi.   | ♂   | 964                      |                          | 1732                     |                            | 1.8          |                             |                |                 | 4.2   |
| Anthracoceros convexus Temm.     | ♂   | 1070                     | 1017                     | 1941                     | 1836                       | 1.8          | 1.8                         |                |                 | 4.3   |
| Ruceros rhinoceros L.            | ♂   | 2722                     |                          | 3072                     |                            | 1.1          |                             |                |                 | 4   |
|                                  | ♀   | 2353                     | 2537                     | 3126                     | 3100                       | 1.3          | 1.3                         |                |                 | 4.2   |
| Rhinoplax vigil Forst.           | ♂   | 3175                     | 3175                     | 5080                     | 5080                       | 1.6          | 1.6                         |                |                 | 4.8   |
| Caprimulgus macrurus             | ♂   | 64                       |                          | 393                      |                            | 6.8          |                             |                |                 | 4.9   |
| Chaetura gigantea Temm.          | ♀   | 184                      |                          | 241                      |                            | 1.3          |                             |                |                 | 2.7   |
| Batrachostomus auritus           | ♂   | 205                      |                          | 1396                     |                            | 6.1          |                             |                |                 | 6.3   |

COLUMBIFORMES—(PIGEONS.)

|                             |   |     |     |     |     |     |     |  |  |     |
|-----------------------------|---|-----|-----|-----|-----|-----|-----|--|--|-----|
| Geopelia striata            | ♀ | 50  | 50  | 148 | 148 | 3   | 3   |  |  | 3.3 |
| Spilopelia tigrina Temm.    | ♂ | 120 |     | 331 |     | 2.7 |     |  |  | 3.6 |
| Osmotreron vernans L.       | ♂ | 106 |     | 231 |     | 2.1 |     |  |  | 3.2 |
|                             | ♀ | 135 | 120 | 334 | 300 | 2.5 | 2.5 |  |  | 3.5 |
| Columba palumbus L.         | ♂ | 397 |     | 774 |     | 2   |     |  |  | 3.8 |
| Myristicivora bicolor Scop. | ♂ | 454 |     | 654 |     | 1.4 |     |  |  | 3.3 |
| Butorion capelli Temm.      | ♂ | 454 | 435 | 611 | 746 | 1.3 | 1.7 |  |  | 3.2 |
| Carpophaga aenea L.         | ♂ | 567 | 567 | 862 | 862 | 1.5 | 1.5 |  |  | 3.5 |

RALLIFORMES.—(RAILS.)

|                              |   |     |     |     |     |     |     |  |  |     |
|------------------------------|---|-----|-----|-----|-----|-----|-----|--|--|-----|
| Hypotenidia striata L.       | ♂ | 135 |     | 264 |     | 2   |     |  |  | 3.1 |
| Amauornis phoenicurus Forst. | ♂ | 177 |     | 464 |     | 2.6 |     |  |  | 3.8 |
| Gallicrex cinerea Lath.      | ♂ | 198 |     | 446 |     | 2.2 |     |  |  | 3.6 |
| Rallus aquaticus L.          | ♂ | 127 | 159 | 259 | 358 | 2   | 2.2 |  |  | 3.2 |
| Gallinula chloropus L.       | ♂ | 354 |     | 393 |     | 1.1 |     |  |  | 2.8 |
| Gallicrex cinerea Lath.      | ♂ | 397 | 375 | 653 | 525 | 1.6 | 1.4 |  |  | 3.4 |

## CHARADRIIFORMES.—(PLOVERS.)

|                               | Sex | Weight<br>in<br>grammes. | Mean Wt.<br>of<br>group. | Wing Area<br>in<br>sq. cms. | Mean W. A.<br>of<br>group. | W. A.<br>Wt. | Mean W. A.<br>of<br>group. | W. A.<br>Wt. | Mean<br>W. A.<br>of<br>group. | W. A.<br>Wt. | Mean<br>W. A.<br>of<br>group. |
|-------------------------------|-----|--------------------------|--------------------------|-----------------------------|----------------------------|--------------|----------------------------|--------------|-------------------------------|--------------|-------------------------------|
| Rhyacophilus glareola Gm.     | ♂   | 54                       |                          | 205                         |                            | 3.8          |                            | 3.8          |                               |              |                               |
| Tringoides hypoleuca L        | ♀   | 57                       |                          | 173                         |                            | 3            |                            | 3.4          |                               |              |                               |
| Glareola orientalis Leach     | ♀   | 71                       | 60                       | 304                         | 227                        | 4.3          | 3.7                        | 4.2          | 3.8                           |              |                               |
| Capella stenura Kuhl          | ♀   | 127                      |                          | 231                         |                            | 1.9          |                            | 3            |                               |              |                               |
| Heteractitis brevipes Vieill. |     | 117                      |                          | 292                         |                            | 2.6          |                            | 3.5          |                               |              |                               |
| Capella coelestis L.          | ♂   | 116                      |                          | 255                         |                            | 2.2          |                            | 3.3          |                               |              |                               |
| Limnocoryptes gallinula L.    | ♂   | 93                       |                          | 163                         |                            | 1.7          |                            | 2.8          |                               |              |                               |
| Octhodromus geoffroyi Wagl.   | ♂   | 85                       |                          | 192                         |                            | 2.2          |                            | 3.1          |                               |              |                               |
| Charadrius dominicus Mull     | ♂   | 106                      | 107                      | 341                         | 246                        | 3.2          | 2.3                        | 3.9          | 3.5                           |              |                               |
| Numenius variegatus Scop.     | ♀   | 510                      | 510                      | 661                         | 661                        | 1.3          | 1.3                        | 3.2          | 3.2                           |              |                               |
| Numenius arquata L.           | ♀   | 808                      | 808                      | 1028                        | 1028                       | 1.2          | 1.2                        | 3.4          | 3.4                           |              |                               |

## ANSERIFORMES—(DUCKS &amp; GEESE)

|                    |   |      |      |      |      |     |     |     |     |  |  |
|--------------------|---|------|------|------|------|-----|-----|-----|-----|--|--|
| Quercedula crecca  | ♀ | 311  | 311  | 424  | 424  | 1.4 | 1.4 | 3   | 3   |  |  |
| Mareca penelope L  | ♀ | 680  |      | 675  |      | 1   |     | 2.9 |     |  |  |
| Dafila acuta L.    | ♂ | 624  | 652  | 882  | 789  | 1.4 | 1.2 | 3.5 | 3.2 |  |  |
| Anas boschas       | ♀ | 1048 | 1048 | 1091 | 1091 | 1   | 1   | 3.2 | 3.2 |  |  |
| Branta bernicla L. | ♂ | 1474 | 1474 | 1260 | 1260 | 86  | 86  | 3.1 | 3.1 |  |  |
| Anser cinereus L   | ♀ | 3232 | 3232 | 2524 | 2524 | 8   | .8  | 4.2 | 4.2 |  |  |

## GALLIFORMES—(GAME BIRDS)

|                             |   |      |      |      |      |     |     |     |     |  |  |
|-----------------------------|---|------|------|------|------|-----|-----|-----|-----|--|--|
| Excalfactoria lineata Scop. | ♂ | 50   | 50   | 95   | 95   | 1.9 | 1.9 | 4.2 | 4.2 |  |  |
| Perdix cinerea L            | ♀ | 283  |      | 407  |      | 1.4 |     | 3   |     |  |  |
| Melanoperdix nigra Vig      | ♂ | 248  |      | 386  |      | 1.5 |     | 3.1 |     |  |  |
| Rollulus roulroul Scop      | ♂ | 269  | 266  | 328  | 373  | 1.2 | 1.3 | 2.8 | 3   |  |  |
| Acomus pyronotus Gray       | ♂ | 922  |      | 1303 |      | 1.3 |     | 3.6 |     |  |  |
| Acomus pyronotus Gray       | ♀ | 907  |      | 1090 |      | 1.2 |     | 3.4 |     |  |  |
| Phasianus colchicus         | ♀ | 907  | 935  | 831  | 1074 | 9   | 1.1 | 3   | 3.3 |  |  |
| Argusianus grayi            | ♂ | 1564 |      | 3623 |      | 2.3 |     | 5.2 |     |  |  |
| Lophura nobilis Scl         | ♂ | 1843 | 1843 | 1595 | 1595 | 86  | 8.6 | 3.6 | 3.3 |  |  |

## MAMMALS

|                    |  |      |  |       |  |     |  |     |  |  |  |
|--------------------|--|------|--|-------|--|-----|--|-----|--|--|--|
| Iomys thomsoni     |  | 113  |  | 231.6 |  | 2   |  | 3.4 |  |  |  |
| Galeopterus volans |  | 1034 |  | 1427  |  | 1.4 |  | 3.8 |  |  |  |

## REPTILES

|           |  |      |  |      |  |     |  |     |  |  |  |
|-----------|--|------|--|------|--|-----|--|-----|--|--|--|
| Draco sp. |  | 1.92 |  | 9    |  | 4.8 |  | 2.5 |  |  |  |
| Do.       |  | 3.7  |  | 19.4 |  | 5.2 |  | 2.8 |  |  |  |
| Do.       |  | 6.2  |  | 33.6 |  | 5.4 |  | 3.1 |  |  |  |

CHEIROPTERA.—(BATS.)

|                                   | Weight<br>in<br>gramms | Mean Wt.<br>of<br>group. | Wing Area<br>in<br>sq. cms. | Mean W. A.<br>of<br>group. | W. A.<br>Wt. | Mean Wt.<br>of<br>group. | $\sqrt{W. A.}$ | $\frac{Wt.}{\sqrt{W. A.}}$ |
|-----------------------------------|------------------------|--------------------------|-----------------------------|----------------------------|--------------|--------------------------|----------------|----------------------------|
| <i>Vesperugo abramus</i>          | 5.5                    |                          | 62                          |                            | 11.3         |                          | 4.5            |                            |
| <i>Myotis capaccini</i>           | 6                      |                          | 51                          |                            | 8.5          |                          | 3.9            |                            |
| <i>Vesperugo pipistrellus</i>     | 6                      |                          | 55                          |                            | 9            |                          | 4.1            |                            |
| <i>Myotis mystacinus</i>          | 6                      |                          | 63                          |                            | 10.5         |                          | 4.3            |                            |
| <i>Thyroptera tricolor</i>        | 6                      |                          | 76                          |                            | 12.6         |                          | 4.8            |                            |
| <i>Miniopterus australis</i>      | 6.5                    |                          | 74.7                        |                            | 11.5         |                          | 4.6            |                            |
| <i>Rhinolophus hipposiderus</i>   | 8                      |                          | 86                          |                            | 10.7         |                          | 4.6            |                            |
| <i>Myotis emarginatus</i>         | 9                      |                          | 93                          |                            | 10.3         |                          | 4.6            |                            |
| <i>Macrotus waterhousii</i>       | 9.5                    |                          | 116                         |                            | 10.7         |                          | 5.1            |                            |
| <i>Vespertilio muricola</i>       | 10.2                   |                          | 94.6                        |                            | 9.2          |                          | 3.8            |                            |
| <i>Nyctimene brasiliensis</i>     | 10                     |                          | 81.5                        |                            | 8.1          |                          | 2.8            |                            |
| <i>Plecotus auritus</i>           | 10                     |                          | 78                          |                            | 7.8          |                          | 4.1            |                            |
| <i>Eomops whitleyi</i>            | 12                     |                          | 67.1                        |                            | 5.6          |                          | 3.6            |                            |
| <i>Miniopterus schreibersii</i>   | 12.5                   | 8.3                      | 119.3                       | 80                         | 9.5          | 9.6                      | 4.7            | 4.3                        |
|                                   |                        |                          |                             |                            |              |                          |                |                            |
| <i>Nycteris thebaica</i>          | 16.5                   |                          | 138                         |                            | 8.4          |                          | 4.6            |                            |
| <i>Rhinolophus mehelyi</i>        | 16.5                   |                          | 126                         |                            | 7.6          |                          | 4.4            |                            |
| <i>Miniopterus dasythrix</i>      | 17                     |                          | 118.2                       |                            | 7            |                          | 4.2            |                            |
| <i>Molossus obscurus</i>          | 18.5                   |                          | 83                          |                            | 4.5          |                          | 3.4            |                            |
| <i>Carollia brevicauda</i>        | 18                     | 17.3                     | 134                         | 119.8                      | 7.4          | 7                        | 4.4            | 4.2                        |
|                                   |                        |                          |                             |                            |              |                          |                |                            |
| <i>Molossus nigricans</i>         | 20.5                   |                          | 125.2                       |                            | 5            |                          | 4.1            |                            |
| <i>Scotophilus nigrata</i>        | 23.5                   |                          | 153                         |                            | 6.5          |                          | 4.3            |                            |
| <i>Rhinolophus ferrum equinum</i> | 23                     |                          | 178                         |                            | 7.7          |                          | 4.7            |                            |
| <i>Mystacina velutina</i>         | 24.5                   |                          | 108                         |                            | 4.4          |                          | 3.6            |                            |
| <i>Nyctimene papuans</i>          | 25                     | 23.3                     | 155                         | 143.8                      | 6.1          | 6.1                      | 4.2            | 4.2                        |
|                                   |                        |                          |                             |                            |              |                          |                |                            |
| <i>Rhinolophus trifoliatus</i>    | 28.3                   |                          | 165.3                       |                            | 5.8          |                          | 4.2            |                            |
| <i>Taphozous longimanus</i>       | 28.3                   |                          | 117                         |                            | 4.1          |                          | 3.5            |                            |
| <i>Taphozous longimanus</i>       | 28                     |                          | 154                         |                            | 5.5          |                          | 4.1            |                            |
| <i>Cynopterus brachyotis</i>      | 31                     |                          | 234                         |                            | 7.5          |                          | 4.6            |                            |
| <i>Nyctinomus limbatus</i>        | 33                     |                          | 134.6                       |                            | 7.5          |                          | 3.6            |                            |
| <i>Molossus nasutus</i>           | 37.5                   |                          | 135                         |                            | 3.3          |                          | 3.5            |                            |
| <i>Myotis myotis</i>              | 38.5                   |                          | 246                         |                            | 6.4          |                          | 4.6            |                            |
| <i>Hipposideros diadema</i>       | 42.5                   |                          | 350                         |                            | 8.2          |                          | 5.2            |                            |
| <i>Cynopterus brachyotis</i>      | 45                     |                          | 226                         |                            | 5            |                          | 4.2            |                            |
| <i>Phyllorhina diadema</i>        | 57                     |                          | 317                         |                            | 5.6          |                          | 4.6            |                            |
| <i>Epomorphus minor</i>           | 67                     | 39.2                     | 218                         | 204.4                      | 3.3          | 5.2                      | 3.6            | 4.1                        |
|                                   |                        |                          |                             |                            |              |                          |                |                            |
| <i>Pteropus</i> sp.               | 311                    |                          | 1131                        |                            | 3.6          |                          | 4.9            |                            |
| <i>Eidolon helvum</i>             | 377                    |                          | 838                         |                            | 2.1          |                          | 3.9            |                            |
| <i>Pteropus</i> sp.               | 470                    |                          | 1482                        |                            | 3.2          |                          | 4.9            |                            |
| <i>Pteropus</i> sp.               | 500                    |                          | 1659                        |                            | 3.3          |                          | 5.1            |                            |
| <i>Pteropus edulis</i>            | 697                    | 471                      | 1291                        | 1277                       | 1.9          | 2.7                      | 4              | 4.5                        |

4.2

## RHOPHALOCERA.—(BUTTERFLIES.)

| Fam.                                       | Weight<br>in grammes. | Mean Wt.<br>of group. | Wing Area<br>in sq. mm. | Mean W. A.<br>of group. | W. A.<br>Wt. | Mean<br>Wt.<br>of group. | $\sqrt{\text{W. A.}}$ | $\sqrt[3]{\text{Wt.}}$ | $\frac{\sqrt{\text{W. A.}}}{\sqrt[3]{\text{Wt.}}}$ | of group. |
|--|-----------------------|-----------------------|-------------------------|-------------------------|--------------|--------------------------|-----------------------|------------------------|--|-----------|
| <i>Eoxylides tharis</i> Hubn.              | N                     | .04                   | 7                       | 175                     |              |                          |                       |                        | 7.7  |           |
| <i>Terinas clarrissa</i>                   | N                     | .045                  | 17                      | 377                     |              |                          |                       |                        | 11.5   |           |
| <i>Neptis hylas</i> L.                     | N                     | .045                  | 9.4                     | 208                     |              |                          |                       |                        | 8.6  |           |
| <i>Mycalasis medus</i>                     | N                     | .05                   | 10.5                    | 210                     |              |                          |                       |                        | 8.8  |           |
| <i>Arhoparia lycanaria</i>                 | L                     | .055                  | 6.6                     | 120                     |              |                          |                       |                        | 6.7  |           |
| <i>Ideopsis d. daos</i> Boid               | N                     | .05                   | 44.5                    | 892                     |              |                          |                       |                        | 18   |           |
| <i>Athymia idita</i> Moore                 | N                     | .06                   | .05                     | 15.8                    | 14.5         | 263                      | 320                   | 10                     |  | 10.2      |
| <hr/>                                      |                       |                       |                         |                         |              |                          |                       |                        |  |           |
| <i>Euthalia godarti vacillaria</i> Butl.   | N                     | .11                   | 13                      | 127                     |              |                          |                       |                        | 7.5  |           |
| <i>Dercas gobrias</i> Hew.                 | P                     | .12                   | 22                      | 183                     |              |                          |                       |                        | 9.4  |           |
| <i>Telicota bambusae</i> Moore             | H                     | .11                   | 15                      | 137                     |              |                          |                       |                        | 8.1  |           |
| <i>Junonia atlites</i>                     | N                     | .12                   | 16                      | 133                     |              |                          |                       |                        | 8.1  |           |
| <i>Cirrochroa orissa orissides</i> Fursth. | N                     | .13                   | 21.8                    | 106                     |              |                          |                       |                        | 9.2  |           |
| <i>Faunis stomphax</i> West.               | A                     | .15                   | 20.8                    | 140                     |              |                          |                       |                        | 8.5  |           |
| <i>Danaida aspasia shelfordi</i> Fursth.   | N                     | .158                  | 21.9                    | 138                     |              |                          |                       |                        | 8.7  |           |
| <i>Terinas clarissa</i> Boisid.            | N                     | .175                  | .184                    | 24                      | 19.3         | 137                      | 138                   | 8.7                    |  | 8.5       |
| <hr/>                                      |                       |                       |                         |                         |              |                          |                       |                        |  |           |
| <i>Hasora chuzza</i> Hew.                  | H                     | .2                    | 9.4                     | 47                      |              |                          |                       |                        | 5.2  |           |
| <i>Danaida elotis</i> Cr.                  | N                     | .195                  | 27.8                    | 142                     |              |                          |                       |                        | 9.1  |           |
| <i>Melanitis leda</i> L.                   | N                     | .214                  | 23.5                    | 110                     |              |                          |                       |                        | 8.1  |           |
| <i>Hestia lynceus</i> Drury                | N                     | .2                    | 52.8                    | 264                     |              |                          |                       |                        | 12.4   |           |
| <i>Danaida similis</i>                     | N                     | .2                    | 22.6                    | 113                     |              |                          |                       |                        | 8.1  |           |
| <i>Papilio demoleon</i> Cr.                | P                     | .22                   | 29.3                    | 133                     |              |                          |                       |                        | 8.9  |           |
| <i>Papilio evemon arthea</i> Jord.         | P                     | .25                   | 19.5                    | 78                      |              |                          |                       |                        | 7.5  |           |
| <i>Euploea mulciber portea</i> Fursth.     | N                     | .23                   | .213                    | 27.6                    | 26.5         | 120                      | 126                   | 8.6                    |  | 8.4       |
| <hr/>                                      |                       |                       |                         |                         |              |                          |                       |                        |  |           |
| <i>Euthalia godarti limbata</i> Fursth.    | N                     | .33                   | 13.2                    | 40                      |              |                          |                       |                        | 5.2  |           |
| <i>Amathusia phidippus</i> L.              | N                     | .29                   | 71.4                    | 247                     |              |                          |                       |                        | 12.6   |           |
| <i>Euploea crameri</i> Lucas               | N                     | .31                   | 33                      | 110                     |              |                          |                       |                        | 8.5  |           |
| <i>Fuploea diocletianus</i> Fab.           | N                     | .31                   | 31.7                    | 102                     |              |                          |                       |                        | 8.3  |           |
| <i>Cynthia erota erotella</i> Butl.        | N                     | .32                   | 27                      | 84                      |              |                          |                       |                        | 7.6  |           |
| <i>Cynthia erota</i>                       | N                     | .325                  | 37.4                    | 115                     |              |                          |                       |                        | 8.9  |           |
| <i>Amnosia decora baluana</i> Fursth.      | N                     | .39                   | 30.5                    | 78                      |              |                          |                       |                        | 7.5  |           |
| <i>Euploea crameri</i> Lucas.              | N                     | .395                  | .332                    | 36.5                    | 35.1         | 92.4                     | 108                   | 8.2                    |  | 8.3       |
| <hr/>                                      |                       |                       |                         |                         |              |                          |                       |                        |  |           |
| <i>Papilio neptunus</i> Guer.              | P                     | .4                    | 27.5                    | 69                      |              |                          |                       |                        | 7.2  |           |
| <i>Papilio memnon</i> L.                   | P                     | .43                   | 51.1                    | 120                     |              |                          |                       |                        | 9.5  |           |
| <i>Nepthis leucothoe</i>                   | N                     | .47                   | 13                      | 28                      |              |                          |                       |                        | 4.6  |           |
| <i>Papilio helenus</i>                     | P                     | .44                   | .436                    | 55.1                    | 38.7         | 124                      | 85                    | 9.7                    |  | 7.7       |
| <hr/>                                      |                       |                       |                         |                         |              |                          |                       |                        |  |           |
| <i>Precis hedonia</i>                      | N                     | .6                    | 15                      | 25                      |              |                          |                       |                        | 4.6  |           |
| <i>Papilio brockeana</i>                   | P                     | .735                  | .667                    | 65.6                    | 40.3         | 90                       | 57                    | 8.9                    |  | 6.7       |
| <hr/>                                      |                       |                       |                         |                         |              |                          |                       |                        |  |           |
| <i>Adolias dirtea</i> Fab.                 | N                     | .85                   | 30.5                    | 36                      |              |                          |                       |                        | 5.8  |           |
| <i>Terias harina</i>                       | N                     | .9                    | 15                      | 16.6                    |              |                          |                       |                        | 4  |           |
| <i>Kerana diocles</i>                      | L                     | .98                   | 7.4                     | 7.6                     |              |                          |                       |                        | 2.7  |           |
| <i>Thaumantis aliris</i> Westw.            | D                     | 1.405                 | 1.034                   | 105                     | 39.5         | 77                       | 34.3                  | 4.2                    |  | 4.2       |

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HETEROCERA.—(MOTHS.)

| Fam.                            | Weight<br>in grammes. | Mean Wt.<br>of group. | Wing Area<br>in sq. cms. | Mean W. A.<br>of group. | W. A. | Wt.  | W. A. | Mean<br>Wt.<br>of group. | $\sqrt{W. A.}$ | $\sqrt[3]{Wt.}$ | $\sqrt[3]{W. A.}$ | Mean<br>$\sqrt[3]{Wt.}$<br>of group. |
|---------------------------------|-----------------------|-----------------------|--------------------------|-------------------------|-------|------|-------|--------------------------|----------------|-----------------|-------------------|--------------------------------------|
| Sameodes cancellalis Zell.      | G                     | .016                  | 1                        |                         | 62    |      |       |                          |                | 3.9             |                   |                                      |
| Boccharis telphusalis Walk.     | P                     | .017                  | 1.5                      |                         | 90    |      |       |                          |                | 4.7             |                   |                                      |
| Stalgmia guttaria Boisd.        | H                     | .02                   | 7.5                      |                         | 375   |      |       |                          | 10             |                 |                   |                                      |
| Trichaster apicalis Walk.       | S                     | .03                   | 1.1                      |                         | 36    |      |       |                          |                | 3.3             |                   |                                      |
| Panaetha maculifera Walk.       | P                     | .08                   | 7.11                     |                         | 90    |      |       |                          |                | 6.1             |                   |                                      |
| Urapteroides asthemia Guer.     | E                     | .092                  | .042                     | 14.2                    | 5.5   | 154  | 134   |                          | 8.3            | 6               |                   |                                      |
| Sylepta lunalis                 | G                     | .112                  |                          | 3.4                     |       | 30   |       |                          |                | 3.8             |                   |                                      |
| Vitessa pyraliata Wlk.          | P                     | .12                   |                          | 5.9                     |       | 49   |       |                          |                | 4.9             |                   |                                      |
| Hippotion boerharia Fab.        | S                     | .28                   |                          | 4.8                     |       | 17   |       |                          |                | 3.3             |                   |                                      |
| Milionia basalis sharpei Butl.  | A                     | .27                   |                          | 21                      |       | 80   |       |                          |                | 7.1             |                   |                                      |
| Macroglossum heliophiala Boisd. | S                     | .3                    |                          | 4.4                     |       | 14   |       |                          |                | 3.3             |                   |                                      |
| Macroglossum insipida Butl.     | S                     | .31                   |                          | 3.8                     |       | 12   |       |                          |                | 2.8             |                   |                                      |
| Macroglossum insipida Butl.     | S                     | .31                   |                          | 5                       |       | 16   |       |                          |                | 3.3             |                   |                                      |
| Trabala innorata Moore          |                       | .314                  | .252                     | 17                      | 8.1   | 54   | 46    | 6                        | 4.3            |                 |                   |                                      |
| Deilemera tripunctaria L.       | A                     | .505                  |                          | 7.9                     |       | 15   |       |                          |                | 3.5             |                   |                                      |
| Ophiusa fulvotaenia Guer.       | G                     | .58                   |                          | 542                     | 17.3  | 12.5 | 30    | 22.5                     | 5              | 4.2             |                   |                                      |
| Thereta suffusa Wlk.            | S                     | .8                    |                          | 12.11                   |       | 15   |       |                          |                | 3.5             |                   |                                      |
| Herse convolvuli L.             | S                     | .83                   |                          | 13                      |       | 56   |       |                          |                | 3.8             |                   |                                      |
| Theretra neesus                 | S                     | .84                   |                          | 14.5                    |       | 17   |       |                          |                | 4               |                   |                                      |
| Antherea jana fusca Roth.       | Sat                   | 1.11                  |                          | 897                     | 45.8  | 21.8 | 41    | 22.1                     | 6.5            | 4.5             |                   |                                      |
| Deilephila hyponotus Cran.      | S                     | 1.97                  |                          | 25.1                    |       | 12.7 |       |                          | 4              |                 |                   |                                      |
| Attacus atlas                   |                       | 1.29                  |                          | 101                     |       | 78   |       |                          | 9.2            | 6.6             |                   |                                      |
| Emmodia pudeus                  |                       | 2.45                  |                          | 33.5                    |       | 13.6 |       |                          | 4.3            |                 |                   |                                      |
| Attacus atlas                   |                       | 2.97                  |                          | 139                     |       | 47   |       |                          | 8.2            | 6.2             |                   |                                      |

DRAGONFLIES.—(NEUROPTERA.)

|                               |      |      |      |     |     |     |     |     |
|-------------------------------|------|------|------|-----|-----|-----|-----|-----|
| L                             | .06  | 5.9  | 98   | 6.2 |     |     |     |     |
|                               | .06  | 8.9  | 148  | 7.4 |     |     |     |     |
|                               | .072 | 4.8  | 67   | 5.2 |     |     |     |     |
|                               | .07  | 8.1  | 115  | 6.9 |     |     |     |     |
| Trithemis aurora Burm.        | L    | .09  | 6.8  | 70  | 5.8 |     |     |     |
| Nannophya pygmaea Camb.       |      | .02  | 1.9  | 95  | 5   |     |     |     |
| Do.                           |      | .02  | 1.7  | 85  | 4.8 |     |     |     |
| Brachydiplax chalybea Brauer. |      | .03  | 4.9  | 163 | 7.1 |     |     |     |
|                               | .04  | .05  | 3.4  | 5.3 | 85  | 103 | 5.4 | 6   |
| Trithemis aurora Burm.        |      | .11  | 7.9  | 72  | 5.8 |     |     |     |
|                               | .11  | 6.3  | 56   | 5.2 |     |     |     |     |
|                               | .115 | 8.1  | 70   | 5.8 |     |     |     |     |
|                               | .13  | 8.6  | 66   | 5.8 |     |     |     |     |
| Neurothemis Sp.               |      | .13  | 7.2  | 55  | 5.3 |     |     |     |
| Neurothemis sophronia         |      | .16  | 9.3  | 58  | 5.6 |     |     |     |
|                               | .17  | .132 | 16.8 | 9.1 | 99  | 68  | 7.4 | 5.8 |

## DRAGONFLIES.—(NEUROPTERA.)—Continued.

| Fein.                     | Weight<br>in grammes. | Mean Wt.<br>of group. | Wing Area<br>in sq. cms. | Mean W. A.<br>of group. | W. A.<br>Wt. | W. A.<br>Wt. | Mean<br>Wt.<br>of group. | $\sqrt{W. A.}$ | $\sqrt{Wt.}$ | Mean<br>W. A.<br>Wt. | Mean<br>Wt.<br>of group. |
|---------------------------|-----------------------|-----------------------|--------------------------|-------------------------|--------------|--------------|--------------------------|----------------|--------------|----------------------|--------------------------|
| Rhyothemis phyllis Salz.  | .24                   |                       | 9.3                      |                         | 40           |              |                          |                |              | 6.4                  |                          |
| Orthetrum sabina Ill.     | .25                   |                       | 15.8                     |                         | 63           |              |                          |                |              |                      |                          |
|                           | .27                   | 25                    | 12                       | 12.3                    | 44           |              | 49                       | 5.3            |              | 5.8                  |                          |
| Cratilla metallica Brewer | L 432                 |                       | 15                       |                         | 37           |              |                          | 5.1            |              |                      |                          |
| Do.                       | .48                   | .456                  | 7.1                      | 11                      | 15           |              | 26                       | 3.4            |              | 4.2                  |                          |

## PHASMIDS, MANTIDS, STICK—INSECTS

|                               |      |      |      |      |      |  |      |     |  |     |  |
|-------------------------------|------|------|------|------|------|--|------|-----|--|-----|--|
|                               | 1    |      | 7.7  |      | 77   |  |      | 5.9 |  |     |  |
|                               | 11   |      | 6    |      | 54.5 |  |      | 5.1 |  |     |  |
|                               | 19   | 13   | 9    | 7.6  | 47.5 |  | 59.6 | 5.2 |  | 5.4 |  |
| Marmessoides marmessus Westw. | 213  |      | 10.3 |      | 50.7 |  |      | 5.3 |  |     |  |
|                               | .25  | 231  | 11.7 | 11   | 46.8 |  | 48.7 | 5.4 |  | 5.3 |  |
| Anauroidea Sp                 | 325  | 325  | 11.9 | 11.9 | 37   |  | 37   | 5   |  | 5   |  |
| Heirodula dayaka Westw.       | 1.47 | 1.47 | 38.7 | 38.7 | 26.3 |  | 26.3 | 5.4 |  | 5.4 |  |

## BLATTIDAE—(COCKROACHES.)

|                                |       |      |       |      |      |  |      |     |  |     |  |
|--------------------------------|-------|------|-------|------|------|--|------|-----|--|-----|--|
| Homalosilpha                   | .198  | 198  | 3.6   | 3.6  | 18   |  | 18   | 3.2 |  | 3.2 |  |
| Homalosilpha ustata Burm       | .65   |      | 11    |      | 17   |  |      | 3.8 |  |     |  |
| Aspidopsis wallacei            | .65   | 65   | 13.88 | 12.4 | 20   |  | 18   | 4.2 |  | 4   |  |
| Periplaneta lata               | 1.157 |      | 12.3  |      | 14.5 |  |      | 3.3 |  |     |  |
| Pseudophoraspis nebulosa Burm. | 1.29  | 1.22 | 18.7  | 15.5 | 12.7 |  | 13.6 | 2.5 |  | 2.9 |  |
| Paranauphoeta lyrata Burm.     | 1.87  |      | 4.3   |      | 2.3  |  |      |     |  |     |  |
| Panesthia javanica             | 2.32  | 2.09 | 17.08 | 11   | 7.3  |  | 4.8  | 3.1 |  |     |  |

## GRYLLACRIDAE.—(GRASSHOPPERS)

|                             |      |      |      |      |      |  |      |     |  |     |  |
|-----------------------------|------|------|------|------|------|--|------|-----|--|-----|--|
| Discotettix belzebuth Sarv. | .15  |      | 1.7  |      | 11.3 |  |      | 2.4 |  |     |  |
|                             | .15  |      | 2.9  |      | 20   |  |      | 3.1 |  |     |  |
| Gryllotalpa Sp              | .17  | 156  | 2.3  | 2.6  | 13   |  | 14.7 | 2.7 |  | 2.7 |  |
|                             | .21  |      | 1.94 |      | 9.2  |  |      | 2.3 |  |     |  |
| Traulia Sp                  | .242 |      | 6.6  |      | 27   |  |      | 4.1 |  |     |  |
|                             | .255 |      | 3.6  |      | 13.4 |  |      | 2.9 |  |     |  |
| Traulia sanguipennis Stal.  | .29  |      | 3.1  |      | 10.3 |  |      | 2.6 |  |     |  |
|                             | .29  | .256 | 3.75 | 3.76 | 12   |  | 14.4 | 2.9 |  | 2.9 |  |
|                             | .39  |      | 4    |      | 10   |  |      | 2.7 |  |     |  |
| Phlaeoba antennata Br.      | .42  | 405  | 3.2  | 3.6  | 8    |  | 9    | 2.7 |  | 2.5 |  |
|                             | .63  |      | 12.8 |      | 20   |  |      | 4.1 |  |     |  |
| Traulia dimidiata De Haan   | .71  |      | 5.7  |      | 8    |  |      | 2.6 |  |     |  |
| Traulia sanguipennis        | .78  |      | 5.3  |      | 7    |  |      | 2.5 |  |     |  |
| Peitharcireus Sp.           | .8   |      | 4.6  |      | 5.7  |  |      | 2.3 |  |     |  |
| Cantatops luteolus Serv.    | .88  | .79  | 6.8  | 5.6  | 7.7  |  | 7.1  | 2.7 |  | 2.5 |  |

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GRYLLACRIDAE.—(GRASSHOPPERS.)—Continued.

| Fam.                                   | Weight<br>in<br>grammes | Mean Wt.<br>of group. | Wing Area<br>in sq. cms. | Mean W. A.<br>of group. | W. A.<br>Wt. | W. A.<br>Wt.<br>Mean<br>of group. | $\sqrt{W. A.}$ | $\sqrt[3]{Wt.}$ | Mean<br>W. A.<br>Wt. | Wt.<br>of group. |
|--|-------------------------|-----------------------|--------------------------|-------------------------|--------------|-----------------------------------|----------------|-----------------|----------------------|------------------|
| <i>Cyrtacanthacris succintum</i> L.    | .97                     |                       | 12.9                     |                         | 13           |                                   |                |                 |                      |                  |
| Do.                                    | .99                     | .98                   | 13.7                     | 13.3                    | 14           | 13.5                              |                | 3.6             |                      |                  |
| <i>Gastrimargus marmoratus</i> Thurnb. | 1.81                    | 1.8                   | 17.7                     | 17.7                    | 9.8          | 9.8                               | 3.4            | 3.4             |                      |                  |
|  | 14.8                    |                       | 74.5                     |                         | 5            |                                   | 3.5            |                 |                      |                  |
| CICADAS                                |                         |                       |                          |                         |              |                                   |                |                 |                      |                  |
| <i>Heuchys</i> Sp.                     | 28                      | .28                   | 3.6                      | 3.6                     | 13           | 13                                | 2.9            | 2.9             |                      |                  |
| <i>Ayesha spathulata</i> Stal          | 93                      | 93                    | 8                        | 8                       | 8.6          | 8.6                               | 3.6            | 3.6             |                      |                  |
| <i>Tacua speciosa</i>                  | 4.93                    | 4.73                  | 37.8                     | 37.8                    | 8            | 8                                 | 3.6            | 3.6             |                      |                  |
| <i>Pomponia imperator</i>              | 9.01                    | 9.01                  | 55                       | 55                      | 6.1          | 6.1                               | 3.5            | 3.5             |                      |                  |

COLEOPTERA —(BEETLES.)

|  |       |      |      |      |      |      |     |     |  |  |
|--|-------|------|------|------|------|------|-----|-----|--|--|
| <i>Aspidomorphus sarawacensis</i> Speth    | 06    |      | 1.5  |      | 25   |      |     | 3.1 |  |  |
| <i>Epicapha 4-maculata</i> Erot.           | .067  | .063 | 9    | 1.2  | 13.4 | 19.2 | 2.3 | 2.2 |  |  |
| <i>Cicindela aurulenta</i> Fab             | .083  | .083 | 1.1  | 1.1  | 13   | 13   | 2.4 | 2.4 |  |  |
| <i>Euphitrea wallacei</i> Bal.             | .11   |      | 1.3  |      | 11.8 |      |     | 2.3 |  |  |
| <i>Porrorhynchus marginatus</i> Cast. Gyr. | .11   |      | 1.1  |      | 10   |      |     | 2.2 |  |  |
|  | .108  |      | 1.03 |      | 9.5  |      |     | 2.1 |  |  |
| <i>Ceragria gigas</i> Cast.                | .107  |      | 1.1  |      | 10   |      |     | 2.2 |  |  |
| <i>Astathes posticalis</i> Thoms.          | .17   |      | 1.03 |      | 9.5  |      |     | 2.1 |  |  |
| <i>Xenocerus russatus</i> Jord.            | .18   |      | 1    |      | 5.5  |      |     | 1.7 |  |  |
|  | .18   |      | 1.1  |      | 6    |      |     | 1.8 |  |  |
| <i>Hemiops crassa</i> Elat.                | .19   | 1.44 | 1.5  | 1.14 | 8    | 8.3  | 2.1 | 2.2 |  |  |
| <i>Achthomus bihamatus</i> Furm.           | .2    |      | 1.1  |      | 5.5  |      |     | 1.8 |  |  |
| <i>Litta ruficeps</i> Ill                  | .21   |      | 1.03 |      | 5    |      |     | 1.7 |  |  |
| <i>Cereopsis dictator</i> Pasc             | .26   |      | 1.03 |      | 4    |      |     | 1.6 |  |  |
| <i>Rhytidodera simulans</i> White          | .315  |      | 2.97 |      | 9.4  |      |     | 2.5 |  |  |
| <i>Anomala cuprescens</i> Weide            | .348  |      | 2.2  |      | 6.6  |      |     | 2.1 |  |  |
| <i>Aplosomyx albicornis</i> Fab            | .358  | 28   | 2.7  | 1.82 | 7.6  | 6.2  | 2.3 | 2.3 |  |  |
| <i>Catharsius molossus</i> Luc.            | .61   |      | 5.1  |      | 8.3  |      |     | 2.6 |  |  |
| <i>Setenus coracina</i> Knock              | .46   |      | 3.2  |      | 7    |      |     | 2.3 |  |  |
| <i>Macronota diardi</i> G & P.             | .8    | 62   | 3.6  | 3.9  | 4.5  | 6.6  | 2.  | 2.3 |  |  |
| <i>Mormolyce phyllodes</i> Hagenb.         | .905  |      | 9    |      | 9.83 |      |     | 3.1 |  |  |
| <i>Palimna tessellata</i> Long             | .91   | .907 | 3.6  | 6.3  | 4    | 6.9  | 1.9 | 2.5 |  |  |
| <i>Oryctes</i> Sp.                         | 1.055 |      | 5.4  |      | 5    |      |     | 2.3 |  |  |
| <i>Cyclommatus tarandus</i> Lam.           | 1.252 |      | 6.9  |      | 5.5  |      |     | 2.4 |  |  |
| <i>Leucopholis stauringeri</i> Lam.        | 1.27  |      | 7.5  |      | 6    |      |     | 2.5 |  |  |
| <i>Aceraius laevicollis</i> P              | 1.515 |      | 5.1  |      | 3.3  |      |     | 1.9 |  |  |
| <i>Leucopholis emarginata</i> Lam.         | 1.64  |      | 5.1  |      | 3    |      |     | 1.9 |  |  |
| <i>Neocerambyx alexis</i> Pasc.            | 1.75  | 1.41 | 7.1  | 6.2  | 4    | 4.4  | 2.2 | 2.2 |  |  |

## COLEOPTERA.—(BEETLES.)—Continued.

| Gen.                            | Weight<br>in<br>strains. | Mean Wt.<br>of<br>group. | Wing Area<br>in sq. cm. | Mean W. A.<br>of<br>group. | W. A.<br>Wt. | Mean W. A.<br>of<br>group. | $\sqrt{W. A.}$ | $\sqrt[3]{Wt.}$ | $\sqrt[3]{W. A.}$ | Mean $\sqrt[3]{Wt.}$<br>of group. |
|---------------------------------|--------------------------|--------------------------|-------------------------|----------------------------|--------------|----------------------------|----------------|-----------------|-------------------|-----------------------------------|
| <i>Cacotheta auripes</i> Westw. | Cet.                     | 2.65                     |                         | 9.6                        |              | 3.6                        |                | 2.2             |                   |                                   |
| <i>Agestrata chinensis</i>      | Cet.                     | 2.945                    | 2.79                    | 11.8                       | 10.7         | 4                          | 3.8            | 2.4             | 2.3               |                                   |
| <i>Xylotrupes gideon</i>        | Lam.                     | 3.44                     |                         | 16.4                       |              | 4.8                        |                | 2.6             |                   |                                   |
|                                 |                          | 3.96                     | 3.7                     | 13.7                       | 15           | 3.7                        | 4.2            | 2.3             | 2.4               |                                   |
| <i>Xylotrupes gideon</i>        | Lam.                     | 6.25                     | 6.25                    | 20.8                       | 20.8         | 3.3                        | 3.3            | 2.4             | 2.4               |                                   |
| <i>Trichogomorphus milon</i>    |                          | 7.292                    |                         | 15                         |              | 2                          |                | 2               |                   |                                   |
| <i>Aeolistes aurifaber</i>      | Long.                    | 7.892                    | 7.592                   | 25.8                       | 20.4         | 3.2                        | 2.6            | 2.5             | 2.2               |                                   |

## HEMIPTERA.—(BUGS.)

|  |      |      |      |     |      |       |      |     |     |  |
|--|------|------|------|-----|------|-------|------|-----|-----|--|
| <i>Leptocoris costalis</i> H. & S.     |      | .02  |      | .77 |      | 38.5  |      | 3.2 |     |  |
| <i>Cosmolestes picticeps</i>           | R    | .04  |      | .38 |      | 9.5   |      | 1.8 |     |  |
| <i>Velitra rubropicta</i> A. & S.      | R    | .053 |      | .77 |      | 14.5  |      | 2.3 |     |  |
| <i>Homaloceros limbipennis</i>         | R    | .065 |      | 1.8 |      | 27    |      | 3.3 |     |  |
| <i>Aulacophora flavomarginata</i> Duv. |      | .06  |      | .9  |      | 15    |      | 2.3 |     |  |
| <i>Colobesthes falcata</i> Guer.       | F    | .08  |      | .77 |      | 9.6   |      | 2   |     |  |
| <i>Velinus nigrigenus</i> Serv.        | R    | .09  | .058 | .9  | .9   | 10    | 18.1 | 3.2 | 2.7 |  |
| <i>Velinus nigrigenus</i> Serv.        | R    | .12  |      | 1.2 |      |       |      | 2.2 |     |  |
| Do.                                    |      | .12  |      | 1   |      | 8.3   |      | 2   |     |  |
| <i>Sycanus vicillus</i> Stal.          | R    | .12  |      | 1.3 |      | 10.2  |      | 2.3 |     |  |
| <i>Velitra rubropicta</i> A. & S.      | R    | .15  |      | 2   |      | 13.3  |      | 2.6 |     |  |
| <i>Eulyes amoena</i> Fab.              | R    | .18  |      | 2.2 |      | 12    |      | 2.6 |     |  |
| <i>Mictis filicornis</i> Wlk.          | Cor. | .19  | .145 | 1.4 | 1.5  | 7.4   | 10.2 | 2   | 2.3 |  |
| <i>Chrysochoris</i> Sp.                | P    | .232 |      | 1.5 |      | 6.4   |      | 2   |     |  |
| <i>Urusa crassa</i> Walk.              | P    | .2   |      | .9  |      | 4.5   |      | 1.6 |     |  |
| <i>Chrysochoris</i> Sp.                |      | .204 | .212 | 2   | 1.46 | 9.8   | 6.9  | 2.4 | 2   |  |
| <i>Mictis macra</i>                    | R    | .31  | .31  | 2.2 | 2.2  | 7     | 7    | 2.2 | 2.2 |  |
|  |      | .44  |      | 7.7 |      | 17.5  |      | 3.6 |     |  |
| <i>Aphana farinosa</i> Web.            |      | .8   |      | 9   |      | 11.22 |      | 3.2 |     |  |

## HYMENOPTERA.—(BEES, WASPS.)

|  |   |      |      |     |      |      |      |      |     |  |
|--|---|------|------|-----|------|------|------|------|-----|--|
|  |   | .02  |      | .5  |      | 25.  |      | 2.6  |     |  |
|  |   | .034 |      | 1   |      | 30   |      | 3    |     |  |
| <i>Heniscopidius nigropectus</i> Camb. |   | .04  |      | 1.5 |      | 37.5 |      | 3.5  |     |  |
| <i>Hemipalpa rugosa</i> De Quer.       |   | .05  |      | 1.3 |      | 26   |      | 3.1  |     |  |
| <i>Eumenes arcuata</i>                 |   | .09  |      | 1.3 |      | 14.4 |      | 2.5  |     |  |
| <i>Vespa dorylloides</i> Sauss.        |   | .09  | .054 | 1.3 | 1.15 | 14.4 | 24.5 | 2.5  | 2.8 |  |
| <i>Salius sericosoma</i> Sm.           |   | .136 |      | 1.8 |      | 13   |      | 2.6  |     |  |
| <i>Anthophora zonata</i> L.            |   | .14  |      | 1   |      | 7.7  |      | 1.9  |     |  |
| <i>Vespa</i> Sp.                       | V | .145 |      | 1.4 |      | 10   |      | 2.2  |     |  |
| <i>Vespa dorylloides</i> Sauss.        | V | .19  |      | 1.9 |      | 10   |      | 2.4  |     |  |
| <i>Polytes sagittarius</i> Sauss.      | V | .2   |      | 2.3 |      | 11.5 |      | 2.6  |     |  |
| <i>Sphax aurulentus</i>                |   | .22  |      | 2.2 |      | 10   |      | 2.4  |     |  |
| <i>Vespa bellicosa</i> Sauss.          | V | .26  | .15  | .9  | 1.6  | 3.5  | 9.4  | 3.45 | 2.5 |  |

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HYMENOPTERA.—(BEES, WASPS.)—Continued.

| Fam.                             | Weight<br>in grammes. | Mean Wt.<br>of group. | Wing Area<br>in sq. cms. | Mean W. A.<br>of group. | W. A.<br>Wt. | Mean<br>Wt.<br>of group. | $\sqrt{W. A.}$ | $\sqrt[3]{Wt.}$ | Mean $\frac{W. A.}{Wt.}$<br>of group. |
|----------------------------------|-----------------------|-----------------------|--------------------------|-------------------------|--------------|--------------------------|----------------|-----------------|---------------------------------------|
| <i>Scolius opalina</i> Gm.       | V .32                 |                       | 1                        |                         | 3            |                          | 1.4            |                 |                                       |
| <i>Salius aurocericeus</i> Guer. | V .326                |                       | 1.4                      |                         | 4.2          |                          | 1.72           |                 |                                       |
| <i>Vespa bellicosa</i> Sauss.    | V .38                 | .342                  | 1.1                      | 1.2                     | 3            | 3.4                      | 2.9            | 2               |                                       |
| <i>Xylocopa collaris</i>         | V .412                |                       | 2                        |                         | 4.8          |                          | 1.9            |                 |                                       |
| <i>Vespa bellicosa</i> Sauss.    | V .44                 | .426                  | 1.1                      | 1.55                    | 2.5          | 3.6                      | 1.37           | 1               |                                       |
| <i>Salius anthracinus</i> Sm.    |                       | .543                  | 5.1                      |                         | 9.4          |                          | 6              |                 |                                       |
| <i>Xylocopa linyorum</i> Fab.    | V .61                 |                       | 2.3                      |                         | 3.7          |                          | 1.78           |                 |                                       |
| <i>Xylocopa collaris</i> Lep.    | V 675                 |                       | 1.9                      |                         | 2.8          |                          | 1.95           |                 |                                       |
| <i>Vespa cincta</i> Fab.         | V .627                | .637                  | 2.45                     | 2.32                    | 3.9          | 3.5                      | 2.5            | 2.1             |                                       |
| <i>Xylocopa latipes</i> Drury    | V 162                 | 1.62                  | 5.4                      | 5.4                     | 3.3          | 3.3                      | 1.9            | 1.9             |                                       |

MULLENHOFF'S MEASUREMENTS

STRIGIFORMES.—(OWLS.)

|                         |  |      |      |      |      |     |     |     |     |
|-------------------------|--|------|------|------|------|-----|-----|-----|-----|
| <i>Athene passerina</i> |  | 129  | 442  |      | 3.4  |     | 4.1 |     |     |
| <i>Asio otus</i>        |  | 275  | 1010 |      | 3.7  |     | 4.9 |     |     |
|                         |  | 232  | 1102 |      | 4.7  |     | 5.4 |     |     |
|                         |  | 237  | 1154 | 927  | 4.8  | 4.1 | 5.5 | 5   |     |
| <i>Strix flammea</i>    |  | 400  | 1190 |      | 2.9  |     | 4.7 |     |     |
| <i>Asio brachyotus</i>  |  | 370  | 1230 | 1210 | 3.3  | 3.1 | 4.9 | 4.8 |     |
| <i>Syrnium aluco</i>    |  | 1777 | 1777 | 3020 | 3020 | 1.7 | 1.7 | 4.5 | 4.5 |

ACCIPITRIFORMES.—(HAWKS.)

|                          |   |      |      |      |      |     |     |     |     |
|--------------------------|---|------|------|------|------|-----|-----|-----|-----|
| <i>Falco tinnunculus</i> |   | 129  | 642  |      | 5    |     | 5   |     |     |
| Do. minor                |   | 147  | 546  |      | 4    |     | 4.4 |     |     |
| Do. kobeck               |   | 282  | 970  |      | 3.4  |     | 4.7 |     |     |
| <i>Accipiter nisus</i>   | ♀ | 260  | 800  |      | 3    |     | 4.4 |     |     |
|                          |   | 275  | 690  |      | 2.5  |     | 4.3 |     |     |
|                          |   | 150  | 496  |      | 3.3  |     | 4.2 |     |     |
|                          | ♂ | 250  | 710  |      | 2.8  |     | 4.2 |     |     |
|                          | ♂ | 266  | 222  | 866  | 715  | 3.2 | 3.4 | 4.6 | 4.4 |
| <i>Falco subbuteo</i>    |   | 510  | 1684 |      | 3.3  |     | 5   |     |     |
| Do. migrans              |   | 620  | 565  | 1904 | 1794 | 3   | 3.1 | 5.1 | 5   |
| <i>Astur palumbarius</i> |   | 800  | 1520 |      | 1.9  |     | 4.2 |     |     |
| <i>Buteo lagopus</i>     |   | 862  | 2280 |      | 2.7  |     | 5   |     |     |
|                          |   | 890  | 2020 |      | 2.2  |     | 4.6 |     |     |
|                          |   | 900  | 2220 |      | 2.5  |     | 4.9 |     |     |
|                          |   | 750  | 2420 |      | 3    |     | 5.4 |     |     |
|                          |   | 1000 | 2359 |      | 2.3  |     | 4.8 |     |     |
|                          |   | 1000 | 2445 |      | 2.4  |     | 4.9 |     |     |
|                          |   | 1000 | 900  | 2510 | 2221 | 2.5 | 2.4 | 5   | 4.8 |

## ACCIPITRIFORMES.—(HAWKS.)—Continued.

| Sex                    | Weight<br>in<br>grammes. | Mean Wt.<br>of<br>group. | Wing Area<br>in sq. cm. | Mean W. A.<br>of<br>group. | W. A.<br>Wt. | Mean W. A.<br>of<br>group. | $\sqrt{W. A.}$ | Wt. | Mean W. A.<br>of<br>group. |
|------------------------|--------------------------|--------------------------|-------------------------|----------------------------|--------------|----------------------------|----------------|-----|----------------------------|
| Pandion haliaetus      | 1950                     |                          | 3142                    |                            | 1.5          |                            | 4.5            |     |                            |
| Vultur cinereus<br>sp. | 1535                     |                          | 3233                    |                            | 2.1          |                            | 4.9            |     |                            |
|                        | 1664                     | 1716                     | 3131                    | 3169                       | 1.9          | 1.8                        | 4.7            |     |                            |
| Pandion haliaetus      | 3055                     | 3055                     | 5852                    | 5852                       | 1.9          | 1.9                        | 5.2            |     |                            |
| Haliaetus albicilla    | 5000                     |                          | 7973                    |                            | 1.6          |                            | 5.2            |     |                            |
|                        | 4500                     |                          | 7000                    |                            | 1.5          |                            | 5              |     |                            |
|                        | 4900                     | 4800                     | 6200                    | 7057                       | 1.3          | 1.4                        | 4.6            | 4.9 |                            |

## LARIFORMES—(GULLS)

|                  |      |      |      |      |     |     |     |     |  |
|------------------|------|------|------|------|-----|-----|-----|-----|--|
| Sterna minuta    | 53   |      | 185  |      | 3.4 |     | 3.6 |     |  |
| hirundo          | 116  |      | 427  |      | 3.6 |     | 4.2 |     |  |
| cantiaca         | 174  |      | 660  |      | 3.8 |     | 4.6 |     |  |
| Larus ridibundus | 197  | 145  | 662  | 483  | 3.4 | 3.6 | 4.4 | 4.2 |  |
| canus            | 355  | 355  | 1118 | 1118 | 3.1 | 3.1 | 4.7 | 4.7 |  |
| Do.              | 642  |      | 1748 |      | 2.7 |     | 4.8 |     |  |
| Do.              | 720  |      | 1742 |      | 2.4 |     | 4.6 |     |  |
| Do               | 785  |      | 1920 |      | 2.4 |     | 4.7 |     |  |
| argentatus       | 565  |      | 1082 |      | 1.9 |     | 4   |     |  |
| Do               | 842  | 710  | 1150 | 1528 | 1.4 | 2.1 | 4.1 | 4.5 |  |
|                  | 1035 |      | 2380 |      | 2.3 |     | 4.8 |     |  |
|                  | 1080 |      | 1936 |      | 1.8 |     | 4.3 |     |  |
|                  | 1225 | 1113 | 1880 | 2065 | 1.5 | 1.8 | 4   | 4.3 |  |

## PASSERIFORMES

|                      |      |      |     |     |     |     |     |     |  |
|----------------------|------|------|-----|-----|-----|-----|-----|-----|--|
| Parus coeruleus      | 9.1  |      | 28  |     | 3   |     | 2.5 |     |  |
| Fringilla spinus     | 10.1 |      | 50  |     | 5   |     | 3.3 |     |  |
| Parus major          | 14.5 |      | 62  |     | 4.3 |     | 3.2 |     |  |
| Fringilla cannabina  | 19   |      | 55  |     | 3   |     | 4.3 |     |  |
| Hirundo urbica       | 18   |      | 120 |     | 6   |     | 4.1 |     |  |
| Hirundo rustica      | 15.7 |      | 135 |     | 8.6 |     | 4.6 |     |  |
|                      | 19.4 |      | 114 |     | 6   |     | 3   |     |  |
|                      | 18   |      | 110 |     | 6   |     | 4   |     |  |
|                      | 20   | 15.9 | 134 | 90  | 6.7 | 5.4 | 4.3 | 3.7 |  |
| Passer domesticus    | 28.3 |      | 76  |     | 2.7 |     | 2.3 |     |  |
|                      | 34   |      | 82  |     | 2.4 |     | 4   |     |  |
| Lanius excubitor     | 31   |      | 144 |     | 4.6 |     | 3.8 |     |  |
| Alauda cristata      | 36.8 |      | 202 |     | 5.5 |     | 4.2 |     |  |
| arvensis             | 32   |      | 150 |     | 4.9 |     | 3.8 |     |  |
| Emberiza gubernatrix | 25.5 | 31.3 | 100 | 126 | 4   | 4   | 3.4 | 3.6 |  |
| Saxicola oenanthe    | 56   |      | 125 |     | 2.2 |     | 2.9 |     |  |
| Emberiza garrula     | 60   |      | 88  |     | 1.4 |     | 2.4 |     |  |
| Turdus merula        | 94   |      | 230 |     | 2.4 |     | 3.3 |     |  |
|                      | 88.8 |      | 212 |     | 2.4 |     | 3.2 |     |  |
|                      | 74   |      | 168 |     | 2.3 |     | 4.1 |     |  |

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PASSERIFORMES—Continued.

|                                | Sex | Weight<br>in grammes. | Mean Wt.<br>of group. | Wing Area<br>in sq cms. | Mean W. A.<br>of group. | W. A. | Wt. | Mean Wt.<br>of group. | $\sqrt{W. A.}$ | $\sqrt{Wt.}$ | Mean $\frac{W. A.}{Wt.}$<br>of group. |  |
|--------------------------------|-----|-----------------------|-----------------------|-------------------------|-------------------------|-------|-----|-----------------------|----------------|--------------|---------------------------------------|--|
| <i>Sturnus vulgaris</i>        |     | 78                    |                       | 202                     | 2.6                     |       |     |                       | 3.3            |              |                                       |  |
|                                |     | 82.5                  |                       | 192                     | 2.3                     |       |     |                       | 3.9            |              |                                       |  |
|                                |     | 86.4                  |                       | 170                     | 2                       |       |     |                       | 3              |              |                                       |  |
| <i>Turdus pilaris</i>          |     | 100                   |                       | 186                     | 1.8                     |       |     |                       | 2.9            |              |                                       |  |
|                                | ♂   | 103.4                 |                       | 202                     | 2                       |       |     |                       | 3              |              |                                       |  |
| <i>Garrulus glandarius</i>     |     | 125                   |                       | 443                     | 3.3                     |       |     |                       | 4.3            |              |                                       |  |
|                                |     | 132                   |                       | 508                     | 3.8                     |       |     |                       | 3.6            |              |                                       |  |
|                                |     | 180                   |                       | 565                     | 3.2                     |       |     |                       | 4.2            |              |                                       |  |
|                                |     | 156                   |                       | 546                     | 3.5                     |       |     |                       | 4.3            |              |                                       |  |
|                                |     | 165                   |                       | 490                     | 3                       |       |     |                       | 4              |              |                                       |  |
|                                |     | 188                   |                       | 551                     | 3                       |       |     |                       | 4              |              |                                       |  |
|                                |     | 161                   |                       | 376                     | 2.3                     |       |     |                       | 3.5            |              |                                       |  |
| <i>Nucifraga caryocatactes</i> |     | 176                   |                       | 460                     | 2.6                     |       |     |                       | 3.8            |              |                                       |  |
|                                |     | 174                   | 114                   | 466                     | 315                     | 2.6   | 2.5 |                       | 3.8            |              | 3.8                                   |  |
|                                |     |                       |                       |                         |                         |       |     |                       |                |              |                                       |  |
| <i>Pica rustica</i>            |     | 202                   |                       | 560                     | 2.7                     |       |     |                       | 4              |              |                                       |  |
|                                |     | 190                   |                       | 522                     | 2.7                     |       |     |                       | 4              |              |                                       |  |
|                                |     | 179                   |                       | 482                     | 2.7                     |       |     |                       | 3.9            |              |                                       |  |
|                                |     | 275                   |                       | 690                     | 2.5                     |       |     |                       | 4              |              |                                       |  |
|                                |     | 212                   |                       | 540                     | 2.5                     |       |     |                       | 3.9            |              |                                       |  |
| <i>Corvus monedula</i>         |     | 230                   |                       | 700                     | 3                       |       |     |                       | 4.3            |              |                                       |  |
|                                |     | 225                   |                       | 601                     | 2.7                     |       |     |                       | 4              |              |                                       |  |
|                                |     | 204                   | 214                   | 610                     | 600                     | 3     | 2.7 |                       | 4.1            |              | 4                                     |  |
|                                |     |                       |                       |                         |                         |       |     |                       |                |              |                                       |  |
| <i>Corvus corone</i>           |     | 507                   |                       | 1144                    | 2.2                     |       |     |                       | 3.8            |              |                                       |  |
|                                |     | 484                   |                       | 988                     | 2                       |       |     |                       | 4              |              |                                       |  |
|                                |     | 498                   |                       | 1284                    | 2.5                     |       |     |                       | 4.5            |              |                                       |  |
| <i>frugilegus</i>              |     | 477                   |                       | 1190                    | 2.5                     |       |     |                       | 3.6            |              |                                       |  |
|                                |     | 575                   |                       | 1285                    | 2.8                     |       |     |                       | 4.5            |              |                                       |  |
| <i>cornix</i>                  |     | 419                   |                       | 1144                    | 2.2                     |       |     |                       | 3.8            |              |                                       |  |
|                                |     | 615                   |                       | 1343                    | 2.2                     |       |     |                       | 4.3            |              |                                       |  |
|                                |     | 615                   |                       | 1280                    | 2                       |       |     |                       | 4.2            |              |                                       |  |
|                                |     | 698                   |                       | 1144                    | 1.6                     |       |     |                       | 4              |              |                                       |  |
|                                |     | 595                   |                       | 1286                    | 2.1                     |       |     |                       | 4.2            |              |                                       |  |
|                                |     | 565                   |                       | 1310                    | 2.3                     |       |     |                       | 4.4            |              |                                       |  |
|                                |     | 557                   |                       | 1260                    | 2.2                     |       |     |                       | 4.3            |              |                                       |  |
|                                |     | 557                   |                       | 1324                    | 2.4                     |       |     |                       | 4.4            |              |                                       |  |
|                                |     | 547                   |                       | 1324                    | 2.4                     |       |     |                       | 4.4            |              |                                       |  |
|                                |     | 519                   |                       | 1280                    | 2.5                     |       |     |                       | 4.4            |              |                                       |  |
|                                | 498 |                       | 1003                  | 2                       |                         |       |     | 4                     |                |              |                                       |  |
|                                | 375 | 535                   | 1156                  | 1220                    | 3                       | 2.3   |     | 4.7                   |                | 4.2          |                                       |  |
| PICIFORMES.                    |     |                       |                       |                         |                         |       |     |                       |                |              |                                       |  |
| <i>Cypselus apus</i>           | ♀   | 33.5                  |                       | 144                     | 4.3                     |       |     |                       | 3.7            |              |                                       |  |
|                                |     | 49.1                  |                       | 329                     | 6.6                     |       |     |                       | 4.9            |              |                                       |  |
|                                |     | 18.3                  | 33.6                  | 117                     | 166                     | 6.4   | 5.8 |                       | 4.1            |              | 3.2                                   |  |
| <i>Ceryle maxima</i>           |     | 86                    |                       | 288                     | 3.3                     |       |     |                       | 3.8            |              |                                       |  |
|                                |     | 83                    | 84.5                  | 270                     | 279                     | 3.2   | 3.2 |                       | 3.7            |              | 3.7                                   |  |

## PICIFORMES.—Continued.

|                               | Weight<br>in grammes. | Mean Wt.<br>of group. | Wing Area<br>in sq. cms. | Mean W. A.<br>of group. | W. A.<br>Wt. | Mean<br>Wt.<br>of group. | W. A.<br>Wt. | Mean<br>W. A.<br>of group. | W. A.<br>Wt. |
|-------------------------------|-----------------------|-----------------------|--------------------------|-------------------------|--------------|--------------------------|--------------|----------------------------|--------------|
| <i>Picus viridis</i>          | 101                   |                       | 408                      |                         | 4            |                          |              | 3.8                        |              |
| <i>Plyctolophus sulfureus</i> | 250                   |                       | 544                      |                         | 2.2          |                          |              | 3.7                        |              |
| <i>Psittacus erythaeus</i>    | 200                   |                       | 710                      |                         | 3.5          |                          |              | 4.5                        |              |
| <i>Chrysotis amazonia</i>     | 300                   | 225                   | 897                      | 640                     | 3            | 3.2                      | 4.4          | 4.1                        |              |

## CHARADRIIFORMES—(PLOVERS.)

|                              |      |     |      |     |     |     |     |     |  |
|------------------------------|------|-----|------|-----|-----|-----|-----|-----|--|
| <i>Tringa sp</i>             | 495  |     | 136  |     | 2.8 |     |     | 3.2 |  |
| <i>Totanus sp</i>            | 47   |     | 144  |     | 3   |     |     | 3.3 |  |
| <i>Totanus sp</i>            | 49   |     | 149  |     | 3   |     |     | 3.3 |  |
| <i>Glareola torquata</i>     | 95   |     | 343  |     | 3.6 |     |     | 4   |  |
| <i>Charadrius minor</i>      | 59.5 | 60  | 183  | 191 | 3   | 3.1 | 3.4 | 3.4 |  |
| <i>Tringa cinclus</i>        | 120  |     | 262  |     | 2.2 |     |     | 3.3 |  |
| <i>Streptilas interpres</i>  | 136  |     | 235  |     | 1.7 |     |     | 3   |  |
| <i>Hoplopterus spinosus</i>  | 160  |     | 636  |     | 4   |     |     | 4.6 |  |
| <i>Charadrius plumbeus</i>   | 190  |     | 366  |     | 2   |     |     | 3.2 |  |
|                              | 170  |     | 334  |     | 2   |     |     | 3.3 |  |
| <i>Vanellus cristatus</i>    | 190  |     | 614  |     | 3.2 |     |     | 4.3 |  |
|                              | 204  |     | 642  |     | 3   |     |     | 4.3 |  |
|                              | 232  |     | 720  |     | 3.1 |     |     | 4.3 |  |
|                              | 232  |     | 730  |     | 3.1 |     |     | 4.4 |  |
| <i>Limosa rufa</i>           | 208  |     | 425  |     | 2   |     |     | 3.5 |  |
|                              | 220  |     | 428  |     | 2   |     |     | 3.4 |  |
|                              | 227  |     | 444  |     | 2   |     |     | 3.4 |  |
|                              | 235  |     | 492  |     | 2   |     |     | 3.6 |  |
| <i>Totanus fuscus</i>        | 229  | 196 | 494  | 487 | 2.1 | 2.3 | 3.6 | 3.7 |  |
| <i>Gallinago coelestis</i>   | 300  |     | 440  |     | 1.4 |     |     | 3.1 |  |
|                              | 270  |     | 490  |     | 1.8 |     |     | 3.4 |  |
|                              | 300  |     | 505  |     | 1.6 |     |     | 3.9 |  |
| <i>Scolopax rusticola</i>    | 300  |     | 500  |     | 1.6 |     |     | 3.3 |  |
|                              | 320  |     | 500  |     | 1.6 |     |     | 3.3 |  |
|                              | 300  |     | 505  |     | 1.6 |     |     | 3.3 |  |
| <i>Hemitragus ostraculus</i> | 341  |     | 708  |     | 2   |     |     | 3.8 |  |
|                              | 358  |     | 562  |     | 1.6 |     |     | 3.3 |  |
|                              | 389  | 297 | 670  | 542 | 1.7 | 1.6 | 3.5 | 3.4 |  |
|                              | 437  |     | 697  |     | 1.6 |     |     | 3.5 |  |
|                              | 445  |     | 642  |     | 1.4 |     |     | 3.3 |  |
|                              | 521  |     | 740  |     | 1.4 |     |     | 3.4 |  |
|                              | 555  |     | 722  |     | 1.3 |     |     | 3.3 |  |
| <i>Numenius phaeopus</i>     | 440  |     | 964  |     | 2.2 |     |     | 4   |  |
| <i>Numenius sp.</i>          | 585  |     | 920  |     | 1.6 |     |     | 3.6 |  |
|                              | 673  |     | 1020 |     | 1.5 |     |     | 3.6 |  |
|                              | 695  |     | 936  |     | 1.3 |     |     | 3.4 |  |
|                              | 762  |     | 924  |     | 1.2 |     |     | 3.3 |  |
|                              | 898  | 601 | 1160 | 872 | 1.3 | 1.4 | 3.5 | 3.5 |  |

## GALLIFORMES—(GAME BIRDS.)

|                          |      |      |     |     |     |     |     |     |
|--------------------------|------|------|-----|-----|-----|-----|-----|-----|
| <i>Coturnix communis</i> | 92.1 | 92.1 | 142 | 142 | 1.5 | 1.5 | 2.6 | 2.6 |
|--------------------------|------|------|-----|-----|-----|-----|-----|-----|

The Relation of Weight to Wing Area in the Flight of Animals 353

GALLIFORMES.—(GAME BIRDS.)—Continued.

|                            | Weight<br>in<br>grammes. | Mean Wt.<br>of group. | Wing Area<br>in sq. cm. | Mean W. A.<br>of group. |     | Mean Wt.<br>of group. |     | Mean<br>W. A.<br>of group. | Mean<br>Wt.<br>of group. |
|----------------------------|--------------------------|-----------------------|-------------------------|-------------------------|-----|-----------------------|-----|----------------------------|--------------------------|
|                            |                          |                       |                         | W. A.                   | Wt. | W. A.                 | Wt. |                            |                          |
| <i>Perdix cinerea</i>      | 450                      |                       | 365                     |                         |     | 8                     |     | 2.5                        |                          |
|                            | 320                      |                       | 336                     |                         |     | 1                     |     | 4                          |                          |
|                            | 372                      |                       | 382                     |                         |     | 1                     |     | 4.2                        |                          |
|                            | 375                      |                       | 366                     |                         |     | 1                     |     | 4                          |                          |
|                            | 280                      |                       | 320                     |                         |     | 1.1                   |     | 2.7                        |                          |
| <i>rufa</i>                | 380                      |                       | 400                     |                         |     | 1                     |     | 2.7                        |                          |
|                            | 340                      |                       | 340                     |                         |     | 1                     |     | 2.6                        |                          |
| <i>Tetrao bonasia</i>      | 370                      |                       | 340                     |                         |     | 9                     |     | 2.6                        |                          |
|                            | 375                      |                       | 375                     |                         |     | 1                     |     | 2.7                        |                          |
| <i>Logopus alpinus</i>     | 530                      |                       | 640                     |                         |     | 1.2                   |     | 3.1                        |                          |
|                            | 650                      | 404                   | 452                     | 392                     | 7   | 97                    | 2.4 | 3                          |                          |
|                            |                          |                       |                         |                         |     |                       |     |                            |                          |
| <i>Tetrao tetrix</i>       | 1350                     |                       | 995                     |                         |     | .7                    |     | 2.8                        |                          |
|                            | 1030                     |                       | 850                     |                         |     | 8                     |     | 2.9                        |                          |
|                            | 1200                     |                       | 880                     |                         |     | 7                     |     | 2.8                        |                          |
|                            | 730                      |                       | 530                     |                         |     | .7                    |     | 2.5                        |                          |
|                            | 1000                     |                       | 775                     |                         |     | .77                   |     | 2.6                        |                          |
| <i>Phasianus colchicus</i> | 950                      |                       | 755                     |                         |     | 8                     |     | 2.8                        |                          |
|                            | 1100                     |                       | 855                     |                         |     | .8                    |     | 2.8                        |                          |
|                            | 1000                     |                       | 880                     |                         |     | 88                    |     | 3                          |                          |
|                            | 1570                     |                       | 895                     |                         |     | .56                   |     | 2.5                        |                          |
|                            | 1250                     |                       | 896                     |                         |     | 7                     |     | 2.8                        |                          |
|                            | 1125                     | 1118                  | 900                     | 928                     | .8  | .7                    | 2.9 | 2.7                        |                          |
|                            |                          |                       |                         |                         |     |                       |     |                            |                          |
| <i>Tetrao urogallus</i>    | 2700                     |                       | 1785                    |                         |     | 66                    |     | 3                          |                          |
|                            | 2600                     |                       | 1800                    |                         |     | .7                    |     | 3.1                        |                          |
|                            | 1450                     |                       | 1380                    |                         |     | 9                     |     | 3.3                        |                          |
| <i>Pavo cristata</i>       | 3300                     | 2510                  | 3480                    | 211                     | 1   | .8                    | 3.9 | 3.4                        |                          |
| <i>Otis tarda</i>          | 8900                     |                       | 5729                    |                         |     | 64                    |     | 3.6                        |                          |
|                            | 9600                     | 9200                  | 5937                    | 5933                    | 6   | 6                     | 3.6 | 3.6                        |                          |

ANSERIFORMES.—(DUCKS & GEESE.)

|                          |      |     |      |     |     |     |     |     |
|--------------------------|------|-----|------|-----|-----|-----|-----|-----|
| <i>Fuligula nyroca</i>   | 508  | 508 | 642  | 642 | 1.2 | 1.2 | 3.1 | 3.1 |
| <i>clangula</i>          | 827  |     | 480  |     | .6  |     | 2.3 |     |
| <i>glacialis</i>         | 922  |     | 550  |     | .6  |     | 2.4 |     |
| <i>Anas</i> sp.          | 606  |     | 642  |     | 1.6 |     | 3   |     |
| <i>boschas</i>           | 880  |     | 685  |     | .8  |     | 2.7 |     |
|                          | 1100 |     | 900  |     | .8  |     | 3   |     |
|                          | 900  |     | 710  |     | .8  |     | 2.7 |     |
|                          | 900  |     | 735  |     | .8  |     | 2.8 |     |
|                          | 950  |     | 838  |     | .85 |     | 2.9 |     |
|                          | 900  |     | 813  |     | .9  |     | 2.9 |     |
|                          | 1000 |     | 687  |     | .7  |     | 2.6 |     |
| <i>Fuligula cristata</i> | 1116 | 918 | 1440 | 770 | 1.3 | .88 | 3.6 | 2.5 |

CHEIROPTERA.—(BATS)

|                                 |     |     |      |      |     |    |     |     |
|---------------------------------|-----|-----|------|------|-----|----|-----|-----|
| <i>Vespertilio pipistrellus</i> | 3.7 |     | 49.6 |      | 1.3 |    | 4.5 |     |
| Do.                             | 5.6 | 4.6 | 50   | 49.8 | 9   | 11 | 4   | 4.3 |

## CHEIROPTERA.—(BATS).—Continued.

|                                   | Weight<br>in<br>grammes. | Mean Wt.<br>of<br>group. | Wing Area<br>in<br>sq. cms. | Mean W. A.<br>of<br>group. | W. A.<br>Wt. | Mean W. A.<br>of<br>group. | $\sqrt{W. A.}$ | $\sqrt[3]{Wt.}$ | Mean $\sqrt{W. A.}$<br>$\sqrt{Wt.}$ |
|-----------------------------------|--------------------------|--------------------------|-----------------------------|----------------------------|--------------|----------------------------|----------------|-----------------|-------------------------------------|
| <i>Plecotus auritus</i>           | 10.4                     |                          | 70                          | 6.7                        |              |                            |                | 3.8             |                                     |
| <i>Glossophaga soricina</i>       | 14.6                     |                          | 94                          | 6.5                        |              |                            |                | 3.9             |                                     |
| <i>Taphozous saccolæmus</i>       | 18.7                     | 14.9                     | 158                         | 107                        | 8.5          | 7.2                        |                | 4.9             | 4.2                                 |
| <i>Morinops</i> sp.               | 20.8                     |                          | 94                          | 4.5                        |              |                            |                | 3.5             |                                     |
| <i>Vespertilio murinus</i>        | 20.9                     |                          | 180                         | 8.9                        |              |                            |                | 4.8             |                                     |
| Do. do.                           | 34.9                     |                          | 140                         | 4                          |              |                            |                | 3.6             |                                     |
| <i>Molossus longicaudatus</i>     | 33.5                     |                          | 104                         | 3                          |              |                            |                | 3.1             |                                     |
| <i>Phyllostoma perspicillatum</i> | 47.7                     | 31.5                     | 190                         | 141                        | 4            | 4.9                        |                | 3.8             | 3.7                                 |
| Do. spectrum                      | 164                      | 164                      | 626                         | 626                        | 4            | 4                          |                | 4.5             | 4.5                                 |
| <i>Pteropus edulis</i>            | 1380                     | 1380                     | 1630                        | 1630                       | 1.2          | 1.2                        |                | 3.6             | 3.6                                 |

## RHOPHALOCERA —(BUTTERFLIES.)

|                           |     |      |      |      |     |     |  |      |  |
|---------------------------|-----|------|------|------|-----|-----|--|------|--|
| <i>Lycæna argus</i>       | 01  |      | 2.9  | 290  |     |     |  | 7.5  |  |
| <i>Argynnis aphrophe</i>  | 025 |      | 4    | 160  |     |     |  | 6.8  |  |
| <i>Vanessa C-album</i>    | 04  |      | 3.3  | 82.5 |     |     |  | 5.4  |  |
| <i>Pieris brassica</i>    | 08  | .04  | 9.3  | 4.9  | 116 | 162 |  | 7    |  |
| <i>Rhodocera rhamnii</i>  | 183 |      | 52.5 |      | 287 |     |  | 12.8 |  |
|                           | .13 |      | 11.4 |      | 87  |     |  | 6.7  |  |
| <i>Vanessa urticae</i>    | 114 | .142 | 8.4  | 24.1 | 74  | 116 |  | 6    |  |
| <i>Pieris brassica</i>    | .2  | .2   | 16.6 | 16.6 | 83  | 83  |  | 7    |  |
| <i>Papilio podalirius</i> | .34 | 34   | 11.2 | 11.2 | 33  | 33  |  | 4.8  |  |

## HETEROCERA —(MOTHS.)

|                             |      |     |      |      |      |      |  |      |  |
|-----------------------------|------|-----|------|------|------|------|--|------|--|
| <i>Sphinx pinastri</i>      | 43   | 43  | 10   | 10   | 23.3 | 23.3 |  | 4.2  |  |
|                             | .54  |     | 10.3 |      | 20   |      |  | 3.9  |  |
| <i>Smerinthus ocellatus</i> | 55   | 45  | 9.8  | 10   | 18   | 19   |  | 3.8  |  |
| <i>Sphinx ligcistri</i>     | 1.37 |     | 16   |      | 11.7 |      |  | 3.6  |  |
|                             | 1.9  | 1.6 | 18.6 | 17.3 | 9.8  | 10.2 |  | 3.47 |  |

## NEUROPTERA.—(DRAGONFLIES.)

|                             |     |      |      |      |     |    |  |     |  |
|-----------------------------|-----|------|------|------|-----|----|--|-----|--|
| <i>Setodes pilosus</i>      | .01 |      | 1.4  |      | 140 |    |  | 5   |  |
| <i>Agriion puella</i>       | 03  |      | 2.2  |      | 73  |    |  | 5.4 |  |
| <i>Ephemera vulgata</i>     | 03  | .023 | 1.2  | 1.6  | 42  | 85 |  | 3.6 |  |
| <i>Libellula vulgata</i>    | .15 |      | 7.3  |      | 48  |    |  | 5.1 |  |
| <i>Calopteryx virgo</i>     | .1  | .125 | 11.1 | 9.2  | 111 | 79 |  | 7.2 |  |
|                             | 2   |      | 14   |      | 70  |    |  | 6.4 |  |
| <i>Cordulia aenea</i>       | 24  |      | 10.5 |      | 44  |    |  | 4.9 |  |
| <i>Libellula 4-maculata</i> | 29  | .24  | 11   | 11.8 | 38  | 51 |  | 5   |  |
| <i>Libellula cancellata</i> | .44 | .44  | 14   | 14   | 32  | 32 |  | 4.9 |  |

The Relation of Weight to Wing Area in the Flight of Animals 355

NEUROPTERA.—(DRAGONFLIES.)—Continued.

|                 | Weight<br>in grams. | Mean Wt<br>of group. | Wing Area<br>in sq. cm. | Mean W. A.<br>of group. | W. A.<br>Wt. | Mean Wt.<br>of group. | W. A.<br>$\sqrt{\text{W. A.}}$ | Wt.<br>$\sqrt{\text{Wt.}}$ | Mean W. A.<br>$\sqrt{\text{W. A.}}$ | Wt.<br>$\sqrt{\text{Wt.}}$ |
|-----------------|---------------------|----------------------|-------------------------|-------------------------|--------------|-----------------------|--------------------------------|----------------------------|-------------------------------------|----------------------------|
| <i>depressa</i> | .62                 |                      | 14.5                    |                         | 21           |                       |                                |                            | 4.5                                 |                            |
| <i>Cyanea</i>   | .6                  | .71                  | 13.3                    | 17.2                    | 22           | 23                    | 5                              |                            | 4.3                                 |                            |

COLEOPTERA —(BEETLES.)

|                            |     |     |     |     |      |      |  |  |     |  |
|----------------------------|-----|-----|-----|-----|------|------|--|--|-----|--|
| <i>Ludius aeneus</i>       | .06 |     | .67 |     | 11   |      |  |  | 2   |  |
| <i>Colymbetes grapii</i>   | .07 | .06 | .82 | .74 | 11.7 | 11.3 |  |  | 2.2 |  |
| <i>fuscus</i>              | .27 |     | 2.4 |     | 9    |      |  |  | 2.4 |  |
| <i>Acilius sulcatus</i>    | .3  | .28 | 2   | 2.2 | 6.6  | 7.8  |  |  | 2   |  |
| <i>Calosoma sycophanta</i> | .64 |     | 3.9 |     | 6.1  |      |  |  | 2.3 |  |
| <i>Melolontha vulgaris</i> | .8  |     | 3.3 |     | 4    |      |  |  | 2   |  |
|                            | .66 | .7  | 2.8 | 3.3 | 4.2  | 4.7  |  |  | 1.9 |  |
|                            | .97 |     | 3.6 |     | 3.8  |      |  |  | 1.9 |  |
|                            | .95 | .96 | 3.6 | 3.6 | 3.8  | 3.8  |  |  | 1.9 |  |
| <i>Dytiscus marginalis</i> | 1.3 |     | 6   |     | 4.6  |      |  |  | 2.2 |  |
|                            | 1.9 |     | 5.1 |     | 2.7  |      |  |  | 1.8 |  |
|                            | 1.8 | 1.7 | 4.8 | 5.2 | 2.7  | 3.3  |  |  | 1.8 |  |
|                            | 2.3 | 2.3 | 6.6 | 6.6 | 2.8  | 2.8  |  |  | 1.9 |  |
| <i>Hydrophilus piceus</i>  | 3.3 |     | 6.7 |     | 2    |      |  |  | 1.7 |  |
|                            | 3.2 | 3.2 | 6   | 6.3 | 1.9  | 1.9  |  |  | 1.6 |  |
|                            | 4.9 |     | 7.7 |     | 1.6  |      |  |  | 1.6 |  |
|                            | 5.2 | 5   | 7.8 | 7.7 | 1.5  | 1.5  |  |  | 1.6 |  |

DIPTERA —(FLIES.)

|                                |       |      |      |     |      |    |  |  |     |  |
|--------------------------------|-------|------|------|-----|------|----|--|--|-----|--|
| <i>Culex pipiens</i>           | .003  |      | 3    |     | 100  |    |  |  | 3.8 |  |
| <i>Chironomus stercorarius</i> | .0012 |      | 0.35 |     | 30   |    |  |  | 1.7 |  |
| <i>Syrphus scriptus</i>        | .007  | .004 | 17   | .16 | 24   | 51 |  |  | 2.1 |  |
| <i>Musca domestica</i>         | .01   |      | 16   |     | 16   |    |  |  | 1.7 |  |
|                                | .01   |      | 18   |     | 18   |    |  |  | 1.9 |  |
|                                | .016  |      | 25   |     | 16   |    |  |  | 1.9 |  |
| <i>Leptis scolopacea</i>       | .03   |      | .62  |     | 21   |    |  |  | 2.5 |  |
|                                | .03   |      | .83  |     | 27   |    |  |  | 2.3 |  |
|                                | .03   | .02  | 46   | .41 | 15   | 19 |  |  | 2.3 |  |
| <i>Pachyrina pratensis</i>     | .04   |      | 7    |     | 17.5 |    |  |  | 2.4 |  |
| <i>Eristalis aeneus</i>        | .04   |      | .32  |     | 8    |    |  |  | 1.6 |  |
|                                | .04   |      | .31  |     | 7.9  |    |  |  | 1.6 |  |
|                                | .04   | .04  | .32  | .41 | 8    | 10 |  |  | 1.7 |  |
| <i>Pollenia rudis</i>          | .05   |      | .37  |     | 7.4  |    |  |  | 1.6 |  |
| <i>Musca vomitoria</i>         | .065  |      | .72  |     | 11   |    |  |  | 2.1 |  |
| <i>Pachyrina pratensis</i>     | .07   |      | .86  |     | 12.3 |    |  |  | 1.9 |  |
| <i>Leptis scolopacea</i>       | .08   | .065 | .84  | .7  | 10.5 | 10 |  |  | 1.8 |  |

## DIPTERA.—(FLIES.)—Continued.

|                               | Weight<br>in grammes. | Mean Wt.<br>of group. | Wing Area<br>in sq. cms. | Mean W. A.<br>of group. | W. A.<br>Wt. | W. A.<br>Mean<br>of group. | $\sqrt{W. A.}$ | $\sqrt[3]{Wt.}$ | Mean $\sqrt[3]{W. A.}$ | $\sqrt[3]{Wt.}$<br>of group. |
|-------------------------------|-----------------------|-----------------------|--------------------------|-------------------------|--------------|----------------------------|----------------|-----------------|------------------------|------------------------------|
| <i>Eristalis</i> sp.          | .09                   | .09                   | 34                       | .34                     | 3.8          | 3.8                        | 1.3            |                 |                        |                              |
| HYMENOPTERA —(BEES)           |                       |                       |                          |                         |              |                            |                |                 |                        |                              |
| <i>Systropha spiralis</i>     | .01                   |                       | .45                      |                         | 45           |                            | 1.76           |                 |                        |                              |
|                               | .01                   | .01                   | 32                       | .38                     | 32           | 38                         | 1.4            |                 |                        |                              |
|                               | .01                   |                       | 34                       |                         | 17           |                            | 2              |                 |                        |                              |
|                               | .02                   |                       | 27                       |                         | 13.5         |                            | 1.9            |                 |                        |                              |
| <i>Dichron gibba</i>          | .02                   |                       | 3                        |                         | 15           |                            | 2              |                 |                        |                              |
| <i>Sarcophaga stercoraria</i> | .02                   | .02                   | .38                      | .32                     | 19           | 16                         | 2.17           |                 |                        |                              |
| <i>Osmia adunca</i>           | .03                   | .03                   | 38                       | .38                     | 13           | 13                         | 1.9            |                 |                        |                              |
| <i>bicornis</i>               | .053                  | .05                   | .47                      | .47                     | 9            | 9                          | 1.8            |                 |                        |                              |
| <i>carinaria</i>              | .07                   |                       | .5                       |                         | 7            |                            | 1.7            |                 |                        |                              |
| <i>Apis mellifica</i>         | .07                   | .07                   | .4                       | .45                     | 5.7          | 6.3                        | 1.5            |                 |                        |                              |
|                               | .1                    | .1                    | .57                      | .57                     | 5.7          | 5.7                        | 1.6            |                 |                        |                              |
| <i>Bombus pratorum</i>        | .27                   | .27                   | 1.4                      | 1.4                     | 5            | 5                          | 1.1            |                 |                        |                              |
|                               | .44                   |                       | 1.03                     |                         | 2.3          |                            | 1.3            |                 |                        |                              |
| <i>muscorum</i>               | .34                   | .39                   | .81                      | .92                     | 2.4          | 2.3                        | 1.3            |                 |                        |                              |





**Obituary.****HERBERT CHRISTOPHER ROBINSON.**

Herbert Christopher Robinson, who was born in Liverpool, in 1874 and became a member of the Society in 1904, died in 1929 at Oxford after a long illness. His active biological career began in 1896 with a visit to Queensland where he made a collection of birds. From 1897 to 1900 he was an assistant in the Liverpool Museum where he collaborated with Dr. H. O. Forbes in the production of catalogues of the important bird collections of the Museum. In 1901 and 1902 he and the late Dr. Nelson Annandale, who became eventually Director of the Zoological Survey of India, were jointly engaged in travel and research in the Malay Peninsula the results of which, both ethnographical and zoological, were published under the title "Fasciculi Malayenses." In 1903 Robinson became Curator of the Selangor Museum and Inspector of Fisheries, Federated Malay States, and in 1908 Director of Museums and Fisheries, F.M.S.

Besides his regular duties he organised and for some years controlled a Meteorological Service, primarily in connection with a search for hill-station sites, and he organised, and was in charge of, the Arts and Crafts section of the Malayan Pavilion at the Britain Empire Exhibition. He retired on pension in February, 1926.

Robinson was a man of unusual ability: there were few subjects he could not master in a short time: though later he specialised on mammals and birds of Malaysia he was possessed of wide knowledge of, and competence in anthropology, zoology and botany.

Robinson had long planned to produce a set of volumes on the Vertebrate Fauna of the Malay Peninsula analogous to those of the "Fauna of British India" series and in 1912 there was published under his editorship a volume on the Reptilia and Batrachia by Dr. G. E. Boulenger. It was his intention to produce the other sections in collaboration with the writer of this notice but the war, the demands made by their current work on the time of both and the various duties Robinson undertook for Government outside those of his appointment made this impossible and the task was deferred until his retirement on pension when it was still further postponed by the request of his Government that he should first produce the less purely systematic work on "the Birds of the Malay Peninsula" on which he was engaged when he succumbed to his final illness and of which he completed two of the five volumes projected. Shortly before he became incapacitated he was elected co-editor of "Ibis." Under his direction were issued some eleven

volumes of the "Journal of the Federated Malay States Museums" which contains many of the papers written by him. His contributions however, to the Society's Journal were only five in number:

On three Vertebrates new to the Malay Peninsula. No. XLIV, 1905.

New Mammals and Birds from Korinchi, Sumatra. No. LXXIII, 1916.

On a collection of Birds from N. E. Sumatra. No. LXXX, 1919.

On a collection of Birds from N. E. Sumatra. Part II. No. LXXXI, 1920.

The Bearded Pig in the Malay Peninsula. No. LXXXV, 1922.

Besides his early visit to Australia and his many journeys in the Malay States (he was the first European to reach the summit of Gunong Tahan) Robinson visited for the purpose of biological investigation the Siamese portion of the Malay Peninsula, the Rio-Lingga Islands, Sumatra and Java. He had travelled in India and during the war was on service at Basra: when on furlough he always paid long visits to Switzerland for mountains had a great attraction for him, but in the east what he perhaps enjoyed most was cruising on inspection in his Fisheries launch.

Mr. H. C. Robinson was a Vice-President of the Society for the Federated Malay States in 1909, 1913, 1922, 1923 and a Member of Council in 1920. He was elected an Honorary Member in 1927.

C. B. K.

**NOTICE.**

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**XVIIIe Congrès International des Orientalistes.**

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Secrétariat: Musée Ethnographique, Rapenburg 67/69,  
Leiden, Pays-Bas.

*Première Communication.*

En vertu de la décision prise le 1 septembre 1928 à la dernière réunion du XVIIe Congrès International des Orientalistes à Oxford, le XVIIIe Congrès devra se réunir aux Pays-Bas.

Un comité s'est formé dans la ville universitaire de Leiden pour organiser la préparation du prochain congrès. Ce comité a décidé provisoirement que le XVIIIe congrès se réunira à Leiden (lieu de réunion du VIe congrès en 1883) dans la semaine du 7 au 12 septembre 1931.

Le comité adresse cette première communication aux orientalistes et aux sociétés orientalistes en les priant de lui accorder leur collaboration, pour que le congrès soit assuré d'une réussite complète. Nous espérons qu'on voudra donner au contenu de la présente communication une publicité aussi grande que possible.

Le comité se propose de faire paraître dans quelques mois une seconde communication, accompagnée de l'invitation définitive pour le congrès.

Leiden, avril 1930.

J. H. KRAMERS,  
*Secrétaire.*



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**Journal**  
of the  
**Malayan Branch**  
of the  
**Royal Asiatic Society**

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Vol IX

1931

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This Journal forms the continuation of the Journal of the Straits Branch, Royal Asiatic Society, of which Nos. 1-86 were published 1878-1922.

**SINGAPORE**  
**PRINTERS, LIMITED.**

1931



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**Vol. IX**

**Part I**

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The  
**Malayan Branch**  
of the  
**Royal Asiatic Society.**

**Patron.**

H. E. SIR CECIL CLEMENTI, K.C.M.G., Governor of the Straits Settlements, High Commissioner for the Malay States, British Agent for Sarawak and North Borneo.

**Council for 1931.**

|  |  |
|--|--|
| THE HON. MR. R. O. WINSTEDT, C.M.G.,<br>D LITT. . . . .  | <i>President.</i>                        |
| MR. R. E. HOLTUM . . . . .   | }  |
| MR. C. E. WURIZBURG, M.C. . . . .  |  |
| DR. A. L. HOOPS . . . . .  |  |
| MR. A. CALDECOTT, C.B.E. . . . .   | }  |
| MR. W. LINEHAN . . . . .   |  |
| CAPT. A. C. BAKER, M.C. . . . .  | <i>Vice-President for<br/>the U.M.S.</i> |
| THE HON. MR. M. B. SHELLEY, MESSRS.<br>J. D. HALL, W. MARSH, W. G. STIR-<br>LING AND THE HON. MR. JUSTICE F.<br>G. STEVENS . . . . . | }  |
| MR. M. R. HENDERSON . . . . .  | <i>Hon. Treasurer.</i>                   |
| MR. F. N. CHASEN . . . . .   | <i>Hon. Secretary.</i>                   |

# Proceedings

of the

## Annual General Meeting.

The Annual General Meeting of the Society was held at the Raffles Museum, Singapore, at 4.30 p.m. on Monday, 23rd February, 1931.

The President, Mr. C. Boden Kloss, in the chair.

1. The Minutes of the Annual General Meeting held on 17th February, 1930 were read and confirmed.

2. The Annual Report and Accounts as submitted by the Council were adopted.

3. The Officers and Council for 1931 were elected.

A vote of thanks to the chair concluded the meeting.

F. N. CHASEN,  
*Hon. Secretary.*

# Annual Report

OF THE

## Malayan Branch, Royal Asiatic Society

for 1930.

---

### Membership.

On 31st December the membership roll included 16 Honorary Members, 2 Corresponding Members and 711 Ordinary Members. Forty new members were elected during the year: in 1929 twenty-eight names were added to the list.

The new members are:—

|                     |                         |
|---------------------|-------------------------|
| Alston, R. A.       | London, G. E.           |
| Ambler, D. B. J.    | Luckham, H. A. L.       |
| Berney, H. A.       | MacNaught, W. E.        |
| Boulter, R.         | Madden, L. J. B.        |
| Clarkson, S. W.     | Moysey, Major L. Lewis. |
| Corbell, H. E.      | Murdock, Dr. J. W.      |
| Dale, L. S.         | Murphy, H. J.           |
| de Vos, A. E. E.    | Rentse, A.              |
| Donlevy, J.         | Reynolds, L. N.         |
| Dohoo, K.           | Smith, Dr. A. W. H.     |
| Ferguson, N. G.     | Soang, A. I. C.         |
| Ford, C. F.         | Strahan, A. C.          |
| Gordon, A.          | Symington, C. F.        |
| Graham, A. C.       | Tivy, L. W.             |
| Heath, R. G.        | Trathen, R.             |
| Hogbin, C. J.       | Treeby, J. W. C.        |
| Howman, Capt. Ross. | Turner, H. G.           |
| Ince, R. E.         | Walters, G. J.          |
| Joseph, J. D.       | Watson-Hyatt, R. D.     |
| Le Sueur, R. E.     | Weller, H. R.           |

Under the provisions of Rule 7 two gentlemen were elected Honorary Members of the Society at the Annual General Meeting:—

Sir Hugh Clifford, G.C.M.G., G.B.E.

Sir Josiah Crosby, K.B.E.

Sir Hugh Clifford's record of service to Malaya and the subjects peculiarly the interests of the Society are too well known to need recapitulation.

Sir Josiah Crosby's distinguished services on the Society's behalf when its delegation visited Java in 1929 were largely responsible for the success of the proceedings.

### Council.

H. E. Sir Cecil Clementi, K.C.M.G., kindly consented to become Patron of the Society. All the members of the Council elected at the Annual Meeting remained in office for the whole year. For the greater part of the year Mr E. J. H. Corner kindly deputized for the Hon. Secretary during the absence of the latter on furlough in Europe.

### Annual General Meeting.

The Annual General Meeting was held in the Society's Room at the Raffles Museum on 17th February.

### Journal.

Two journals were issued during the year and the volume consisted of pp i-xxxv, 1-363 and plates i-xiii. Although the number of journals issued was less than usual it will be noted that the volume included 363 pages, the first paper published in September being exceptionally large.

Part I was entirely devoted to an annotated translation of Eredia's description of "Malacca, Meridional India and Cathay" by Mr. J. V. Mills, a member of the Malayan Civil Service.

The paper was illustrated by five maps kindly supplied by the Conservator-in-Chief of the Bibliotheque Royale at Brussels.

### Agents.

The Council has considered it advisable to change the London Agents of the Society which is now represented by Messrs. Luzac & Co., 46 Great Russell Street, London, W.C. 1.

### Finances.

The Council was happy to announce in the Annual Report for 1929 that the Government of the Straits Settlements had promised to continue its financial support by an annual contribution of \$500 for three years starting in 1930 and that the Government of the Federated Malay States had granted \$500 for the year 1930 and had promised to consider the position again at the end of the year.

The Society is now in correspondence with the Government of the Federated Malay States and it is hoped that further support from that quarter will accrue.

In spite of its investments and comparatively large bank balance the financial situation of the Society is not satisfactory.

The investments must be regarded, primarily, as a backing for the large number of Life Members.

The income of the Society from subscriptions and sales of journals has averaged, for the five years 1925-1929, \$3,724. The expenditure on printing for the same period has averaged \$4,213. There is an additional expenditure due to salaries, postages, etc, but printing is of course the chief item. The figures speak for themselves.

At the present output of journals and without Government Grants we should absorb our investments. The balance in the current account of the Society is \$4,400. This seems rather a large amount but it is due to an exceptionally small expenditure on printing in 1930, only a little over \$2,000 having spent before the close of the year as against normally, double that amount.

F. N. CHASEN,  
*Hon. Secretary.*

**MALAYAN BRANCH, ROYAL ASIATIC SOCIETY**  
**Receipts and payments for the year ending 31st December, 1930.**

| <b>RECEIPTS.</b>                                  | <b>PAYMENTS.</b>                                    |
|---|---|
| <b>Cash.</b>                                      | <b>Printing.</b>                                    |
| Balance at Mercantile Bank Jan. 1st, 1930 .. .. . | Journal, Vol. 7 pt. 3 .. .. .                       |
| Petty cash in hand, Jan. 1st, 1930 .. .. .        | Index to Vol. 7 .. .. .                             |
| \$8,758.20  | Journal Vol. 8 pt. 1 .. .. .                        |
| 24.97   | Line Blocks .. .. .                                 |
| \$8,783.17  | Separates .. .. .                                   |
| <b>Subscriptions.</b>                             | Illustrations .. .. .                               |
| For the year 1930 .. .. .                         | Annual Report and Balance Sheets ..                 |
| For the years 1927, 1928 & 1929 .. .. .           | 50.75   |
| For the years 1931, 1932 & 1933 .. .. .           | \$3,798.86  |
| Life Membership .. .. .                           | Stationery .. .. .                                  |
| 65.00   | Postage and other petty expenses ..                 |
| 2,690.00  | Salaries .. .. .                                    |
| Sales of Journals and Maps .. .. .                | Furniture .. .. .                                   |
| 718.27  | Expenses of delegate's visit to Java ..             |
| <b>Government Grants.</b>                         | Cost of bust of Raffles .. .. .                     |
| Straits Settlements .. .. .                       | Cheque commission, stamps, & cheque book .. .. .    |
| Federated Malay States .. .. .                    | \$4,500 Singapore Municipal Loan at \$4,320 .. .. . |
| 500.00  | Balance at Mercantile Bank, Dec. 31st .. .. .       |
| 500.00  | Petty cash in hand, Dec. 31st. ..                   |
| 1,000.00  | 20.14   |
| <b>Interest.</b>                                  | \$13,643.53   |
| On Investments .. .. .                            |   |
| On current account .. .. .                        |   |
| 320.44  |   |
| 131.65  |   |
| 452.09  |   |
| \$13,643.53                                       |   |

**M. R. HENDERSON,**  
*Hon. Treasurer.*

# List of Members for 1931.

(As on 1st January, 1931)

## \*LIFE MEMBERS.

### Patron.

1930. CLEMENTI, H. E. SIR CECIL, K.C.M.G.

### Honorary Members.

#### Year of Election.

- 1903, 1923. ABBOT, DR. W. L., North-east Maryland, U.S.A.  
1890, 1918. BLAGDEN, DR. C. O., School of Oriental Studies,  
Finsbury Circus, London, England.  
1921. BRANDSTETTER, PROF. DR. R., Luzern, Switzerland.  
1930. CLIFFORD, SIR HUGH, G.C.M.G., G.B.E., c/o The Crown  
Agents, 4, Millbank, London, England. (Patron,  
1927).  
1930. CROSBY, SIR JOSIAH, K.B.E., c/o H. B. M Consulate,  
Batavia, Java.  
1903, 1917. GALLOWAY, SIR D. J., The British Dispensary,  
Singapore. (Vice-President, 1906-7; President,  
1908-13).  
1895, 1920. HANITSCH, DR R, 99, Woodstock Road, Oxford,  
England. (Council, 1897-1919; Hon. Treasurer,  
1898-1906, 1910-11, 1914-19, Hon Secretary,  
1912-13).  
1922. JOHORE, H. H. THE SULTAN OF, G C M.G., K.B.E., Johore  
Bahru, Johore.  
1903, 1927. MAXWELL, SIR W. G., K.B.E., C.M.G., 123, Oakwood  
Court, Kensington, W. 14, London, England  
(Council, 1905, 1915; Vice-President, 1911-12, 1916,  
1918, 1920; President, 1919, 1922-3, 1925-6).  
1921. PERAK, H. H. THE SULTAN OF, K.C.M.G., K.C.V.O.,  
Istana Negara, Bukit Chandan, Kuala Kangsar,  
Perak.  
1890, 1912. RIDLEY, H. N., C.M.G., F.R.S., 7, Cumberland Road,  
Kew Gardens, Surrey, England.  
1916. SARAWAK, H. H. THE RAJAH OF, G.C.M.G., Kuching,  
Sarawak.  
1885. SATOW SIR E. M., Beaumont, Ottery- St. Mary,  
Devon, England.  
1894, 1921. SHELLABEAR, REV DR W. G., 20, Whitman Avenue,  
West Hartford, Conn., U.S.A. (Council, 1896-1901,  
1904; Vice-President, 1913; President, 1914-18),

## List of Members

1921. SNOUCK-HURGRONJE, PROF. DR., Leiden, Holland.  
 1921. VAN RONKEL, DR. P. H., Zoeterwoudsche Singel 44,  
 Leiden, Holland.

## Corresponding Members.

1920. LAIDLAW, DR. F. F., Eastfield, Uffculme, Devon,  
 England.  
 1920. MERRILL, DR. E. D., New York Botanical Garden,  
 Bronx Park, New York City, U.S.A.

## Ordinary Members.

1921. \*ABDUL AZIZ, ENSKU, Johore Bahru.  
 1927. ABDUL GHANI BIN MOHAMED, Medical College,  
 Singapore.  
 1926. ABDUL HAMID BIN DATO KAYA, DATO, Klang,  
 Selangor.  
 1926. ABDUL HAMID BIN HUSSAIN, District Office, Pasir Mas,  
 Kelantan.  
 1918. ABDUL MAJID BIN HAJI ZAINUDDIN, HAJI, British  
 Legation, Jedda, Hejaz.  
 1926. ABDUL MALEK BIN MOHAMED YUSUF, District Office,  
 Rasa, Selangor.  
 1926. ABDUL MANAF BIN MD. HASSAN, Monopolies and  
 Customs, Alor Star, Kedah.  
 1926. ABDUL RAHMAN BIN YASSIN, 3, Jalan Chat, Johore  
 Bahru, Johore.  
 1923. \*ABDULLAH BIN JAAFAR DATO, Tarom, Johore Bahru,  
 Johore.  
 1916. ABRAHAM, H C., Topographical Department,  
 Taiping, Perak.  
 1929. ABU BAKAR OF JOHORF, H. H. TENGKU, Johore Bahru,  
 Johore.  
 1907. \*ADAMS, SIR A., K.B.E., Penang. (Vice-President,  
 1919).  
 1921. ADAMS, C. D., The Residency, Sibn, Sarawak.  
 1909. \*ADAMS, T. S., Kuala Kangsar, Perak.  
 1919. \*ADELBERG, F., Pelepah Valley Rubber Estates, Kota  
 Tinggi, Johore.  
 1927. AHLSTON, A. T., c/o Changkat Tin Dredging Ltd.,  
 Batu Gajah, Perak.  
 1926. AHMAD BIN MD ISA, District Office, Sungei Patani,  
 Kedah.  
 1926. AHMAD BIN OSMAN, District Office, Pekan, Pahang.  
 1921. AHMAD JALALUDDIN, Malay College, Kuala Kangsar,  
 Perak.  
 1922. ALEXANDER, C. S., c/o The Crown Agents, 4,  
 Millbank, London, England.  
 1927. ALLEN, B. W., Chief Police Office, Kuala Lipis,  
 Pahang.  
 1914. ALLEN, H. C. W., Boustead & Co., Ltd., Singapore.

1921. ALLEN, HON. MR. L. A., The Residency, Perlis, Kedah.
1927. ALOR STAR GOVERNMENT ENGLISH SCHOOL UNION, Alor Star, Kedah.
1930. ALTSON, R. A., Department of Agriculture, Kuala Lumpur.
1930. AMBLER, D. B. J., Malay College, Kuala Kangsar, Perak.
1926. AMBLER, G., Outram Road School, Singapore.
1929. ANDERSON, D. K., Mercantile Bank, Kuantan, Pahang.
1926. ANDERSON, CAPT. H. A., Commissioner of Police, Kota Bharu, Kelantan.
1921. ANDREINI, CAPT. E. V., Lower Rejang, Sarawak.
1929. ARCHER, J. B., Kuching, Sarawak.
1926. ARIFF, DR. K. M., The New Dispensary, 217, Penang Road, Penang.
1908. ARTHUR, J. S. W., Secretary for Postal Affairs, S.S. and F.M.S., Kuala Lumpur, Selangor.
1926. ATKIN-BERRY, H. C., Swan & Maclaren, Singapore.
1926. AUGUSTINE, J. F., Government English School, Alor Star, Kedah.
1908. \*AYRE, C. F. C., Ipoh, Perak.
1929. BADDELEY, CAPT. S., c/o Harrison & Crosfields, Sandakan, British North Borneo.
1926. \*BAGNALL, HON. MR. J., The Straits Trading Co., Ltd., Singapore.
1919. \*BAILEY, A. E., Keecha, Park Road, Leamington Spa, England.
1926. \*BAILEY, J., British Vice-Consulate, Nakawn Lampang, Siam.
1915. BAIN, N. K., Kuala Kangsar, Perak.
1926. BAIN, V. L., Forest Department, Bentong, Pahang.
1912. \*BAKER, CAPT. A. C., Land Office, Alor Star, Kedah, (Council, 1928).
1899. \*BANKS, J. E., The American Bridge Co., Cambridge, Pa., U.S.A.
1920. BARBOUR, DR. T., Museum of Comparative Zoology, Harvard University, Cambridge, Mass., U.S.A.
1928. BARCOCK, F. G., Meranti Lapan Estate, Lahat, Perak.
1926. BARNARD, B. H. F., Southfield, Chitton Polden, Bridgwater, Somerset, England.
1921. BARNES, J. R., 81, East Coast Road, Telok Kurau, Singapore.
1914. BAZELL, C., Malay College, Kuala Kangsar, Perak. (Hon. Librarian, • 1916-20; Hon. Treasurer, 1921-22).
1926. BEACH, N. B., Kinta Kellas, Batu Gajah, Perak.
1928. BECKETT, O., Land Office, Malacca.
1925. BEE, R. J., c/o F. M. S. Railways, Kelantan.

## List of Members

1921. BELGRAVE, W. N. C., Department of Agriculture, Kuala Lumpur, Selangor.
1910. \*BERKELEY, CAPT. H., I.S.O., Clink Gate, Droitwich, England.
1930. BERNEY, H. A., c/o The Chartered Bank, Ipoh, Perak.
1927. BEST, G. A., Botanical Gardens, Singapore.
1912. \*BICKNELL, J. W., U. S. Rubber Plantations, Medan, Sumatra.
1884. BICKNELL, W. A., 2, Phillips Avenue, Exmouth, Devon, England.
1924. BIRD, R., Batu Pahat, Johore.
1926. BIRKINSHAW, F., Department of Agriculture, Kuala Lumpur, Selangor.
1908. \*BISHOP, MAJOR C. F.
1922. BISHOP, D. A., Raffles Institution, Singapore.
1923. \*BLACK, J. G., c/o Colonial Secretariat, Singapore.
1921. BLACK, MAJOR K., General Hospital, Singapore.
1926. BLACKBURN, H. K., Malim Nawar South Ltd., Malim Nawar, Perak.
1923. \*BLACKER, DR. G. O., "Sentosa," Brooklands Road Sale, Manchester, England.
1929. BLAGG, F. O., Kuching, Sarawak.
1884. BLAND, R. N., C.M.G., 25, Earl's Court Square, London, S.W.5, England. (Council, 1898-1900; Vice-President, 1907-9).
1921. BLASDELL, REV. R. A., Anglo-Chinese School, Seremban, Negri Sembilan
1926. BLOOMFIELD, C. W., Education Department, Alor Star, Kedah
1925. BLYTHE, W. L., Chinese Protectorate, Johore
1926. \*BOSWELL, A. B. S., Forest Department, Taiping, Perak.
1910. BOULT, F. F., The Residency, Kuching, Sarawak.
1930. BOULTER, R., C.M.G., Fullerton Building, Singapore.
1919. \*BOURNE, F. G., Coroner's Office, Singapore.
1921. BOYD, R., Co-operative Societies Department, Penang.
1928. BOYD, MR. JUSTICE T. STIRLING, Kuching, Sarawak.
1919. \*BOYD, W. R., Colonial Secretariat, Singapore.
1913. BRADDELL, R. ST. J., Braddell Bros., Singapore.
1926. BRETHERTON, E. H. S., c/o Lloyds Bank Ltd., 6, Pall Mall, London, England.
1897. BROCKMAN, SIR E. L., c/o F. M. S. Agency, Cockspur Street, London, England
1926. BROOKS, A. C., Government Analyst's Office, Singapore.
1915. \*BROWN, C. C., Taiping, Perak. (Vice-President, 1925).
1910. BROWN, D. A. M., Glugor, Penang.
1913. \*BRYAN, J. M., Borneo Co., Ltd., 28, Fenchurch Street, London, England.

1887. BRYANT, A. T., The Moorings, Falmouth, Cornwall, England. (Council, 1907-10; Vice-President, 1912, 1914-16).
1926. BUCKLE, MISS D. M., o.B.E., Raffles Girls School, Singapore.
1926. \*BURTON, W., Judge's Chambers, Ipoh, Perak.
1921. BUTTERFIELD, H. M., Alor Star, Kedah.
1913. \*CALDECOTT, A., c.B.E., Post Office, Kuala Lumpur, Selangor.
1925. CALLENFELS, DR. P. VAN STEIN, Madiun, Ponorogo, Java.
1926. CARDON, REV. FR. R., Taiping, Perak.
1926. CARDWELL, H. F., Tangkah Estate, Tangkah, Johore.
1925. CAREY, H. R., Francis Light School, Penang.
1924. CARR, C. E., Tembeling, Pahang.
1927. CARROLL, A. F., Forest Office, Kuala Lipis, Pahang.
1921. \*CAVENDISH, A., Kuala Lumpur, Selangor.
1926. CHAN SZE ANN, 64, Market Street, Singapore.
1926. CHARTER, J. R. N., Forest House, Seremban, Negri Sembilan.
1921. CHASEN, F. N., Raffles Museum, Singapore. (Council, 1925; Hon. Secretary, 1927- ).
1924. \*CHEESEMAN, H. R., Education Department, Johore Bahru, Johore.
1926. CHELLIAH, D. D., Anglo Chinese School, Penang.
1913. \*CHOO KIA PFNG, Kuala Lumpur, Selangor.
1913. CHULAN, HON. RAJA DE HILIR, c.M.G., Kuala Kangsar, Perak
1927. CLARK, B. F., c/o Adamson Gilfillan & Co., Pontianak, W. Borneo.
1921. CLARK, H. T., Education Office, Singapore.
1926. \*CLARKE, G. C., "Tilton," 14, Gallop Road, Singapore.
1929. CLARKE, W. L., Sibul, Sarawak.
1930. CLARKSON, S. W., Sanglop Estate, Batu Gajah, Perak.
1921. CLAYTON, G. E., c/o Supreme Court, Singapore.
1926. CLAYTON, R. J. B.
1911. \*CLAYTON, T. W., Alor Star, Kedah.
1925. CLEGG, R. P., Kuala Selangor.
1917. CLIFFORD, G. F. W., Lawas (Sarawak) Rubber Estates, Ltd., Lawas, Labuan.
1929. COBDEN-RAMSAY, A. B., Secretariat, Penang.
1922. COCHRANE, HON. MR. C. W. H., c.M.G., Federal Secretariat, Kuala Lumpur, Selangor.
1922. COE, CAPT. T. P., Kota Bharu, Kelantan.
1926. COLEMAN, C. G., High School, Malacca.
1920. \*COLLENETTE, C. L., Gothic Lodge, Woodford Green, Essex, England. (Council, 1922).
1926. COLLINS, G. E. P., Killaloe, Wroxham, Norwich, England.

## List of Members

1928. COLOMB, R. E., Forest Department, Telok Anson, Perak.
1926. COMMANDANT, THE, Police Depot, Kuala Lumpur, Selangor.
1926. CONSERVATOR OF FORESTS, F.M.S. and S.S., Kuala Lumpur, Selangor.
1926. COOPE, A. E., Federal Secretariat, Kuala Lumpur, Selangor.
1928. COOPER, B., Survey Department, Batu Gajah, Perak.
1927. COOPER, C. B., Jalan Ah Fook, Johore Bahru, Johore.
1926. COOPER, R. H., The Eastern Smelting Co., Kuala Lumpur, Selangor.
1930. CORBELL, H. E., Eastern Smelting Co., Taiping, Perak.
1929. CORNER, E. J. H., Botanical Gardens, Singapore.
1925. CORRY, W. C. S., Asst. Collector Land Revenue, Kuala Lumpur, Selangor.
1926. COSGRAVE, DR. A. K., Kuala Lumpur, Selangor.
1921. COULSON, N., Kota Bharu, Kelantan.
1921. COWAP, J. C., Government Analyst's Office, Singapore.
1923. \*COWGILL, J. V., Land Office, Kuala Lumpur, Selangor.
1921. CRANNA, GORDON, Young Men's Christian Association, Orchard Road, Singapore.
1921. \*CULLEN, W. G., Bartolome Mitre 559, Buenos Aires, South America.
1925. CULLIN, E. G., 54, Assam Kumbang Road, Taiping, Perak.
1927. CUMMING, C. E., Floral Villa, Ipoh Perak.
1928. CUNNINGHAM, F., Port Dickson, Negri Sembilan.
1923. CURTIS, R. J. F., 333, Thomson Road, Singapore.
1930. DALE, L. S., c/o E. A. Barbour, Ltd., Taiping, Perak.
1929. DALLEY, J. D., Chief Police Office, Johore Bahru, Johore.
1922. DALTON, H. G., "Ivy Court," Royston, Herts, England.
1923. DALTON, N. D., Gadek Estate, Tampin, F.M.S.
1910. \*DALY, M. D., Cleve Hill, Cork, Irish Free State.
1918. \*DAVID, P. A. F., c/o The Crown Agents, 4, Millbank, London, England.
1926. DAVIDSON, J., c/o Caldbeck Macgregor & Co., Kuala Lumpur, Selangor.
1928. DAVIDSON, W. W., c/o Public Works Department, Batu Pahat, Johore.
1925. DAVIES, D. J., Sungei Purun Estate, Semenyih, Selangor.
1927. DAVIES, E. R., Malay College, Kuala Kangsar, Perak.
1927. \*DAWSON, C. W., Colonial Secretariat, Singapore.
1928. DAWSON, W., S. S. Police, Penang.
1923. DAY, E. V. G., Ag. Asst. Adviser, Besut, Trengganu.
1926. DEL TUFO, M. V., Labour Office, Penang.

1922. DENNY, A., Sungei Pe'ek Estate, Sepang, Selangor.  
 1930. DE VOS, A. E. E., Taiping, Perak.  
 1929. DICKINSON, MRS. W. J., Bandoeng, Java.  
 1897. DICKSON, E. A., c/o Mrs. Foster, The Hermitage,  
 Twyford, Hants, England.  
 1921. \*DICKSON, REV. P. L., Long Marston Vicarage, Tring,  
 Herts, England.  
 1927. DODD, G. C., District Court, Singapore.  
 1930. DOHOO, K. G. A., Colonial Secretariat, Singapore.  
 1926. \*DOLMAN, H. C., Forest Office, Kuala Kangsar, Perak.  
 1930. DONLEVY, J., c/o S. Way Dredging, S. Way, Selangor.  
 1923. \*DOSCAS, A. E. Coleman, Department of Agriculture,  
 Kuala Lumpur, Selangor.  
 1922. DRURY, CAPT. F., Bukit Zahara School, Johore Bahru,  
 Johore.  
 1921. DRYBURGH, A. M., Colonial Secretariat, Singapore.  
 1926. DUFF, DR. W. R., 5, Wardie Road, Edinburgh,  
 Scotland.  
 1915. \*DUSSEK, O. T., Sultan Idris Training College, Tanjong  
 Malim, Perak.  
 1922. EBDEN, W. S., Grik, Upper Perak  
 1922. ECKHARDT, H. C., Alor Star, Kedah.  
 1922. EDGAR, A. T., Suffolk Estate, Sitiawan, Perak.  
 1929. EDMETT, L. R. J., Kuching, Sarawak.  
 1927. EDUCATION DEPARTMENT, Alor Star, Kedah.  
 1926. EDWARDES, MAJOR W. A. D., Baling, Kedah.  
 1885. EGERTON, SIR WALTER, Fair Meadow, Mayfair,  
 Sussex, England.  
 1929. EHLERS, R. H., 28, Hurle Crescent, Clifton, Bristol,  
 England.  
 1921. ELDER, DR. E. A., The British Dispensary, Singapore.  
 1922. ELLES, HON. MR. B. W., The Residency, Alor Star,  
 Kedah.  
 1918. ELLIOTT, F. J., Treskelly, Marnhull, Sturminster  
 Newton, Dorset, England.  
 1926. ENSOR, T. D., c/o Messrs. Neill & Bell, 1, Old  
 Market Square, Kuala Lumpur, Selangor.  
 1913. ERMEN, C., c/o Lloyds Bank, Brixham, South Devon,  
 England.  
 1923. \*EU TONG SEN, HON. MR., O.B.E., Sophia Road,  
 Singapore.  
 1924. EVANS, I. H. N., The Museum, Taiping, Perak.  
 (Vice-President, 1926-7; 1928-30).  
 1925. FAIRBURN, HON. MR. H., Stevens Road, Singapore  
 1927. FARRELLY, G. A., Jesselton, British North Borneo.  
 1909. FARRER, R. J., C.M.G., Municipal Offices, Singapore.  
 (Council, 1925-7).  
 1929. FENWICK, C., c/o The Borneo Co., Kuching,  
 Sarawak. (Council, 1912-13).  
 1930. FERGUSON, N. G., Kuala Krai, Kelantan.  
 1911. \*FERGUSON-DAVIE, RT. REV. C. J.

## List of Members

1909. **FERRIER, J. C.**, 28, Fenchurch Street, London, England.
1928. **FINDLAY, C. S.**, Supreme Court, Singapore.
1917. **FINLAYSON, DR. G. A.**, "Changi," West Moors, Dorset, England.
1919. \***FINNIE, W.**, 73, Forest Road, Aberdeen, Scotland.
1925. **FITZGERALD, DR. R. D.**, Johore Bahru.
1926. **FLIPPANCE, F.**, Botanical Gardens, Penang.
1897. \***FLOWER, MAJOR S. S.**, Spencersgreen, Tring, Herts, England.
1928. **FOENANDER, E. C.**, Forest Office, Mentakab, Pahang.
1930. **FORD, C. F.**, North Malay Rubber Estates, Ltd., Ulu Sapetang P. O., Perak.
1926. **FORD, P. B.**, 60, Klyne Street, Kuala Lumpur, Selangor.
1923. **FOREST BOTANIST, THE**, Forest Research Institute, Dehra Dun, U. P. India.
1921. **FORRER, H. A.**, District Court, Kuala Lumpur, Selangor.
1918. \***FOXWORTHY, DR. F. W.**, Forest Department, Kuala Lumpur, Selangor. (Council, 1923, 1926-7).
1921. \***FRASER, F. W.**, The Badminton Club, Piccadilly, London, W. 1, England.
1908. \***FREEMAN, D.**, 16, St. Catherine's Road, Southbourne, Bournemouth, Hants, England.
1926. **FRODA, A. H.**, Ipoh Club, Ipoh, Perak.
1910. \***FROST, MEADOWS**, Dernford Hall, Sweffling, nr. Saxmundham, Suffolk, England.
1912. \***GALLAGHER, W. J.**, U. S. Plantations Inc., Medan, Sumatra.
1917. \***GARNIER, REV. KEPPEL**, Penang.
1923. **GATER, B. A. R.**, College of Medicine, Singapore.
1926. **GATFIELD, W. H.**, Chinese Protectorate, Singapore.
1928. **GEAKE, F. H.**, c/o The Government Analyst, Singapore.
1920. **GEALE, DR. W. J.**, Kuala Krai, Kelantan.
1926. \***GEORGE, J. R.**, The Chartered Bank, Singapore.
1917. \***GERINI, LT. COL. G. C.**
1928. **GILLETT, PROF. E. W.**, Raffles College, Cluny Road, Singapore.
1923. **GILMOUR, A.**, District Office, Kuala Krai, Kelantan.
1902. \***GIMLETTE, DR. J. D.**, Hillside, Upper Weston, Bath, Somerset, England.
1922. \***GLASS, DR. G. S.**, Municipal Offices, Penang.
1928. **GLOVER, A. H.**, Municipal Offices, Malacca.
1918. **GLOYNE, G. B.**, c/o Messrs. Burt Myrtle & Co., Batavia, Java.
1916. **GOODMAN, HON. MR. A. M.**, Chinese Secretariat, Singapore.
1930. **GORDON, A.**, Municipal Offices, Singapore.
1922. **GORDON, T. I. M.**, c/o General Post Office, Singapore.

1920. GORDON-HALL, CAPT. W. A., District Office, Kuala Pilah, Negri Sembilan.
1926. GOSS, P. H., Survey Department, Malacca.
1909. GOULDING, R. R., Survey Department, Johore Bahru, Johore.
1929. GRACIE, A. J., Kuala Trengganu, Trengganu.
1930. GRAHAM, A. C., c/o Perak Club, Taiping, Perak.
1927. GRAHAM, H. GORDON, Sungci Kruit Estate, Sungkai, Perak.
1924. GRAHAM, W. H., Malacca.
1929. GRAY, G. L., Sandakan, British North Borneo
1928. GREAD, R. E., Sitiawan, Lower Perak.
1923. GREEN, DR. P. WITNERS, Johore Bahru, Johore.
1926. GREENE, R. T. B., Institute for Medical Research, Kuala Lumpur, Selangor.
1929. GREGG, J. F. F., c/o Secretariat, Singapore.
1928. GREGSON, CAPT. H. ST. JOHN-RUSSEL-DE LYS, Chartered Bank, Singapore.
1926. GRICE, N., Chinese Protectorate, Johore Bahru, Johore.
1923. GRIEVE, C. J. K., Post Box No. 58, Klang, Selangor.
1911. GRIST, D. H., Department of Agriculture, Kuala Lumpur, Selangor.
1922. GUBBINS, W. H. W., c/o Mansergh & Taylor, Seremban, Negri Sembilan.
1926. GUMMER, W. A., Survey Department, Kulim, Kedah.
1925. GUNN, R. F., Education Department, Penang.
1916. GUPTA, SHIVA PRASAD, Naudansahu Street, Benares City, India.
1923. \*HACKER, DR. H. P., Zoological Department, University College, London, W.C. 1, England.
1923. HAINES, MAJOR O B, S. O. S. Estate, Selama, Perak.
1923. HAKE, H. EGDMONT, Barker & Co., Ltd, Kuala Lumpur, Selangor.
1923. HALFORD, SIDNEY, Construction Department, F.M.S. Railways, Kuala Lumpur, Selangor.
1927. HALL, A. S., c/o Gammon & Hall, Ltd., Taiping, Perak.
1914. HALL, J. D., Colonial Secretariat, Singapore. (Council, 1924, 1926-8; 1930-).
1911. \*HALLIFAX, F. J., Oakwood, Brampton, Cumberland, England.
1915. HAMILTON, A. W., c/o Police Office, Singapore. (Vice-President, 1922, 1925, 1929-30).
1918. HAMPSHIRE, A. K. E., Kuala Lumpur, Selangor.
1922. HAMPSHIRE, D.H., c/o Boustead & Co., Ltd., Kuala Lumpur, Selangor.
1924. HAMZAH BIN ABDULLAH, Land Office, Kuala Lumpur, Selangor.
1923. HANCOCK, A. T., 22-2, Tanglin Road, Singapore.
1922. HANITSCH, P. H. V., Public Works Dept., Alor Star, Kedah.

1922. HARROWER, PROF. G., Medical College, Singapore.  
 1921. HART, DR. H. H., 328, Post Street, San Francisco, U.S.A.  
 1921. HASHIM, CAPT. N. M., Parit Buntar, Perak.  
 1926. \*HASTINGS, W. G. W., 56, Klyne Street, Kuala Lumpur, Selangor.  
 1921. HAWKINS, G., The Secretariat, Kuala Lipis, Pahang.  
 1925. HAY, A. W., Chinese Protectorate, Singapore.  
 1919. HAY, M. C., Kemaman, Trengganu.  
 1921. HAYES, L. J., Fraser & Co., Singapore.  
 1904. \*HAYNES, A. S., Federal Secretariat, Kuala Lumpur, Selangor. (Council, 1920).  
 1928. HEAH JOO SEANG, c/o Hin Giap Co., 195, Victoria Street, Penang.  
 1930. HEATH, R. G., Agricultural Department, Kuala Lumpur, Selangor.  
 1922. HELINGS, G. S., Estate Duty Officer, Kuala Lumpur, Selangor.  
 1926. HELPS, A., Alor Star Kedah c/o S.  
 1923. HEMMANT, G., C.M.G., c/o Secretariat, Nigeria.  
 1926. HENDERSON, CAPT. A. M., Sandala Estate, Sandakan, British North Borneo.  
 1921. HENDERSON, M. R., Botanical Gardens, Singapore. (Council, 1928; Hon. Treasurer, 1928-).  
 1917. HEREFORD, G. A., 20, Circular Road, Kuala Lumpur, Selangor.  
 1927. HIROD, E. J., c/o The Hongkong & Shanghai Bank, Singapore.  
 1926. HERON, F. R., Singapore Cold Storage Co., Singapore.  
 1929. HERRING MRS. J. M., c/o The Manager, Scarborough Estate, Sungei Patani, Kedah.  
 1923. \*HICKS, E. C., Education Department, Alor Star, Kedah.  
 1878. HILL, E. C., 26, Highfield Hill, Upper Norwood, London, England.  
 1922. HILL, W. C., Singapore Oil Mills, Ltd., Havelock Road, Singapore.  
 1922. HINDE, C. T., Mersing, Johore.  
 1927. HIS MAJESTY'S STATIONERY OFFICE, Princes Street, Westminster, S.W.1, London, England.  
 1923. \*HODGSON, D. H., Forest Department, Kuala Lumpur, Selangor.  
 1930. HOGBIN, C. J., Valleyside Estate, P. O. Batang Malacca, Malacca.  
 1921. HOLGATE, M. R., c/o Education Department, Malacca.  
 1926. HOLL, E. S., Kuching, Sarawak.  
 1923. HOLLAND, A. D., Kapoewas Rubber Co., Ltd., Sungei Dekan, Pontianak, Borneo.

1922. **HOLTUM, R. E.**, Botanical Gardens, Singapore (Hon. Treasurer, 1923-6, 1928; Vice-President, 1929-).
1921. **HOOPS, DR. A. L.**, Malacca. (Vice-President, 1930-).
1897. **HOSE, E. S., c.m.g.**, The Manor House, Normandy, Guildford, England. (Vice-President, 1923, 1925; President, 1924).
1926. **HOWITT, C. R.**, c/o Secretariat, Singapore.
1923. **HOWL, CAPT. F. W.**, c/o Federal Secretariat, Kuala Lumpur, Selangor.
1930. **HOWMAN, CAPT. ROSS**, 1/20th Burma Rifles, Taiping, Perak.
1909. **HUBBACK, T. R.**, Sunlaws, Bukit Betong, Kuala Lipis, Pahang.
1922. **HUGGINS, CAPT. J.**, c/o Federal Secretariat, Kuala Lumpur, Selangor.
1909. **HUGHES, J. W. W.**, District Office, Klang, Selangor.
1929. **HUMPHREYS, A.**, Kuching, Sarawak.
1922. **HUNT, CAPT. H. NORTH**, District Office, Kuala Lipis, Pahang.
1921. **HUNTER, DR. P. S.**, Municipal Offices, Singapore.
1929. **HUTCHINSON, DR. H.**, Kuching, Sarawak.
1926. \***INCE, H. M.**, Langkon, British North Borneo.
1930. **INCE, R. E.**, King Edward VII School, Taiping, Perak.
1929. **INGLE, D.**, Kota Belud, via Jesselton, British North Borneo.
1922. **IRVINE, CAPT. R.**, Tampin, Negri Sembilan.
1921. **ISMAIL BIN BACHOK, DATO**, Johore Bahru, Johore.
1926. **ISMAIL BIN HAJI PUTEH**, District Office, Baling, Kedah.
1921. \***IVERY, F. E.**, Alor Star, Kedah.
1926. **JACKSON, A.**, Mansfield & Co., Ltd., Singapore.
1925. **JACQUES, E. V. H.**, Kuching, Sarawak.
1918. \***JAMES, D.**, Goebilt, Sarawak.
1927. **JAMIESON, M.**, c/o Government Analyst, Singapore.
1926. **JEFFERSON, J. P.**, Miri, Sarawak.
1926. **JEFFERSON, J. W.**, Education Office, Clark Street, Kuala Lumpur, Selangor.
1921. \***JERMYN, L. A. S.**, c/o Education Office, Singapore.
1926. **JERVOISE, R. S.**, Krian, Perak.
1910. **JOHNSON, B. G. H.**, Crossways, Littlehampton, Sussex, England.
1925. **JONES, A. E. THORNLEY**, Mansfield & Co., Ltd., Singapore.
1918. \***JONES, E. P.**,
1913. \***JONES, S. W.**, Johore Bahru, Johore.
1919. \***JORDAN, A. B.**, Sanitary Board, Ipoh, Perak.
1930. **JOSEPH, J. D.**, King Edward VII School, Taiping, Perak.

## List of Members

1926. **KAHAR BIN YAMTUAN ANTAH, TENGKU**, Kuala Pilah, Negri Sembilan.
1926. **KASSIM BIN CHE ISMAIL**, State Council Office, Alor Star, Kedah.
1921. **KASSIM BIN SULTAN ABDUL HAMID HALIMSHAH, TENGKU**, Alor Star, Kedah.
1921. **KAY-MOUAT, DR. J. R.**, Medical College, Singapore.
1926. **KFIR, A.**, Education Office, Taiping, Perak.
1926. **KEITH, H. G.**, Forest Department, Sandakan, British North Borneo.
1921. **\*KELLIE, J.**, Dunbar Estate, Neram Tunggal, P. O. Chegar Perah, Pahang.
1913. **KEMPE, J. E.**, Klang, Selangor.
1920. **\*KER, W. P. W.**, Paterson, Simons & Co., Ltd., Singapore.
1920. **\*KERR, DR. A.**, Wireless Road, Bangkok, Siam.
1926. **KHOO SIAN EWE**, 24, Light Street, Penang.
1921. **KIDD, G. M.**, District Office, Tampin, F.M.S.
1920. **KING, E. M.**, Kong Lee (Perak) Plants., Ltd., Bagan Serai, Perak.
1927. **KING, S. E.**, Chinese Protectorate, Singapore.
1926. **KINGSBURY, DR. A. N.**, Medical Institute, Kuala Lumpur, Selangor.
1921. **KITCHING, T.**, Superintendent of Surveys, Trengganu.
1900. **KLOSS, C. BODEN**, Raffles Museum, Singapore. (Council, 1904-8, 1923, 1927-8; Vice-President, 1920-1, 1927, Hon. Secretary, 1923-6; President, 1930).
1915. **KNIGHT, V.**, Fairgreen Cottage, Glemsford, Suffolk, England.
1914. **LAMBOURNE, J.**, Agricultural Department, Kua'a Lumpur, Selangor.
1926. **LAMIN BIN KASSIM**, Police District, Lahat, Perak.
1929. **LANGLADE, BARON FRANCOIS DE**, Budu Estate, Raub, Pahang.
1927. **LAYCOCK, J.**, c/o. Braddell Bros., Raffles Place, Singapore.
1926. **LAYMAN, E. C. H.**, Section Engineers Office, F. M. S. Railways, Kuala Gris, Kelantan.
1923. **\*LEASE, F. E.**, The Shanty, Chislehurst Hill, Chislehurst, Kent, England.
1921. **\*LEE, L. G.**, Ladang Geddes, Bahau, Negri Sembilan.
1922. **\*LEGATE, J.**, Railway Construction, Kuala Lumpur, Selangor.
1913. **\*LEICESTER, DR. W. S.**, Kuantan, Pahang.
1894. **\*LEMON, A. H.**, c.m.c., Hillbrow, Reigate, Surrey, England. (Vice-President, 1916-18).
1920. **LENDRICK, J.**, 30, Norre Alle, Aarhus, Denmark.
1926. **LEONARD, H. G. R.**, THE HON. MR., Treasury, Kuala Lumpur, Selangor.
1925. **\*LEONARD, R. W. F.**, Mansfield & Co., Ltd., Penang.

1926. LEUTHOLD, W. H., Hooglandt & Co., Singapore.  
 1890. LEWIS, J. E. A., Harada 698, Kobe, Japan.  
 1928. LEWIS, T. P. M., Maxwell Road, Ipoh, Perak.  
 1927. LEYH, S. G. H., Government Monopolies, Penang.  
 1922. LEYNE, E. G., c/o The Chartered Bank of India, 38, Bishopsgate, London, England.  
 1915. LIM CHENG LAW, 294, Brick Kiln Road, Penang  
 1925. LINEHAN, W., Asst. Adviser, Kota Bharu, Kelantan.  
 1928. LOCH, C. W., Tronoh Mines, Ltd., Kampar, Perak.  
 1926. LOGAN, S. S., Chartered Bank, Klang, Selangor.  
 1918. LOH KONG IMM, 12, K.a Peng Road, Kuala Lumpur, Selangor.  
 1930. LONDON, G. E., Johore Bahru, Johore.  
 1914. LORNIE, HON. MR. J., c.m.g., The Residency, Kuala Lumpur, Selangor.  
 1922. LOWINGER, V. A., Survey Department, Kuala Lumpur, Selangor.  
 1930. LUCKHAM, H. A. L., District Office, Telok Anson, Perak.  
 1907. \*LYONS, Rev. E. S., c/o Methodist Publishing House, Manila, Philippine Islands.  
 1926. MACASKILL, DR D. C., Kuala Lumpur, Selangor.  
 1920. \*MACBRYAN, G. T. M., Bedil House, Kuching Sarawak.  
 1926. MACDONALD, J., Chartered Bank, Kuala Lumpur, Selangor.  
 1929. MACE, N., Survey Department, Kuching, Sarawak.  
 1910. \*MACFADYEN, F., c/o Sports Club, London, England.  
 1929. MACGREGOR, R. O. C. R., Sentool Estate, Djember, East Java.  
 1920. MACKIE, VIVIAN, Kuala Lumpur, Selangor.  
 1922. MACKNESS, L. R., Kuala Lumpur, Selangor.  
 1921. MACMILLAN, I. C., S. S. Police, Singapore.  
 1930. MACNAUGHT, W. E., Game Warden's Office, Taiping, Perak.  
 1930. MADDEN, L. J. B., Taiping, Perak.  
 1918. MADGE, RAYMOND, Kuala Lumpur, Selangor.  
 1929. MAHMUD BIN JINTAN, Malay College, Kuala Kangsar, Perak.  
 1924. MAHMUD BIN MAT, District Office, Kuala Lipis, Pahang.  
 1903. MAKEPEACE, W., 22, Holmes Grove, Henleaze, Bristol, England. (Council, 1914, 1916, 1920; Hon. Librarian, 1909-12; Vice-President, 1917; Hon. Secretary, 1918-19).  
 1928. MALACCA LIBRARY, The, Malacca.  
 1926. MALAY COLLEGE, The, Kuala Kangsar, Perak.  
 1927. MALLESON, B. K., Sungei Kruit Estate, Sungkai, Perak.  
 1921. MANCHESTER, H. L., Municipal Offices, Singapore.  
 1916. MANN, W. E., c/o Burt Myrtle & Co., Batavia, Java.  
 1929. MARJORIBANKS, DR. E. M., Kuching, Sarawak.

1907. \*MARRINER, J. T., Pantiles, Frinton, Essex, England.  
 1926. MARSDEN, H., Institute for Medical Research, Kuala Lumpur, Selangor.  
 1920. MARSH, W., Municipal Offices, Singapore. (Council, 1929).  
 1927. MARSHALL, A. O., Borneo Motors, Ltd., Kuala Lumpur, Selangor.  
 1925. \*MARTIN, W. M. E., 12, Norham Road, Oxford, England.  
 1923. MARTYN, C. D., Jesselton, British North Borneo.  
 1921. MATHER, N. F. H., Federal Secretariat, Kuala Lumpur, Selangor.  
 1926. MATTHEWS, J. J., Krubong Estate, Alor Gajah, P. O., Malacca.  
 1921. MAXWELL, C. N., Sitiawan, Perak.  
 1922. MAY, P. W., c/o Spicers Export, Ltd., 51, Robinson Road, Singapore.  
 1914. MEAD, J. P., Batu Gajah, Perak.  
 1928. MEE, B. S., Forest Department, Kuala Lumpur, Selangor.  
 1927. MEGAT YUNUS BIN ISA, Land Office, Telok Anson, Perak.  
 1928. MEYER, L. D., Revenue Surveys, Taiping, Perak.  
 1926. MIDDLEBROOK, S. M., Chinese Protectorate, Singapore.  
 1926. \*MILES, HON. MR. C. V., Rodyk & Davidson, Singapore.  
 1926. MILLAR, G. R. M., Tranquerah, Malacca.  
 1925. MILLER, G. S., Mansfield & Co., Ltd., Penang.  
 1921. MILLER, J. I., Registrar General of Statistics, Singapore.  
 1926. MILLINGTON, W. M., The Residency, Kuala Trengganu, Trengganu  
 1925. MILLS, G. R., Kinta Kellas Estate, Batu Gajah, Perak.  
 1926. MILLS, J. V., Solicitor General's Chambers, Singapore. (Council, 1929—30).  
 1924. MILLS, L. L., Kuala Lipis, Pahang.  
 1925. MILNE, CHARLES, Lendu Estate, Alor Gajah, Malacca.  
 1919. MISSIONARY RESEARCH LIBRARY, 3041, Broadway, New York City, New York, U.S.A.  
 1924. MOHAMED IBNI SULTAN ABDUL HAMID HALIMSHAH, Tengku, Alor Star, Kedah.  
 1922. MOHAMED ISMAIL MERICAN BIN VAFOO MERICAN NOORDIN, Legal Adviser's Office, Alor Star, Kedah.  
 1927. MOHAMED NOOR BIN MOHAMED, Free School, Penang.  
 1922. MOHAMED SAID, MAJOR DATO HAJI, Bukit Timbalan, Johore.  
 1921. MOHAMED SALLEH BIN ALI, DATO, Johore Bahru, Johore.  
 1921. MOHAMED SHERIFF BIN OSMAN, Land Office, Alor Star, Kedah.  
 1920. MONK, H. T., Alor Star, Kedah.

1926. MONTGOMERY, A., Kota Bharu, Kelantan.  
1926. MOONSHI, DR. H. S., Moonshi Dispensary, 742, North Bridge Road, Singapore.  
1921. MORGAN, S., c/o The Chartered Bank of India, 38, Bishopsgate, London, England.  
1926. \*MORICE, JAMES.  
1920. \*MORKILL, A. G.  
1920. \*MOWBRAY, G. A. de C., Commissioner of Land, Trengganu.  
1930. MOYSEY, MAJOR L. LEWIS, Gopeng Consolidated Ltd, Gopeng, Perak.  
1926. MUMFORD, E. W., Police Department, Ipoh, Perak.  
1915. \*MUNDELL, H. D., c/o Sisson & Delay, Singapore.  
1930. MURDOCH, DR. J. W., Mental Hospital, Tanjong Rambutan, Perak.  
1930. MURPHY, H. J., c/o District Office, Temerloh, Pahang.  
1913. MURRAY, REV. W., Gilstead Road, Singapore.  
1909. McARTHUR, M. S. H., c/o The Crown Agents, 4, Millbank, London, England.  
1920. McCABE, DR. J. B., Kapoewas Rubber Estate, Sungei Dekan, Pontianak, Borneo.  
1923. McKERRON, P. A. B, Brunei, Borneo.  
1921. McLEOD, D., King Edward VII School, Taiping, Perak.  
1917. NAGLE, Rev. J. S., 2732, N. Calvert Street, Baltimore, Md., U.S.A.  
1922. NASH, G. H., Magistrate's Court, Kuala Lumpur, Selangor.  
1926. NEAVE, J. R., Assistant Adviser, Kota Tinggi, Johore.  
1926. NEIL, W. H. E, Kuala Lipis, Pahang.  
1921. NEILSON, J. B., Inspector of Schools, Malacca.  
1928. NOBLE, C., Assistant Superintendent of Surveys, Trengganu.  
1906. NUNN, B., Galphay Manor, Ripon, England. (Council, 1922).  
1911. O'May, J., c/o Harrisons & Crosfield Ltd., 1-4, Great Tower Street, London, England.  
1916. ONG BOON TAT, 51, Robinson Road, Singapore.  
1923. OPIE, R. S., 12, Treacher Road, Kuala Lumpur, Selangor.  
1921. ORCHARD, H. A. L., Chinese Free School, Cecil Street, Singapore.  
1920. O'SULLIVAN, T. A., Education Office, Kuala Lumpur, Selangor.  
1913. OVERBECK, H., c/o Behn Meyer & Co., Ltd., Sourabaya, Java.  
1925. OWEN, A. T., Bukit Batu Estate, Tampin, Negri Sembilan.  
1929. PAGDEN, H. T., Agricultural Department, Kuala Lumpur, Selangor.  
1919. PARK, MUNGO, P. O. Delivery 19, Kuala Lumpur, Selangor.

1908. \*PARR, C. W. C., C.M.G., O.B.E., Parrisees Hayne, Howley, nr. Chard, Somerset, England. (Vice-President, 1919).
1926. PARRY, B. B., Cia Mexicana Petroleo "El Aguila" S.A., Puerto Mexico, Mexico.
1921. \*PATERSON, MAJOR H. S., c/o The Crown Agents, 4, Millbank, London, England.
1926. PEALL, G. T., c/o The District Court, Singapore.
1928. PEASE, R. L., Tarsus Estate, Port Dickson, Negri Sembilan.
1921. PEDLOW, J., Deputy Public Prosecutor's Office, Singapore.
1922. PEEL, H. E. SIR W., C.M.G., Government House, Hongkong.
1928. PENANG FREE SCHOOL, Green Lane, Penang.
1926. PENANG LIBRARY, Penang.
1921. \*PENDLEBURY, H. M., Selangor Museum, Kuala Lumpur, Selangor.
1926. \*PENGILLEY, E. E., District Office, Pasir Puteh, Kelantan.
1924. PENNEFATHER-EVANS, J.P., F.M.S. Police, Kuala Lumpur, Selangor.
1925. \*PENRICE, W., Mansfield & Co., Ltd., Singapore.
1914. PEPYS, W. E., c/o Federal Secretariat, Kuala Lumpur, Selangor.
1920. PESKETT, A. D., African Direct Telegraph Co., Free Town, Sierre Leone
1920. PETERS, E. V., c/o Yukon Gold, Ampang, Selangor.
1929. PHILIPS, W. J., c/o The District Office, Sandakan, British North Borneo.
1925. PIJPER, DR G F., Weltevreden, Java.
1927. PITT, ISAAC, Brieh Estate, Bagan Serai, Perak.
1921. \*PLUMMER, W. P., The Observatory, Bidston, Birkenhead, England.
1928. POWELL, I. B., Llanfihangel, Talyllyn, Breconshire, Wales.
1924. PURCELL, V. W. W. S., Chinese Protectorate, Singapore.
1926. PURDOM, MISS N., Education Office, Kuala Lumpur, Selangor.
1906. PYKETT, REV. G. F., 5, Logan Road, Penang.
1926. QUAH BENG KEE, 15, China Street, Penang.
1926. RAE, CECIL, Ipoh, Perak.
1924. RAJA MUDA of Perak, Telok Anson, Perak.
1929. RAJA RAZMAN BIN RAJA ABDUL HAMID, Kuala Kangsar, Perak.
1926. RAJA YA'ACOB BIN JAAFAR, Kinta Sanitary Board, Ipoh, Perak.
1924. RAMBAUT, A. E., Forest Department, Kuala Lumpur, Selangor.
1924. RASMUSSEN, H. C., c/o East Asiatic Co., Singapore.
1917. RATTRAY, DR. M. J., c/o Europe Hotel, Singapore.

1916. RAYMAN, L., Kuala Trengganu, Trengganu.
1926. \*REAY, MR. JUSTICE J. McCABE, 29, Crystal Palace Park Road, Sydenham, S.E. 26, England.
1924. REED, J. G., Klang, Selangor.
1910. \*REID, DR. ALFRED, Kuala Lumpur, Selangor.
1926. RENNIE, A. A., Kuching, Sarawak.
1930. RENTSE, A., Kuala Hau Estate, Kelantan.
1921. \*REX, MARCUS, Kuala Lumpur, Selangor.
1930. REYNOLDS, L. N., Kuching, Sarawak.
1915. RICHARDS, H. E. MR. A. F., Government House, Jesselton, British North Borneo. (Council, 1923, 1926—7, 1929).
1929. RICHARDS, D., c/o The Sanitary Board, Taiping, Perak.
1926. \*RIGBY, W. E., c/o The Chartered Bank, Singapore.
1929. ROBERTS, C. W., Lumut, The Dindings.
1912. ROBERTSON, J., c/o W. H. Rose, Esq., Burgh House, Burgh, Woodbridge, Suffolk, England.
1926. ROBINSON, F., Alor Star, Kedah.
1911. \*ROBINSON, H., 55, St. George's Square, London, S.W.1, England. (Council, 1916-20; Vice-President, 1922-3).
1926. ROBINSON, P. M., c/o The Eastern Smelting Co., Ltd., Penang.
1928. ROCHE, F. R., Rubber Estates of Krian, Ltd., Bagan Samak, Kedah.
1916. ROGERS, A., Public Works Department, Singapore.
1921. ROSS, E. A., Singapore.
1917. \*ROWLAND, W. R., Schloss Kalling, Post Moosen a.d. Bils, Oberbayern, Germany.
1922. RUSSELL, D. J. A., Kuala Lumpur, Selangor.
1924. SAMAH BIN HAJI ALI, Pekan, Pahang.
1926. SANGER-DAVIES, A. E., Forest Office, Taiping, Perak.
1923. \*SANSOM, C. H., Police Headquarters, Kuala Lumpur, Selangor.
1919. \*SANTRY, D., c/o Swan & Maclaren, Singapore.
1896. \*SAUNDERS, C. J., The Lawn, Barcombe Mills, nr. Lewes, Sussex, England. (Vice-President, 1910-11, 1914-15; President, 1916-18).
1923. SAVAGE, H. E., Geological Survey Department, Batu Gajah, Perak.
1926. SAYID JAN BIN SAYID ASGAR ALI, Government English School, Sungei Patani, Kedah.
1922. SAYID MOHAMED IDID BIN ALI IDID, Alor Star, Kedah.
1926. SAYID SHAIDALI, Government English School, Batu Gajah, Perak.
1921. SCHIDER, DR. R., Miri, Sarawak.
1926. SCOTT, MISS A. M., Sehtosa Hall, Singapore.
1929. SCOTT, HON. MR. JOHN, C.M.G., The Colonial Secretariat, Singapore.
1920. \*SCOTT, DR. WAUGH, Sungei Siput, Perak.

1906. SCRIVENOR, J. B., Batu Gajah, Perak. (Vice-President, 1922, 1924, 1926-30).
1915. \*SEE TIONG WAH, Balmoral Road, Singapore.
1922. SEHESTED S., Chartered Bank, Penang.
1927. \*SELLS, H. C., Satuan, Burnham, Buckinghamshire, England.
1923. SHEARN, E. D., c/o Pooley & Co., Klyne Street, Kuala Lumpur, Selangor.
1926. SHEFFIELD, J. N., Topographical Surveys, Taiping, Perak.
1927. SHEFFIELD, W. D., Tanjong Pau Estate, Jitra, Kedah.
1923. SHEIKH ABDULLAH BIN YAHYA, CAPT., Bukit Timbalan, Johore.
1925. SHELLEY, HON. MR. M. B., c/o Colonial Secretariat, Singapore. (Council, 1930-).
1929. SHEPPARD, M. C FFRANCK, Carcosa, Kuala Lumpur, Selangor.
1924. SIME, F. D., Bukit Lintang Estate, Malacca.
1926. SIMMONS, HON. MR. J. W., British Residency, Taiping, Perak.
1921. SIMPSON, P., Presgrave & Mathews, Penang.
1927. SIMPSON-GRAY, L. C, Labour Office, Ipoh, Perak.
1909. \*SIMS, W A., The Lodge, Gander Green Lane, Cheam, Surrey, England.
1928. SIVAM, M. S., District Office, Miri, Sarawak.
1926. SKINNER, C. F, Beaufort, Jesselton, British North Borneo.
1921. SKRINE, W. F. de V., c/o The Chartered Bank, Singapore.
1926. \*SLEEP, A., Kuala Selangor, Selangor
1929. SLOAN, T. I., c/o The British Borneo Timber Co., Sandakan, British North Borneo
1922. SMALL, HON. MR. A. S., Treasury, Singapore.
1922. SMART, DR A. G. H., Senior Health Officer, Perak
1924. SMEDLEY, N., Raffles Museum, Singapore (Hon. Treasurer, 1926-7; Asst. Hon Secretary, 1928-9).
1928. SMITH, A. ST. ALBAN, Seletar, Singapore.
1930. SMITH, DR. A., W. H., Central Mental Hospital, Tanjong Rambutan, Perak
1929. SMITH, C. R., Sandakan, British North Borneo.
1912. SMITH, PROF. HARRISON W., Papeari, Tahiti, Society Islands.
1924. SMITH, J. D., MAXWELL, Temerloh, Pahang.
1929. SMITH, I. H., Bruas Rubber Co., Ltd., Bruas, Perak.
1929. SMITH, W. T. H., Kuching, Sarawak.
1929. SMYTHE, H. W. ST. AUBYN, Pundut Estates, Pundut, Dindings.
1930. SOANG, A. I. C., Batoe Doelang Estate, HPk Semarangkai, Pontianak, Borneo.
1928. SOLLIS, C. G., Inspector of Schools, Penang.

List of Members

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1910. SONG ONG SIANG, HON. MR., C.B.E., Aitken & Ong Siang, Singapore.
1921. SOUTH, F. W., Department of Agriculture, Kuala Lumpur, Selangor.
1921. SPEERS, W. E., "San Souci" House, Larne, Co-Antrim, Ireland.
1925. SPROULE, HON. MR. JUSTICE P. J., Supreme Court, Penang.
1927. STAINES, E. A., General Post Office, Kuala Lumpur, Selangor.
1928. STANTON, W. A., Brooklands Estate, Banting, Selangor.
1925. STARK, W. J. K., Labour Office, Kuala Lumpur, Selangor.
1929. STEPHENSON, E. F., Electrical Inspector, Ipoh, Perak.
1926. STEVENS, E. H., c/o The British American Tobacco Co., Ltd., Keppel Road, Singapore.
1920. STEVENS, HON. MR. JUSTICE F. G., Supreme Court, Singapore. (Council, 1914-15).
1910. \*STILL, A. W.,
1917. \*STIRLING, W. G., Chinese Protectorate, Singapore, (Council, 1923-5, 1927-9).
1928. STOOKES, DR. V. A., Sandakan, British North Borneo.
1921. STOWELL, DE LA M., Victoria Institution, Kuala Lumpur, Selangor.
1930. STRAHAN, A. C., Victoria Institution, Kuala Lumpur, Selangor.
1926. STREET, A. C., 13, Palm Bungalow, Kuching, Sarawak.
1926. STROUTS, E. A., Forest Department, Kuala Lumpur, Selangor.
1927. STRUGNELL, E. J., Forest Office, Kuala Lumpur, Selangor.
1910. STURROCK, A. J., Sanitary Board, Kuala Lumpur, Selangor. (Vice-President, 1924).
1930. SUEUR, R. E. LE. Kuching, Sarawak.
1926. SULTAN IDRIS TRAINING COLLEGE, Tanjong Malim, Perak.
1927. SUNGEI PATANI GOVERNMENT ENGLISH SCHOOL, Sungei Patani, Kedah.
1912. SWAYNE, J. C., Sarawak.
1923. SWORDER, G. H., Taiping, Perak.
1918. \*SYKES, G. R., Chinese Protectorate, Kedah.
1930. SYMINGTON, C. F., Forest Research Institute, Kepong, Selangor.
1929. TAIT, W. G., Kuching, Sarawak.
1925. TALALLA, H. B., 12, Perak Road, Kuala Lumpur, Selangor.
1927. TALLACK, C. C., Silimponon, East Coast Residency, British North Borneo.

1908. TAN CHENG LOCK, HON. MR., 59, Heeren Street, Malacca.
1926. \*TAN SOO BIN, 9, Boat Quay, Singapore.
1929. TATHAM, T. P. H., Budu Estate, Raub, Pahang.
1913. TAYLER, C. J., Telok Manggis Estate, Sepang, Selangor.
1928. \*TAYLOR, E. N., Bankruptcy Department, Singapore.
1925. TAYLOR, W. R., Maclaine Watson & Co., Batavia, Java.
1926. TEMPLETON, T. V., Alor Star, Kedah.
1926. TERMANSEN, V., Kuala Hau, Kelantan.
1921. TERRELL, A. K. A. B., Presgrave & Mathews, Penang.
1929. TERRY, R. A., Survey Department, Kuala Trengganu, Trengganu.
1927. THILLAIMUTHU, S., Kennedy Burkill & Co., Ltd., Ipoh, Perak.
1921. \*THOMAS, L. A., Chief Police Office, Singapore.
1926. THOMAS, T. J., 17, Fort Terrace, Malacca.
1923. THORNE, HON. MR JUSTICE W. H., Ipoh, Perak.
1930. TIVY, L. W., Katoyang Estate, Tanjong Malim, Perak.
1926. TOYO BUNKO, 26, Kami-Fujimayecho, Hongo, Tokyo, Japan.
1930. TRATHEN, R., Sime Darby & Co., Ltd., Malacca.
1930. TREEBY, J. W. C., Tanjong Rambutan, Perak.
1930. TURNER, H. G., c/o Secretary to the High Commissioner, Government Offices, Singapore.
1923. UNDANG OF KEMBAU, THE, Rembau, Negri Sembilan.
1930. UNIVERSITY LIBRARY, TRIF, University of Rangoon, Rangoon, Burma.
1925. VENABLES, O. E., Seremban, Negri Sembilan.
1928. VERNON, DR G H., Thursday Island, Australia.
1927. VETHAVANAM, J. R., Bungsar Road, Kuala Lumpur, Selangor.
1926. \*WADDELL, MISS M. C., Government Girls School, Alor Star, Kedah.
1922. WALKER, E. G., c/o United Engineers, Ltd., Singapore.
1926. WALKER, H. HOPSON, Klang, Selangor.
1926. \*WALLACE, W. A., Revenue Surveys, Taiping, Perak.
1930. WALTERS, G. J., Kuching, Sarawak.
1921. WALTON, B. S., Land Office, Malacca.
1923. WAN IDRIS BIN IBRAHIM, Muar, Johore.
1927. WATSON, E. L., Kuala Lumpur, Selangor.
1917. WATSON, J., Education Office, Kuala Lumpur, Selangor.
1916. WATSON, J. G., Forest Research Institute, Kepong, Selangor.
1916. WATSON, SIR MALCOLM, Ross Institute, Putney Heath, London, England.
1930. WATSON-HYATT, R. D., Clifford School, Kuala Kangsar, Perak.
1930. WELLER, H. R., c/o The Hongkong Bank, Singapore.

1926. WHEATLEY, M., Victoria Institution, Kuala Lumpur, Selangor.
1926. WHEELER, L. R., c/o Royal Empire Society, London, W.C.2, England.
1927. WHITE, REV. GRAHAM, Parsonage, Ipoh, Perak.
1923. WHITFIELD, L. D., Education Office, Muar, Johore.
1929. WHYTE, R. P., Posts and Telegraphs Dept., Kuala Lumpur, Selangor.
1926. \*WILCOXSON, W. J., c/o The Straits Trading Co., Ltd., Singapore.
1926. WILHELM, DR. O., 114, Mittlere Strasse, Basel, Switzerland.
1923. WILKINSON, H. B., 65, Harcourt Terrace, London, S.W.10, England.
1920. \*WILKINSON, R. J., C.M.G., Poste Restante, Mitylene, Greece.
1926. \*WILLAN, T. L., Gopeng Road, Batu Gajah, Perak.
1921. WILLBOURN, E. S., Batu Gajah, Perak.
1926. WILLIAMS, A., District Office, Dindings.
1921. WILLIAMS, E. T., Colonial Secretariat, Singapore.
1922. \*WILLIAMS, F. L., Chinese Protectorate, Singapore.
1929. WILLIAMS, G. C. G., Singapore Club, Singapore.
1921. WILLIAMS, R. M., Paterson Simons & Co., Ltd., Singapore.
1927. WILLIAMSON, PROF. K. B., Tana Rata, Cameron's Highlands *via* Tapah.
1925. WILSON, C., Labour Office, Kuala Lumpur, Selangor.
1910. \*WINKELMANN, H.,
1923. WINSON, V. H., Office of the Senior Engineer, P. & T. Department, Penang.
1904. WINSTEDT, THE HON. DR. R. O., C.M.G., D.LITT., Education Office, Singapore. (Vice-President, 1914-15, 1920-1, 1923-5, 1928; President, 1927, 1929).
1927. WOOD, D. D., Sandakan, British North Borneo.
1908. \*WOOD, E. G., c/o King & Co., 65, Cornhill, London, England.
1913. WOOD, W. L., Istana Gardens, Johore Bahru, Johore.
1920. WOOLLEY, G. C., Sandakan, British North Borneo.
1927. WOOLLEY, J. B., "Harbledown," Cambridge Road, Great Shelford, Cambridge, England.
1922. WORLEY, N. A., Education Office, Kuala Lumpur, Selangor.
1905. \*WORTHINGTON, A. F., (Vice-President, 1924).
1921. WURTZBURG, MAJOR C. E., Mansfield & Co., Ltd., Singapore. (Council, 1924-6; 1930; Hon. Secretary, 1915; Vice-President, 1927, 1929).
1914. WYLY, A. J., Lebong Donok, Moeara Aman, Sumatra.
1923. WYNNE, M. L., Police Office, Kuala Lumpur, Selangor.

## List of Members

1926. YAHYA BIN AHMAD AFIFI, 70, The Arcade,  
Singapore.
1923. \*YATES, H. S., Rt. 5, Box 114, Santa Rosa, California,  
U.S.A.
- 1917 \*YATES, MAJOR W. G.,
1920. \*YEW DALL, CAPT. J. C., c/o Lloyds Bank, 6, Pall  
Mall, London, W.1, England.
1927. YOUNG, C. G., Byram Estate, Nibong Tebal, Prov.  
Wellesley.
1904. \*YOUNG, H. S., Rosemount, Tain, Rosshire, England.
1920. ZAINAL ABIDIN BIN AHMAD, Sultan Idris Training  
College, Tanjong Malim, Perak.

**RULES**  
of  
**The Malayan Branch**  
of the  
**Royal Asiatic Society.**

**I. Name and Objects.**

1. The name of the Society shall be 'The Malayan Branch of the Royal Asiatic Society.'
2. The objects of the Society shall be:—
  - (a) The increase and diffusion of knowledge concerning British Malaya and the neighbouring countries.
  - (b) the publication of a Journal and of works and maps
  - (c) the acquisition of books, maps and manuscripts.

**II. Membership.**

3. Members shall be of three kinds—Ordinary, Corresponding and Honorary.
4. Candidates for ordinary membership shall be proposed and seconded by members and elected by a majority of the Council.
5. Ordinary members shall pay an annual subscription of \$5 payable *in advance on the first of January in each year.*

No member shall receive a copy of the Journal or other publications of the Society until his subscription for the current year has been paid.

Newly elected members shall be allowed to compound for life-membership for \$100; other members may compound by paying \$50, or \$100 less the amount already paid by them as ordinary members in annual subscriptions, whichever of these two sums is the greater. Societies and Institutions are eligible for ordinary membership.

6. On or about the 30th of June in each year the Honorary Treasurer shall prepare and submit to the Council a list of those members whose subscriptions for the current year remain unpaid. Such members shall be deemed to be suspended from membership until their subscriptions have been paid, and in default of payment within two years shall be deemed to have resigned their membership\*

\* BYE-LAW, 1922. "Under Rule 6 Members who have failed to pay their subscription by the 30th June are suspended from membership until their subscriptions are paid. The issue of Journals published during that period of suspension cannot be guaranteed to members who have been so suspended."

7. Distinguished persons, and persons who have rendered notable service to the Society may on the recommendation of the Council be elected Honorary Members by a majority at a General meeting. Corresponding Members may, on the recommendation of two members of the Council, be elected by a majority of the Council, in recognition of services rendered to any scientific institution in British Malaya. They shall pay no subscription; they shall enjoy the privileges of members (except a vote at meetings and eligibility for office) and free receipt of the Society's publications.

### III. Officers.

8. The officers of the Society shall be:—

A President.

Vice-Presidents not exceeding six, ordinarily two each from (i) the Straits Settlements, (ii) the Federated Malay States and (iii) the Unfederated or other Protected States, although this allocation shall in no way be binding on the electors.

An Honorary Treasurer.

An Honorary Secretary.

Five Councillors.

An Assistant Honorary Secretary.

These officers shall be elected for one year at the Annual General Meeting, and shall hold office until their successors are appointed.

9. Vacancies in the above offices occurring during any year shall be filled by a vote of the majority of the remaining officers.

### IV. Council.

10. The Council of the Society shall be composed of the officers for the current year, and its duties and powers shall be:—

(a) to administer the affairs, property and trusts of the Society.

(b) to elect Ordinary and Corresponding Members and to recommend candidates for election as Honorary Members of the Society.

(c) to obtain and select material for publication in the Journal and to supervise the printing and distribution of the Journal.

(d) to authorise the publication of works and maps at the expense of the Society otherwise than in the Journal.

(e) to select and purchase books, maps and manuscripts for the Library.

(f) to accept or decline donations on behalf of the Society.

(g) to present to the Annual General Meeting at the expiration of their term of office a report of the proceedings and condition of the Society.

(h) to make and enforce by-laws and regulations for the proper conduct of the affairs of the Society. Every such bye-law or regulation shall be published in the Journal.

11. The Council shall meet for the transaction of business once a quarter and oftener if necessary. Three officers shall form a quorum of the Council.

### V. General Meetings.

12. One week's notice of all meetings shall be given and of the subjects to be discussed or dealt with.

13. At all meetings the Chairman shall in the case of an equality of votes be entitled to a casting vote in addition to his own.

14. The Annual General Meeting shall be held in February in each year. Eleven members shall form a quorum.

15. (i) At the Annual General Meeting the Council shall present a report for the preceding year and the Treasurer shall render an account of the financial condition of the Society. Copies of such report and account shall be circulated to members with the notice calling the meeting.

(ii) Officers for the current year shall also be chosen.

16. The Council may summon a General Meeting at any time, and shall so summon one upon receipt by the Secretary of a written requisition signed by five ordinary members desiring to submit any specified resolution to such meeting. Seven members shall form a quorum at any such meeting.

17. Visitors may be admitted to any meeting at the discretion of the Chairman but shall not be allowed to address the meeting except by invitation of the Chairman.

### VI. Publications.

18. The Journal shall be published at least twice in each year, and oftener if material is available. It shall contain material approved by the Council. In the first number of each volume shall be published the Report of the Council, the account of the financial position of the Society, a list of members and the Rules.

19. Every member shall be entitled to one copy of the Journal, which shall be sent free by post. Copies may be presented by the Council to other Societies or to distinguished individuals, and the remaining copies shall be sold at such prices as the Council shall from time to time direct.

20. Twenty-five copies of each paper published in the Journal shall be placed at the disposal of the author.

### VII. Amendments of Rules.

21. Amendments to these Rules must be proposed in writing to the Council, who shall submit them to a General Meeting duly summoned to consider them. If passed at such General Meeting they shall come force upon confirmation at a subsequent General Meeting or at an Annual General Meeting.

**Affiliation Privileges of Members.**

*Royal Asiatic Society.* The Royal Asiatic Society has its headquarters at 74 Grosvenor Street, London, W., where it has a large library and collection of MSS. relating to oriental subjects, and holds monthly meetings from November to June (inclusive) at which papers on such subjects are read.

2. By Rule 105 of this Society all the Members of Branch Societies are entitled when on furlough or otherwise temporarily resident within Great Britain and Ireland, to the use of the Library as Non-Resident Members and to attend the ordinary monthly meetings of the Society. This Society accordingly invites Members of Branch Societies temporarily resident in Great Britain or Ireland to avail themselves of these facilities and to make their home addresses known to the Society so that notice of the meetings may be sent to them.

3. Under Rule 84, the Council of the Society is able to accept contributions to its Journal from Members of Branch Societies, and other persons interested in Oriental Research, of original articles, short notes, etc., on matters connected with the languages, archæology, history, beliefs and customs of any part of Asia.

4. By virtue of the aforementioned Rule 105 all Members of Branch Societies are entitled to apply for election to the Society without the formality of nomination. They should apply in writing to the Secretary, stating their names and addresses, and mentioning the Branch Society to which they belong. Election is by the Society upon the recommendation of the Council.

5. The subscription for Non-Resident Members of the Society is 30/- per annum. They receive the quarterly journal post free.

*Asiatic Society of Bengal.* Members of the Malayan Branch of the Royal Asiatic Society, by a letter received in 1903, are accorded the privilege of admission to the monthly meetings of the Asiatic Society of Bengal, which are held usually at the Society's house, 1 Park Street, Calcutta.





*Singapore*

## OLD SINGAPORE.

(PLATE I)

The original of Plate I is an engraving, apparently unpublished, with the title "Singapore" ("C. Graham del., A. H. Payne sculps;").

It was found in a shop in the Hague and is now the property of Mr. A. W. Harries who has kindly given permission for its reproduction.

The size of the plate is 16.5 cm. by 10.8 cm. and it evidently depicts the young settlement of Singapore in the first half of the last century, probably in the late 'thirties or early 'forties from the view point of Fort Canning (then "Government Hill") facing S.E.

The possibility of artists' licence must always be kept in mind and in this case it would almost certainly tend to a simplification of the illustration rather than to the addition of features.

The print seems to show the town in an earlier state of development than another print claiming to represent Singapore in the 'forties.

Prominent features are the Singapore river on the right with the row of godowns already well established on the right bank along Boat Quay.

The Courthouse on the left bank of the river was built in 1826-27 it is well shown in Begbie's view (about 1834) reproduced facing page 240 of Buckley's "Anecdotal History."

The Singapore Institution is prominent in the centre of the picture. its position agrees with a map said to have been made in 1835-38.

But between the Courthouse and the Institution the Armenian Church should be seen unless it is hidden by the trees. The building of this church was started and finished in 1835 and the original building was domed.

The number of ships in the harbour seems large but in Major Low's journal kept during 1840-41 we read, "The absorbing sight here to a well-wisher to his native country, must be the forest of masts which graces the spacious and secure harbour, . . . . . upwards of fifty square-rigged vessels may be seen lying in the harbour, forming the outer line of shipping."

F.N.C.

# RECOLLECTIONS OF CAMERON'S HIGHLANDS AND FRASER'S HILL.

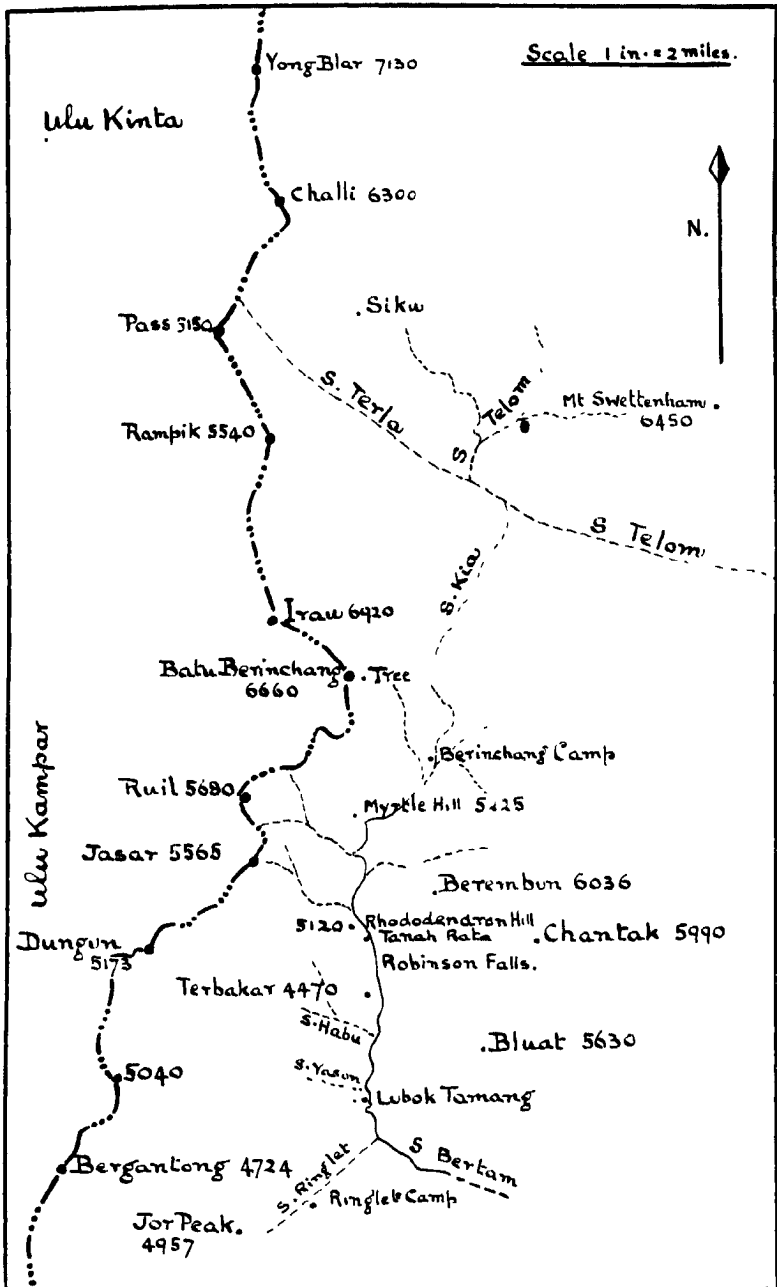
By J. B. SCRIVENOR.

(Plates II—IV and a Sketch Map.)

Fraser's Hill, on the boundary of Selangor and Pahang, is now a well-known and popular hill-station, frequented by residents in all parts of Malaya, many of whom do not know the early history of the place. Cameron's Highlands, farther north and in process of development, are invaded by residents in Perak for week-ends who come down and ask older travellers like myself if they have been there yet. This has happened to me more than once recently, and it may be of some interest if I record my experiences in both these localities, experiences which date from 1904 in the case of Fraser's Hill, and 1906 in the case of the Lubok Tamang area of Cameron's Highlands.

## CAMERON'S HIGHLANDS.

Before I describe my experiences on Cameron's Highlands and my very modest share of pioneer work there I will review briefly and partially only the extraordinary circumstances that led to Cameron's name being bestowed on country which he never saw, much less visited. W. Cameron was a surveyor employed by the Government who did a lot of exploratory work in the "eighties." In 1925 Sir George Maxwell published a Federal Council Paper, No. 13, in which he quotes a letter from Cameron dated September 4th 1885, describing his journey into Pahang from the Ulu of the Kinta River. He ascended Gunong Challi and described land in the Telom Valley as "a sort of vortex in the mountains, while for a wide area we have gentle slopes and *pamah* (plateau) land etc." As the view from Challi of what we now call Cameron's Highlands—the Ulu Bertam, or Bertang—is shut out by Gunong Irau and Gunong Batu Berinchang, Cameron cannot have referred to that country; and the description that he gives of his journey down to the plains of Pahang makes it quite clear that he travelled down the Telom. This river is shown in the sketch-map. Before Cameron's death, which took place in 1889 or 1890, as far as I can gather from Mr. Leonard Wray's paper (quoted below), an exaggerated estimate was formed of the extent of "Cameron's Land." It was decided to survey and open it up, but unfortunately it was thought that Cameron's Land extended as far as the part of Pahang that lies behind the Ulu Batang Padang, and it was attacked from that river, with Tapah as a base. Mr. F. St. George Caulfeild went up in 1904 and has left a sketch-map which shows "Cameron's Land" as a very small area (the present Lubok Tamang area) along a river S. S. W. of Gunong Berembun, which Mr. Caulfeild thought was the Telom, but which was really the Bertam. Starting from Tapah Mr. Caulfeild thought he had arrived at the same open land as that described by Cameron travelling from the Ulu Kinta. The mistake may have arisen in this way: Mr. Caulfeild shows the *Ulu*



CAMERON'S HIGHLANDS



of the river he called the Telom on the southern slopes of Berembun. There certainly is a river there, named by the Sakais of that part of Pahang the S. "Ulam." It is quite understandable that anyone asking the Sakais the name of that stream might mistake "Ulam" for "Telom"—understandable at any rate to anyone familiar with the difficulties of following Sakai speech accurately. But Mr. Caulfeild was not the first to make this mistake. In the Journal of S. B. R. A. S. for 1890, No. 21, pp. 123—165, Mr. Leonard Wray published a very interesting and full account of a journey to the Ulu of the Batang Padang and beyond during the year 1888, accompanied by his brother, Mr. Cecil Wray. They crossed into Pahang and Mr. Leonard Wray first struck southwards and reached a mountain which he thought was Berembun and is now known as "Wray's Berembun." Then he went northwards up the Bertam, thinking it was the Telom. On p. 160 is the following; "We here camped on the site of one of Cameron's old camps, and by the side of the river was a track which was undoubtedly his track, the elephant marks being distinctly visible. Mahrope, who was with Mr. Cameron on his journey through this valley, told us that two days march further down the stream would take us to a place where the river was navigable for *rakets*." From Mr. Wray's description it is clear to me that he went up the south-west slope of the real Berembun, which he had been looking for, as far as a Sakai *ladang* that I remember in 1906, and no one told him that he was on Berembun. He saw Gunong Terbakar, describing it as Gunong Jimawah (*Jemawa* = conceit), "a steep rocky hill that juts out into the Telom Valley," and then went up the stream that passes the southern side of Jimawah, obviously the S Habu (see sketch-map), and crossed over into the Ulu Kampar and went down to the Kinta Valley. About 1924 the late Mr. W. Kellie Smith, Miss Helen Kellie Smith, Mrs. T. L. Willan, and Mr. G. R. Mills went up by that same route from Gopeng, and in 1930 Messrs. H. G. Harris, F. T. Ingham, G. F. Gripper, and R. Shutes descended by it. A curious thing in Mr. Wray's paper is that although he was sure he recognized Cameron's camp and track, he says that he was told by Sakais that Cameron's route lay farther north. But Mr. Wray had Mahrope's testimony; and the only explanation I can suggest as far as that gentleman is concerned is that he could not distinguish one valley from the other, knew Mr. Wray wanted to find Cameron's route, and so told him that was Cameron's route in order to please him. Mr. Wray also says that the elephant-track died away when he tried to follow it north, so it is extremely likely that it was made by wild elephants converging from the jungle on the river-bank.

So, owing to the lack of any maps and the difficulties of exploration—to get to Tapah from Taiping in those days one had to go round by sea—the Bertam south of Berembun and the Ulu Telom were made to coincide, the intervening country being unknown (see sketch-map). "Shots" at the sun with a sextant or theodolite for latitude in the Bertam valley to compare with the latitude given

by Cameron for Challi would have revealed the error, but to those early explorers the Bertam valley above the falls was non-existent. The situation is suggestive of Einstein and two observers moving with high velocities in different places thinking that they were in the same locality in an area of warped space.

Who did find the country above the Robinson Falls? It was not Cameron, nor Mr. Wray, nor Mr. Caulfeild. Many Sakais must have passed over it, and as "*Berembun*" is a definitely Malay word (the "dewey" mountain), I suspect Malays arrived there too; but after reading all the evidence available I find that the first Europeans to penetrate this fish-less paradise were the late Mr. H. C. Robinson and Mr. C. Boden Kloss. Mr. Boden Kloss tells me that he, Robinson, and Mr. H. N. Ridley, went to Lubok Tamang in 1908 (see Jour. F. M. S. Museums iv, 1909, p. 1-4), and that he and Robinson went north over the area which is now Cameron's Highlands. Their objective was Gunong Irau, and they reached the slopes of Gunong Batu Berinchang. Let honour be to whom honour is due. Robinson had his Falls, but the other discoverer has no memorial.

I first went to the Lubok Tamang area in December 1906 with H. C. Robinson. Why we elected to go then, in particularly bad weather, I cannot remember. It rained nearly the whole time, but I have some amusing recollections of the trip. We went up the abandoned earthwork of the road that had been begun from Tapah. Gharris could go to the 12th mile and the earthwork extended to Jor, where there was a hut. I travelled a good deal with Robinson in those days and never ceased to admire the cheerful way in which he would plunge along, tripping up over everything that anyone could possibly trip up over, and humming indeterminate airs in an unknown scale the whole time. On that trip he fell head-first into an unfinished culvert with jagged masses of granite at the bottom. I feared he was badly hurt, but he emerged unscathed and still humming.

We explored the Ulu of the Batang Padang for a few days, reaching a pretty pool bright with Tapah Weed orchids, known then as Laut Tinggi (Mr. Leonard Wray refers to a Laut Tingal in his paper). Then we went over the divide to Lubok Tamang where there was another hut. Here Robinson disappointed me sadly. He had with him a large medicine-chest from which all the common remedies and balms had been exhausted but which still contained alleged remedies for fearsome and rare diseases. During our evening meal I noticed that Robinson was eating uncooked sausages out of a tin so was not altogether surprised when he woke me up in the night to tell me that he was feeling very ill. I pulled open the medicine-chest and offered him cholera tabloids (my memory on this point is not precise). He refused them and sternly refused all the remedies for rare diseases that I proffered. He only wanted hot-water and that put him right, so my hopes of watching the effects of the contents of the medicine-chest were frustrated.

By that date, December 1906, it was known that the river on which we were was the Bertam, not the Telom, but Robinson and I still thought that the land we were on was "Cameron's Land" or "Plateau." We went up Berembun with Sakai guides and on the way saw Gunong Terbakar, described by Mr. Wray as Gunong Jimawah. The name "*Terbakar*" was obviously bestowed on it by someone after the timber on the top had been burned. Sakais say that this was due to an accidental jungle-fire, and it must have occurred after 1888 because Mr. Wray says nothing about the top being bare of trees and did not mention the name "*Terbakar*"

We had taken a party of Sakais over with us from the Batang Padang, the chief then being Pa Pending. They were a little nervous about going into the Pahang Sakais' territory, but there was no friction, the "king" on the other side being a dear peaceful old gentleman named Pa Gedong. We all got on very well together and I gave Pa Gedong an old pair of boots— the only king on whom I have bestowed such a gift—and I can picture him now sitting in the jungle and grinning with delight as he slowly pulled them on.

On this occasion we did not see the falls, nor did we get any view from Berembun, so we returned without any knowledge of the Ulu of the Bertam.

My next visit was in August and September of 1922, when the party consisted of H. C. Robinson, Dr. H. P. Hacker (Medical Entomologist), Mr. W. M. Sands (Economic Botanist) and myself. For part of the time we were accompanied by Mr A. C. Twyford of the Survey Department. It had been Sir George Maxwell's intention to lead this expedition into the promised land, discovered in 1908 by Messrs. Robinson and Kloss, but at the last moment he was prevented, so we explored under the leadership of Robinson, who, as a preliminary canter, came from Lipis up the Bertam and down to Tapah to meet the rest of the party there. His energy was astounding.

I started from Tapah two days before the rest of the party in order to choose a site for a camp at Lubok Tamang and make it ready. By now the old earth-work from the 12th mile to Jor was overgrown, but a little clearing had made a broad path, well-graded and therefore easy for baggage-carriers. It was my custom to walk behind the baggage on jungle-trips to prevent loitering, but on this occasion everything went so well and the morning was so fresh, the trees so green, nature so lovely, that I walked at the head of the procession thinking how fine it was to be able to walk through the giant forest enjoying its grandeur, secure from any harm. My pleasant thoughts, however, were cut short in an unexpected manner. A little before reaching the 18th mile (Jor being at the 20th.), I had turned a corner with a high bank on the left. Suddenly a very loud grunt greeted me from the bank; I expected a pig, but instead a tiger jumped out on the path about nine paces ahead (I was able to measure the distance afterwards.) Those who have had the

experience of meeting a tiger suddenly without any weapon handy will know how I felt. I cannot tell the whole story in cold print. Let it suffice to say that where the power of the human eye failed, the power of the human leg saved the situation. It happened that the animal was a tigress with cubs near by and possibly her behaviour was excusable under the circumstances, but I did not wait to argue the point. Nevertheless, we all arrived with all the baggage at Lubok Tamang in due course and selected a camp on the river bank close to the ruins of the hut Robinson and I had used in 1906. I have not been able to locate the exact spot since but I remember that there was a small tree there with abundant waxy, white flowers (*Medinilla*), and purple balsams growing on rocks in the river.

The rest of the party turned up in good order, not having seen the tigress, of whom I had warned them by messenger. We settled down to our various tasks. Hacker dodged mosquitoes. He was armed with white enamelled pie-dishes and spoons, and adorned by a long white ladle which hung from his belt behind, looking like a long white tail with a tuft on the end. He was particularly anxious to find pools of stagnant water among the rocks, a matter in which I helped him, and when he dipped his ladle therein and sighted mosquito-larvæ in one of the pie-dishes his face became suffused with a glow of enthusiasm that would have done credit to an early Christian martyr. Sands was bent on agricultural problems but I learned a lot of plant names from him in our rambles. I had to look for useful rocks and minerals, and, together with Robinson, did a lot of exploring. I also began making sketches from hills and the tops of stunted trees, using a prismatic compass for horizontal angles and an Abney's Level for vertical angles.

A number of Sakais congregated at our camp, but the old king, Pa Gedong, was dead and his son reigned in his stead. Later on, when traffic to the Highlands developed, the Batang Padang and Bertam Sakais deteriorated. They earned big wages as porters and spent them in a manner unbecoming the noble savage. They bought shoddy jewellery and made up parties to go to the cinema in Ipoh in hired motor-cars. One lot of Sakais astonished their employers by turning up wearing horn-rimmed spectacles which they had bought from an itinerant vendor of such things. The kingly mien of Pa Gedong was forgotten in a scramble for wealth and fripperies: the last time I saw Gedong II he asked me to give him money.

We stayed at the Lubok Tamang camp from August 18th until the 27th, when we moved to a new camp at the foot of the Robinson Falls. From this camp Robinson and I made our way up the falls, and we also ascended Terbakar and Berembun. The view from Berembun was very fine but our observations were disturbed by swarms of stinging ants. On the top of this mountain and on other heights near by a small, slender bamboo is abundant. This is, I believe, *Bambusa elegans* Ridley, or it may be *Bambusa magica*. To Malays it is *Buloh perindu* which, if fashioned into a musical instrument and played in a village, attracts all the ladies to the player.

When I first went up Berembun in 1906 I advised a Malay to take some down to try the effect on his womenfolk, but he objected that this bamboo could not possibly be the genuine article because it was so easy to obtain. The real *Buloh perindu* was guarded by jins and dragons, not to mention clouds from which lightning incessantly flashed. Talking of dragons reminds me that during this journey I obtained a very good specimen of a flying lizard from a Sakai. It only measured a few inches but was extraordinarily fierce. This reptile, if magnified, would only have fallen short of the "fabulous and extinct" dragons in not being able to breathe fire.

On August 31st we moved to a new camp above the falls on a bit of flat land which we called "Tanah Rata." Not very original as a name, but it is familiar now. Our camp was where the bridge now crosses the Bertam and, being under the shelter of high ground and protected by trees, it was far more comfortable at night than the split-bamboo erection on the hill which did duty for some years later as a Rest House. I would like to take this opportunity to say something about the names we gave to a few places during this visit to the Highlands. A local paper dated May 12th, 1925, advocating Malay names, stigmatized as "puerilities" such names as "Rhododendron Hill" and "Salvia Camp." The latter name is not likely to live as there is now nothing on the site to require a name, but "Tanah Rata," "Rhododendron Hill," "Myrtle Hill," "Parit Falls," and "Robinson Falls" have survived. The last name is in honour of our leader: the others are descriptive and apt. On the large-scale map of the Highlands (10 in. = 1 mile), Myrtle Hill and Rhododendron Hill appear as Bukit Kemunting and Bukit Mentigi respectively. I do not know how "*mentigi*" is arrived at as a Malay name for Rhododendron: R. J. Wilkinson gives the word as a Malay plant-name and suggests that it may be *Thibaudia* sp. but I am told that *Thibaudia* does not occur in Malaya. "Bukit Kemunting" is a literal translation of "Myrtle Hill" and I cannot see that a name becomes any less puerile by being given in another language. Anyone who has seen Rhododendron Hill when the bushes are all in bloom must agree that no better name could be given. About "Myrtle Hill" I had qualms in 1929. I took a friend of mine there who is a store of botanical knowledge and he asked me to show him the myrtles. The top of the hill had been cleared but I found a shrub near by which I took to be a myrtle, but my friend ejaculated "That! why that's a fig!" However, we found the myrtles ultimately and my fears that we should have called the place "Fig Hill" were dissipated.

On Myrtle Hill I fell on evil times while mapping the country from the top of a small tree. I was wearing a white topi and a swarm of big bees (*naning*), passing by, mistook me for a large and promising white flower. When they found I was not a flower they stung me in the back of the neck and I fell out of that tree with a nimbleness I had never shown before. I was in pain for two days.

Hacker prescribed various remedies but blandly added the information that he had none of them, so the only treatment I got was from a Malay who rubbed in tobacco juice.

We were on the land above the falls for eight days. Earlier in this paper I referred to it as a fish-less paradise. That is literally true, for although the Bertam at Tanah Rata is a stream about 20 feet broad, there are no fish at all, while the Highlands both above and below the falls can truly be called a paradise of wild flowers. The absence of fish may be due to the Robinson Falls forming a barrier up which no fish can swim, and down which pre-existing fish have been swept by floods. It has been suggested that Sakais may have exterminated the fish, but that is hard to believe seeing how few the Sakais are in number. Above the Robinson Falls there are no Sakai *ladangs*, but there is evidence of Sakais going there to set traps for small mammals in the trees and traps in the rivers for frogs.

The farthest point north that we reached on this journey was a tree (see map) on a spur of Gunung Batu Berinchang that Hacker and I climbed up by means of a rough ladder that must have been constructed by the men with Robinson and Kloss in 1908. The top of this tree is a mass of foliage so dense that one can stand on it fairly securely, and I was able to make a sketch of the Ulu of the Telom valley and the following peaks, Pass, Challi, Yong Blar, Kerbau, Yong Yap, Siku, and Mt Swettenham. Recent exploration has shown that the stream rising under Challi is the Terla, while the Telom rises between Siku and Mount Swettenham and at first flows south. The Ulu of the Telom between these peaks is gently sloping land and people who have seen it since 1922 have suggested that it is Cameron's "real" highlands. It certainly was part of the land he referred to, but it is smaller than the Ulu Bertam area and and more difficult to reach. I described this Ulu Telom area in a report dated September 26th, 1922.

This journey to Cameron's Highlands in 1922 was the last jungle trip I had with H. C. Robinson. There is no doubt that Robinson had a wider knowledge of the geography of the Malay Peninsula than anyone else. His journeys were mostly undertaken with a view to collecting zoological specimens but he also delighted in exploration for exploration's sake. He was a good organizer and his unfailing good-humour solved many a difficulty in the jungle. He was also extraordinarily generous. His death was a loss both to science and to Malaya.

I next went to Cameron's Highlands in 1926, by which time a large clearing had been made at Tanah Rata and broad paths had taken the place of the old Sakai tracks that we followed in 1922. There was fairly good accommodation for travellers at the Jor, Ringlet, Tanah Rata, and Berinchang camps, but the building at Tanah Rata was painfully cold at night. Another trip was made in July of 1928 with Mr. C. C. Reade, when the earth-work of the

road had extended to the Habu valley. My objective on that occasion was locating quarry-sites for building-stone and in the ten days of my stay I had my fill of walking, even in that delightful climate. Another visit was in October 1929 with my botanical friend who gave me such a shock about figs and myrtles. He had not been there before and the pleasure he showed made that short visit the most enjoyable of all. It was also remarkable for the barely credible fact that when we arrived at Tanah Rata after walking from the 25th mile we went straight up Rhododendron Hill to see the Highlands bathed in the rays of the setting sun before going to the Rest House. My last visit was to Lubok Tamang on a Sunday, in 1930 by motor, with another friend and a visitor to Malaya. We had beer and sandwiches on a sandbank beside the Bertam. My friend insisted on that particular sandbank although it involved crossing the river by the branches of a dead tree. I was dressed in spotless white clothes and neat brown shoes. I fell in.

Cameron's Highlands, both above and below the Robinson Falls have one great drawback as a hill-station. They are enclosed by hills, which, although exceeding four and five thousand feet, appear to be insignificant *bukits* from the valley but shut out all views of the lower country in Perak and Pahang. The scenery is not very impressive. To get a extensive view it is necessary to climb up a hill. To look down into Kinta it will be necessary to go up to the State boundary or to ascend Berembun. On the other hand Cameron's Highlands have great advantages. The greatest is the abundant water-supply. Others are the possibility of generating electric power, the gentle contours of the land, the cool climate, a moderate rainfall, and I must add, the flowers. I have been up many mountains in Malaya but have never seen so many flowers as on Cameron's Highlands. A list of plants was published in 1927 by Mr. R. Henderson (Journ. M. B. R. A. vol. v. part ii, Nov. 1927), but only coloured plates could do justice to the flowers. In clearings violets are common. They are pale in colour, it is true, and one must gather a big bunch before any scent can be detected, but they are violets nevertheless. The yellow balsam is common, sometimes forming bright banks of blossom. In wet places the purple balsam flourishes. Begonias are abundant. I measured one pink and white blossom that was three inches from top to bottom. In 1922 we found several beautiful kinds of ground-orchids that I had not seen before. Epiphytic orchids with beautiful large blossoms were also seen. The display of white rhododendrons at the height of the flowering-season is wonderful. One species of pitcher-plant, coloured white with streaks of crimson, reaches 11 inches in length. A little swamp near Tanah Rata ("*Taman Sedia*") contains abundant strange flowers. *Bauhinca* and a scarlet-flowered creeper (*Aeschynanthus*) brighten the trees. Several species of *Didymocarpus* flourish by the sides of the paths.

A common plant on the Highlands is a bramble that bears a fruit shaped like a loganberry, and of a bright orange colour.

These are edible, but it must be confessed that they have not much taste. They may improve with cultivation. A weed resembling "groundsel," used in England for feeding canaries, is also abundant in clearings.

Finally I would mention the strange, mossy jungle that grows on the ridges of Cameron's Highlands. It is possible to walk on a thick carpet of damp moss through long tunnels among shrubs and *buloh perindu*, festooned with moss and liverwort, on the higher ground. Such jungle is found on other Malayan mountains, but I do not remember any place where this growth is so well developed as on Cameron's Highlands. While wandering through it one cannot entirely throw off a feeling that an elf may suddenly mock you from the thicket, or a gossamer fairy peer down at you from the rhododendron blossoms above your head. But as a matter of fact the only strange creature I encountered in these mysterious groves was a very large centipede.

I would add as a postscript to the above that after this section of the paper was written Lt-Col. J. P. Swettenham, Chairman of the Cameron's Highlands Development Committee, told me in a letter dated December 11th, 1930, that he had heard recently from Mr. F. St. G. Caulfeild who described a journey he made with Messrs. N. T. Gray and Cerruti (once Protector of Sakais, Batang Padang) to the mountains beyond the falls now known as Robinson's Falls. Mr. Caulfeild said that Cerruti fell while descending the falls and N. T. Gray ejaculated: We will call this spot "Cerruti Falls." Whether the falls where Cerruti fell were Robinson's Falls is, however, open to question. In the first place on Mr. Caulfeild's map of 1904 no falls are shown where Robinson's Falls are situated. Again, anyone going to Tanah Rata in those days would follow a Sakai path which goes over a spur of Berembun. Robinson and I followed the first half of it in 1906 to ascend that mountain, and returned by it in 1922 from Tanah Rata after scrambling up the falls, where there is no path at all. From this Sakai path that crosses the spur of Berembun the falls cannot be seen. Mr. Caulfeild's 1904 map shows that the Sungei Ulam was mistaken for the Ulu Sungei Telom. It is possible that the falls referred to are somewhere on that river and that the mountains beyond which the party went to were Chantak and Bluat. In any case, if the party really reached Tanah Rata and the mountains farther north, Jasar, Ruil, Batu Berinchang, and Irau, it is difficult to understand why nothing is shown on the 1904 map north of Berembun. The details of Mr. Caulfeild's visit in 1904 are given in Sir George Maxwell's paper (pp. 5 and 6) who, after quoting a letter from the Acting Director of Public Works, dated December 6th 1904, wrote (p. 7) "there is no record of any further investigation of Cameron's Highlands or of any further action in connection with this road until 1920." I have read again Cerruti's book "My Friends the Savages" (1908) to see if he, in his account of his experiences among the Sakais of the Batang

Padang, says anything about these falls and the mountains beyond, but unfortunately his geography is very vague and the book has no map. He writes, indeed, of roaring torrents springing from mountain-tops, which is at least unusual, and certainly not observable on Cameron's Highlands.

### FRASER'S HILL.

Unlike Cameron's Highlands, Fraser's Hill was a well-known and easily accessible place long before it developed into a hill-station. The hill is named after Mr. L. J. Fraser, who resided in Singapore for some years and then migrated to Selangor to manage a transport-service between Kuala Kubu and Raub before the road was built and only a bridle-path existed. This path can still be followed on the Pahang side of the Gap, on the Selangor side it is overgrown. I have been told that the village Sangka Dua was about half way up to the Gap on this path.

When Fraser started his transport-service Chinese were mining for tin on and near what is now Fraser's Hill. In 1894 he acquired land there himself and collected ore from Chinese working on tribute, chiefly in the Yet and Sempam valleys. The geography of the locality is simple, and, as the F. M. S. R. distributes a map, one is hardly necessary here, but before going any farther it will be as well to get the topography fixed in our minds. When driving up from the Gap to Fraser's Hill we follow a road which is a little below the Selangor-Pahang boundary, and on the Selangor side. On the left is the Ulu of the Selangor River. On passing the traffic-control gate at the top of the road we get onto the divide between the Selangor River and the Sungei Tras, which flows through the Golf-Course and down the steep valley beyond (in old days this stream was generally referred to as the "Batang Tras"). Continuing up the road to the *Ulu* of this stream and past the Superintendent's Office we come to the watershed between the Tras and the Yet, also the children's playground. The Ulu Yet is the steep declivity to the north of the watershed, where there are many tree-ferns. Turning to the left and following the path to Pine-Tree Hill one soon arrives again at the Selangor-Pahang boundary.

Fraser's mines were prosperous, and there were also many small "*lampans*" in the Tras valley; in fact the Golf Course, which was then called "Pamah Lēbar," because it was a comparatively open and gently sloping valley, was cut up by *lampans* from one end to the other. At one time a mining engineer, Mr. F. Ponsford, resided at Pamah Lēbar, prospecting tin-lodes in the hill under "Mogador" bungalow.

Fraser resided for some years at "Bukit Fraser" (we were not so particular then about mixing Malay and Scotch), but he died before I first went there in 1904, when the Manager was Mr. Saunderson, a very genial mining engineer who lived in a hut with walls made of Malay mats, atap roof, and earth floor, somewhere

on the slope below "Polygone" bungalow. On my first visit I walked up from Tras *via* Kuala Yet, where Mr. G. Hembrey then lived. Fraser's Hill could also be reached from Tras by a path up the Batang Tras (this still exists), and by the path from the Gap which is upkept now. In those days week-ends at the Gap were a common form of relaxation for those working in Pahang, combined with a walk up to Bukit Fraser to call on Saunderson, unless he came down to see us. The path from the Gap was much as it is now, descending into the Tras valley about the present site of "Chalk Farm" and crossing the Golf Course at the Maxwell Arms end, then ascending the gully at the head of which is the Superintendent's Office. There is still a trace of the old path in that gully which wakes memories of pleasant days twenty-six years ago.

In 1909 the mining leases were taken over by a Company, the Sempam Tin Mining Company, under the managership of Mr. Gerald Bowen. At first he lived in Saunderson's old hut. I and my wife stayed with him there and I remember he had a Tortoise Stove to warm it, in which he could burn almost anything, and which gave out an amount of heat too great even for Bukit Fraser.

The Manager was not required to live in the hut for long. A house was built for him above the present children's playground. But the Company did not prosper. An unfortunate dispute arose between them and the Raub Australian Gold Mines, who have a power-station on the Sempam River below Kuala Yet, on the subject of tailings and damage to machinery, which ended ultimately in the Company having to stop work. Before that happened, however, they were told that if they sent their tailings into Selangor they could carry on. This led the Manager to install a small monitor on the hill below "Polygone" the tailings being taken by a flume past the site of the Maxwell Arms into the Selangor drainage area. The cut made by this monitor in the hill below "Polygone" is still plainly visible. The whole output of the Sempam Tin Mines Company was supposed to come from it.

The difficulty about tailings was fatal to the Sempam Tin Mining Company, but work could still be carried on in the Tras valley. Mr. Ponsford had acquired a lot of the land in Pamah Lēbar by 1914 and in that year sent me a plan showing several tin-lodes in the hill under "Mogador." The plan also shows a reservoir in the neighbourhood of the present Office Tennis-court, and the path to the Gap. Mr. Ponsford called his land the "Ulu Tras Tin Mine."

When tin-mining ended on Pamah Lēbar I cannot remember, but it is certain that the tin there was not exhausted when work on the golf-course began, because one of the contractors found a small lode and was allowed to work it. It is also certain that there are many small veins containing ore left in other parts of Fraser's Hill. I have seen them in the road-cuttings and remember how

Chinese miners used to work similar veins in Saunderson's time. However, it is not likely that Fraser's Hill will ever become a tin-mine again. The old leases in the Ulu Sempam and the lower part of the Yet valley have been taken over by the Raub Australian Gold Mines Ltd.

When mining had ceased the house that had been built by the Sempam Tin Mining Company was bought by the Pahang Government and formed the nucleus of the hill-station, which has now grown to such an extent that the houses and roads, including the Peninjau road, cover about two square miles, and the untidy *lampans* of Pamah Lēbar are replaced by the green turf of the Golf Course. I have no doubt that if anyone were to scramble down the Yet valley he would come on many old tin-workings, but I confess that at my time of life I prefer a bench outside the Maxwell Arms, with the view down the old Pamah Lēbar, and a glass of ale. Would that L. J. Fraser, who is reputed to have habitually worn a bowler hat, could join me and see how his hill has changed.

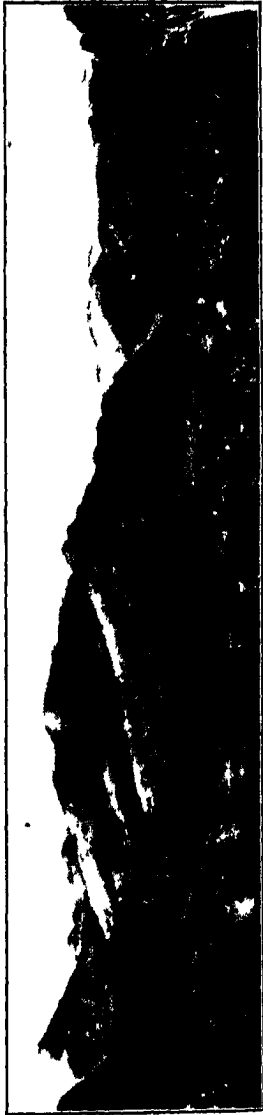
Compared with Cameron's Highlands, Fraser's Hill has one great disadvantage, namely a poor water-supply, but on the other hand it has abundant stone for building, conveniently situated close to or on sites for houses, and it has magnificent scenery. Cameron's Highlands is valley-land; Fraser's Hill is a station perched on steep ridges, excepting the Golf Course. On Cameron's Highlands it is necessary to climb a hill to get an extended view, in most of the houses on Fraser's Hill the only exertion necessary is getting out of bed and looking out of the window. In "Mogador" and "Polygone" are panoramas showing the visitor the names of the mountains visible from those bungalows. Unfortunately there are two mistakes on them, they make G. Gapis appear to be a mountain in Kelantan whereas it is a hill very near by, scarred by tin-mines; and Bukit Petri is said to be limestone whereas it is really quartzite. But these errors do not affect the beauty of the scenery. From the meteorological station between "Mogador" and "Ledeghem" on a clear morning the finest view that I know of the mountains of the Peninsula can be seen. Close by in the Main Range are G Semangko and G Liang. In the Liang valley the tin-mines can be seen. To the south are G. Raja, G. Mengkuang Lēbar and Bukit Kutu. To the east is the great Benom Range. Far away to the N. N. E. are the rugged peaks of the Tahan Range and the more distant mountains of Kelantan. Go to Peninjau and look down on the great plains of Pahang. Immediately below you is Tras, separated from the plains by a long range of foothills: there is the gorge through which the road from Tras to Raub wanders. Beyond Raub the road to Lipis passes on the left of a conspicuous limestone hill and skirts the northern end of the Benom Range. The railway from Lipis to Kelantan passes between the Tahan Range and a low hill to the west of it.

On the ridges of Fraser's Hill the wild flowers are not so varied or so abundant as in the valleys of Cameron's Highlands, but the gardens show what can be done with cultivated flowers and turf. The lawns round "The Lodge" would rouse the envy of an English gardener. Every garden is bright with blossom-dahlias, chrysanthemums, geraniums, lupins, salvias, antirrhynums, marigolds and daisies, roses, verbena, fuchsia, petunia, Indian pinks, carnations, pansies, zinnias, coreopsis, gladioli, montbresia, balsams, nasturtiums, corncockles, budleighia, heliotrope, phlox; and sweet-smelling purple violets nestle in their beds. Morning Glory and *tecoma* by the roadsides flaunt their purple and orange before the wild bauhinea in the tree tops. The scarlet passion-flower covers screens and pergolas. If Cameron's Highlands develop into so charming a hill-station as Fraser's Hill, with its trim but solid granite houses, red-tiled roofs, and bright gardens, the next generation of sojourners in Malaya will be indeed fortunate.

### PLATES.

*Photographs of sketches made by the author on Cameron's Highlands during 1922.*

- PLATE II View of the Lubok Tamang area from a hill above the camp. On the far left is G. Berembun: in the centre G. Chantak and G. Bluat. The Bertam makes a sharp turn to the east on the right. On the left is an old Sakai *ladang* in the flat Bertam valley. This is part of the land thought in 1904 to be "Cameron's Land."
- PLATE III 1. View from G. Berembun. The following peaks are visible, beginning on the left; Jasar; Chabang; Ruil; Sugu, Irau; Batu Berinchang; Mt. Swettenham. Kin'a is dimly visible beyond Jasar and Chabang.
2. View from Rhododendron Hill, looking north. The undulating land in the middle distance is Cameron's Highlands above the Falls. On the right is Berembun.
- PLATE IV 1. View from a tree on a spur of G. Batu Berinchang, looking north. Rampik, Pass, and Challi are on the left, Challi being the sharp peak with a gentle slope to the right. Siku, is the ridge to the right of Challi. On the right are the slopes of Mt. Swettenham. Between Chiku and the slopes of Mt. Swettenham is the gently undulating land in the Ulu Telom. In the far distance are Kerbau (on the left) and mountains in Kelantan.
2. View from Myrtle Hill, looking south. On the right are Jasar and Ruil. In the middle distance is Rhododendron Hill; on the left the slopes of Berembun. In the centre is the low and almost flat land where the golf-course is being made.



*Scritenor Camerons Highlands*





*Serrano Highlands*





*Scrivenor Cameron's Highlands.*

Almost at once, after entering the jungle, we passed from the alluvial plain overlying limestone on to low hills of mica-schist, and then, at *Jëni Këladi*, the first salt-lick, on to fine-grained hornblende-granite and augite-syenite. Tracks of elephant and *sëladang* were very common, and big grooves had been gouged in the sides of mounds of earth by elephants' tusks. No animals were near as our party passed through this district of salt-licks, but, on the occasion of E. J. Strugnell's previous visit, he had found it wise to make a deviation to avoid a herd of *sëladang*. The animal-haunted jungle around the salt-licks was a mass of climbers, with very few forest trees, and this poor forest continued to the top of the ridge. From the saddle a rather indistinct path was followed southeast to the Sungai Këlau, where at 4.30 p.m. we made our camp at a height of 550 feet.

The next day, May 20th, we set off at 7 a.m., following the Sungai Këlau upstream until a large tributary was met, flowing from northeast to southwest. It is named the Sungai Këlau on the topo map (3B/4), but the Malays of the district give this title to the other stream flowing from north to south. We continued northeast up the tributary, and then left it to go east up a ridge 2,300 feet in height. At 8.30 a.m., at 1,000 feet, (near the S. of S. Këlau on the topo map, the bedrock was granite of the common, dark, hornblende-bearing type, without prominent feldspar crystals, and the soil was yellow-red in colour. A little further uphill was country built of augite-syenite, with abundant, rectangular-shaped crystals of feldspar showing a roughly parallel arrangement, and the soil was brown, quite different from that lying on the granite.

At 9.45 a.m. we came to an extensive *runtoh* (landslide), and, from the huge, freshly-split boulders, it was possible to determine the age of the various granite rocks relative to that of the syenite. Oldest is syenite. This is intruded by black syenitic vein-rocks, and both are penetrated by hornblende-granite.

We reached the top of the *permatang* (ridge), which had a north and south direction, and went down to a brawling stream, flowing over boulders and outcrops of syenite. Uphill, on the other side, after altogether two miles of syenite, the red soil of ordinary granite (not hornblende-bearing) appeared, which continued up to the highest part of Gunong Bënom and for some distance down the other side. Our party went eastwards, to the top of the ridge at 3,000 feet, and then descended to 2,500 feet, where, at 2.45 p.m., our second camp was pitched alongside a small stream.

We started at 7 a.m. on the third day, May 21st, going eastwards up the flank of the next ridge by ascending a spur. At the top the ridge led east, and, after following it till 9.20 a.m., at 4,300 feet, we left it to descend to a stream flowing north at 3,500 feet. The bed of the valley was covered with large granite core-boulders, difficult to cross, especially for the coolies. These masses of core-boulders at the bottoms of valleys, known to the Malays

as *gugup*, are typical of Běnom. In a pool of water near here it was interesting to find a crab two inches across. At 10.30 a.m. we cut eastwards across the valley, climbing a spur which brought us, at 2 p.m. to the top of a ridge 5,500 feet high, whence the summit of Běnom could be seen on a bearing of 68 degrees. This 2,000 foot climb was the longest continuous rise of the whole ascent. On the ridge were fresh tracks of rhinoceros (*badak sumbu*).

At this stage the experience gained by E. J. Strugnell on his previous trip was invaluable. He had reached the same point, and, after a long search, had found water in a valley, 800 feet below, at the foot of a huge landslide, where he had made his highest camping-place. It was an uncomfortable spot to spend the night in, a difficult climb-down for the coolies with their loads, and the thought that the ascent up the same landslide would have to be made next morning was rather depressing, but still it was a definite gain to be able to pitch our tents at 4 p.m. without having had to tire ourselves further by a long search for water. A spring emerged from the landslide and trickled down for only a few yards before disappearing below *gugup* once more.

Some excavating and banking had to be done to, make a site for our tent, and the others of the party all had very steep slopes to lie on. Luckily, on this, as on other nights, there was no shortage of leaves for *atap*, which was fortunate, because it began to rain as darkness fell. It was very unpleasant paddling about in the mud, and difficult to get wood dry enough to burn for cooking the evening meal, for we were here near the mossy forest. However, there was reason to bless the rain, when, next afternoon, pools of rain-water were the only means of cooking rice. But for them, most of our party would have gone without supper and breakfast. The night was uncomfortable, and three of the coolies deserted their dripping leaf-shelter to sleep under a huge rock, which certainly gave better protection from the rain, but nevertheless was a much colder and more draughty refuge than their leaky *pondok*. It was indeed a cold camp; the chilly night-air flowing down the landslide into the narrow valley kept most of the Malays awake, and some were coughing the night long.

On May 22nd, the fourth day, we got off at 7.40 a.m., and had regained our position on the ridge at 8.15 a.m., to go northeast along a well-trodden rhinoceros-track. A parallel ridge, 5,700 to 6,000 feet high, could be seen about a mile away. At 9.40 a.m. we were on a minor peak, 5,700 feet high, where boulders of the usual coarse-grained, non-porphyrific granite were common, and a peak of about 6,500 feet could be seen over a mile to the northeast, with others in clouds, evidently including the summit of Benom, to the east of it. At 10.30 a.m. we had attained 6,000 feet, still following the very useful rhinoceros-track, and then trouble began: for, at 11 a.m., the track was lost in very difficult *gugup*, flung right across the ridge, and an hour's delay ensued. Great boulders of granite, twenty, thirty, and forty feet across, lay one on top of an



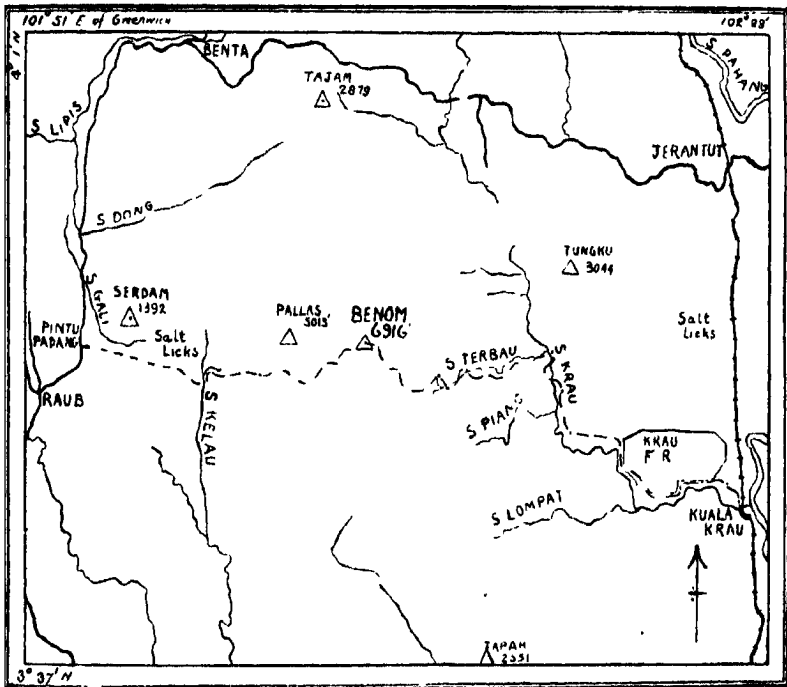
## AN ASCENT OF GUNONG BENOM FROM RAUB.

By E. J. STRUGNELL and E. S. WILLBOURN.

PLATES V—VIII AND A SKETCH MAP.)

Gunong Bēnom is the highest peak of an isolated mountain-group near the centre of Pahang. Its height is given on the latest maps as 6,916 feet and it is one of the highest mountains in the Malay Peninsula.

The word *bēnom* is used by the Malays in the sense *hutan bēnom*, which may be translated as "a faraway, dark forest of tall trees in which no one lives," a true description of this mountain.



MAP OF THE COUNTRY SURROUNDING GUNONG BENOM  
THE DOTTED LINE SHOWS THE ROUTE OF THE JOURNEY  
SCALE EIGHT MILES TO ONE INCH

Incidentally the phrase "*pergi hutan bēnom*" is the equivalent of our consigning a person to the nether regions. Gunong Benom has a bad reputation for evil spirits. Noises of people talking and of rocks falling are said to be heard, and there is a tale, terrifying to the credulous Malay peasant, of a large *bērok*, or monkey, which inhabits the mountain, a fierce animal standing five feet high on

all fours. Fables apart, it is certain that some curious coincidences of sickness and death have occurred in connection with the mountain, and so, in the case of the present trip, it was not surprising that desertions were frequent before the day of departure.

This account describes an ascent going eastwards from Raub, followed by the descent, still eastwards, down the other side, to the railway at Kuala Krau. It is believed that no one had previously reached the summit of Běnom from the west.

The descent to Kuala Krau was made under very difficult conditions, for we could not get a view from the summit owing to clouds, and could not therefore "lay a course" along a ridge leading downwards towards the east, as had been hoped. The old track climbing up from Sungai Krau could not be found, and direction had to be kept by compass. This entailed a very hard journey, more strenuous than the climb up from Raub.

An attempt was made on the mountain from the Raub side by W. D. Barnes, Warden of Mines, Pahang, in 1900, for the purpose of putting a trigonometrical-survey beacon on the summit. (Journ. S. Br. R. A. Soc. No 39, 1903) He succeeded in reaching Kluang Terbang, named Gunong Pallas on the maps, a peak three miles away from the real summit, and separated from it by several deep valleys. This was the only attempt from Raub of which there is any record, before E. J. Strugnell's trip of September 1929, when he reached 5,500 feet, and found the ridge which we later followed to the top. However, on that first occasion, he was forced to return to Raub to get medical attention for a poisoned hand.

The mountain was climbed from Kuala Krau in 1906 by J. N. Sheffield accompanied by A. E. Young, who erected a survey beacon which is still in good condition, on the summit. F. R. Twiss observed from the summit in 1907, and A. Cochrane in 1917. In 1923, I. H. N. Evans, of the Museums Department, made an ascent from Ulu Dong in the north, considerable difficulty being experienced in finding the top. The present trip was made in May, 1930, and the top was reached early on the fifth day, the whole journey, from Raub to the summit of Běnom, and down to Kuala Krau on the Pahang river, taking ten days.

The party numbered thirty four, and consisted of the two writers, Mayah bin Latib, a Malay collector of the Geological Survey Department, Forester Ismail bin Haji Zainudin, four forest guards, Ah San, a Hylam "boy," and twenty five coolies. Actually, we had planned to have thirty coolies, and, by sending most of them two days ahead, laden with rice and camp-kit, had hoped to arrange that the first two camps should be more comfortable than usual, and, really more important, that the coolies should have a good rest to prepare for the steep climb up Běnom. However, although the party had been put in charge of a Malay who had accompanied E. J. Strugnell on the expedition of the previous September, and who therefore knew the sites of the first and second

camps, yet he could not find the old *vēntis* (narrow path cut through the jungle), and had not the initiative to cut his own way due east. Two days afterwards, on May 19th, we came across them at the edge of the jungle, only about three miles from the road.

Two sick coolies had to be sent back, and these casualties, together with previous desertions, reduced the number to twenty five, so that it was necessary to rearrange the loads and leave some baggage behind. It was tied high in a tree, above the reach of elephants, to be collected again at some future date. We took with us seventy gantangs of rice, which accounted for twelve of the coolies, a quantity of dried fish, two canvas sheets for use as tents, two camp beds, pots and pans, bedding and clothing for ourselves and the others, and our food.

Meals were prepared for us by Ah San, who had three fowls, bread, twenty pounds of potatoes and onions, tins of meat, soup, bacon, sausages, fruit, peas, biscuits, milk, butter, and dripping, as his larder, from which were daily produced large and appetising meals. Mayah carried a twelve-bore shot-gun for protection against elephant and tiger, and a bag with a hammer for collecting geological specimens, and, needless to say, the hammer was more useful than the gun. One of the forest guards carried several wire presses containing Chinese paper for pressing botanical specimens.

When all was reorganised each coolie had to carry about forty pounds, packed in a *rotan ambong*, tied to his back by a strap over each shoulder, with an extra loose one for occasional additional support, passing round his forehead. It may be interesting here to mention that the rate of pay was 70 cents a day, from which the cost of food was deducted, a lower rate than was paid by Mr. Barnes in 1900, for he gave them food in addition, and it was very well earned! The Malay may be a lazy, idle fellow in certain civilised walks of life, but he is very willing and hard-working in the jungle.

At about noon our complete party recommenced the journey eastwards, having now said "good-bye" to known tracks and clearings. The three miles already traversed from Pintu Padang, at the 36th mile on the road from Kuala Lipis to Raub, had lain across the Gali plain, flat *kampung* land, overlooked by several limestone hills, Bukit Serdam and others, and from it had been seen the long ridge running north and south from the Sungai Dong to the Bilut Forest Reserve. We knew, from the topographical survey map (3 B/4), and from E. J. Strugnell's previous trip, that the Sungai Kēlau flowed along the eastern side of this ridge, and the saddle between Bukit Redan and Bukit Kluang, which gave the easiest access to the river, could be seen on a bearing of 110 degrees, so, by using a compass, there was no difficulty in ensuring the right direction to reach our first camp (Plate V).

Almost at once, after entering the jungle, we passed from the alluvial plain overlying limestone on to low hills of mica-schist, and then, at *Jënué Kêladi*, the first salt-lick, on to fine-grained hornblende-granite and augite-syenite. Tracks of elephant and *sêladang* were very common, and big grooves had been gouged in the sides of mounds of earth by elephants' tusks. No animals were near as our party passed through this district of salt-licks, but, on the occasion of E. J. Strugnell's previous visit, he had found it wise to make a deviation to avoid a herd of *sêladang*. The animal-haunted jungle around the salt-licks was a mass of climbers, with very few forest trees, and this poor forest continued to the top of the ridge. From the saddle a rather indistinct path was followed southeast to the Sungai Kêlau, where at 4.30 p.m. we made our camp at a height of 550 feet.

The next day, May 20th, we set off at 7 a.m., following the Sungai Kêlau upstream until a large tributary was met, flowing from northeast to southwest. It is named the Sungai Kêlau on the topo map (3B/4), but the Malays of the district give this title to the other stream flowing from north to south. We continued northeast up the tributary, and then left it to go east up a ridge 2,300 feet in height. At 8.30 a.m., at 1,000 feet, (near the S. of S. Kêlau on the topo map, the bedrock was granite of the common, dark, hornblende-bearing type, without prominent feldspar crystals, and the soil was yellow-red in colour. A little further uphill was country built of augite-syenite, with abundant, rectangular-shaped crystals of feldspar showing a roughly parallel arrangement, and the soil was brown, quite different from that lying on the granite.

At 9.45 a.m. we came to an extensive *runtoh* (landslide), and, from the huge, freshly-split boulders, it was possible to determine the age of the various granite rocks relative to that of the syenite. Oldest is syenite. This is intruded by black syenitic vein-rocks, and both are penetrated by hornblende-granite.

We reached the top of the *permatang* (ridge), which had a north and south direction, and went down to a brawling stream, flowing over boulders and outcrops of syenite. Uphill, on the other side, after altogether two miles of syenite, the red soil of ordinary granite (not hornblende-bearing) appeared, which continued up to the highest part of Gunong Bénom and for some distance down the other side. Our party went eastwards, to the top of the ridge at 3,000 feet, and then descended to 2,500 feet, where, at 2.45 p.m., our second camp was pitched alongside a small stream.

We started at 7 a.m. on the third day, May 21st, going eastwards up the flank of the next ridge by ascending a spur. At the top the ridge led east, and, after following it till 9.20 a.m., at 4,300 feet, we left it to descend to a stream flowing north at 3,500 feet. The bed of the valley was covered with large granite core-boulders, difficult to cross, especially for the coolies. These masses of core-boulders at the bottoms of valleys, known to the Malays

as *gugup*, are typical of Běnom. In a pool of water near here it was interesting to find a crab two inches across. At 10.30 a.m. we cut eastwards across the valley, climbing a spur which brought us, at 2 p.m. to the top of a ridge 5,500 feet high, whence the summit of Běnom could be seen on a bearing of 68 degrees. This 2,000 foot climb was the longest continuous rise of the whole ascent. On the ridge were fresh tracks of rhinoceros (*badak sumbu*).

At this stage the experience gained by E. J. Strugnell on his previous trip was invaluable. He had reached the same point, and, after a long search, had found water in a valley, 800 feet below, at the foot of a huge landslide, where he had made his highest camping-place. It was an uncomfortable spot to spend the night in, a difficult climb-down for the coolies with their loads, and the thought that the ascent up the same landslide would have to be made next morning was rather depressing, but still it was a definite gain to be able to pitch our tents at 4 p.m. without having had to tire ourselves further by a long search for water. A spring emerged from the landslide and trickled down for only a few yards before disappearing below *gugup* once more.

Some excavating and banking had to be done to, make a site for our tent, and the others of the party all had very steep slopes to lie on. Luckily, on this, as on other nights, there was no shortage of leaves for *atap*, which was fortunate, because it began to rain as darkness fell. It was very unpleasant paddling about in the mud, and difficult to get wood dry enough to burn for cooking the evening meal, for we were here near the mossy forest. However, there was reason to bless the rain, when, next afternoon, pools of rain-water were the only means of cooking rice. But for them, most of our party would have gone without supper and breakfast. The night was uncomfortable, and three of the coolies deserted their dripping leaf-shelter to sleep under a huge rock, which certainly gave better protection from the rain, but nevertheless a much colder and more draughty refuge than their leaky *pondok*. It was indeed a cold camp, the chilly night-air flowing down the landslide into the narrow valley kept most of the Malays awake, and some were coughing the night long.

On May 22nd, the fourth day, we got off at 7.40 a.m., and had regained our position on the ridge at 8.15 a.m., to go northeast along a well-trodden rhinoceros-track. A parallel ridge, 5,700 to 6,000 feet high, could be seen about a mile away. At 9.40 a.m. we were on a minor peak, 5,700 feet high, where boulders of the usual coarse-grained, non-porphyrific granite were common, and a peak of about 6,500 feet could be seen over a mile to the northeast, with others in clouds, evidently including the summit of Benom, to the east of it. At 10.30 a.m. we had attained 6,000 feet, still following the very useful rhinoceros-track, and then trouble began: for, at 11 a.m., the track was lost in very difficult *gugup*, flung right across the ridge, and an hour's delay ensued. Great boulders of granite, twenty, thirty, and forty feet across, lay one on top of an

other, with dangerous, deep chasms between, that yawned to receive the unwary. After various attempts to find a route amongst the rocks, it was found necessary to descend some distance below the crest of the ridge, to cut a laborious passage around and below them. We attained the ridge again, and went along it to 6,500 feet, where there was a view, through the clouds, of the beacon at the top, bearing 80 degrees. To our astonishment, there were still fresh tracks of rhinoceros, which made us wonder if, after all, a feasible route did pass through the *gugup*, for no sign of a track had been seen below it. At 1 p.m. we descended a little until a saddle was reached with a steep fall on either side.

It was important to find water, and a party was therefore sent down each side, ourselves following the ridge still further and then going down its north flank to make a more extended search. About four hundred feet below, were three small pools of rain-water coloured with peat, and though, lower down in the valley a stream could be heard flowing at a depth of some twenty feet below granite boulders, yet there was no means of getting at it, so we returned to the ridge-top, only, however, to learn that the other parties had had no success at all. We therefore had to make the best of a bad job, and we camped by the now-precious pools. A relieving feature was the presence of plenty of a species of *Pinanga*, which was used as *atap* by the coolies.

In the misty air of the mossy forest all dead wood is sodden, very reluctant to burn, so for many nights it was impossible to have a camp-fire for drying clothes, and useless, therefore, to wash them. One of the writers wore the same clothes for six days, and as we were continually falling about, they soon became stiff with clay and dirt. In spite of our great exertions we did not perspire in the cool air of these altitudes, and the dirty clothes were not so repelling as they might have been. On every night, except this one, a bathe was practicable by using a mug to bale water from the tiny streams by the side of which we camped, the cold water was a rare stimulant!

The fifth day dawned bright and sunny, conditions that seemed favourable for a view from the summit, and we set off at 7.30 a.m. hoping to reach the top by 9 a.m. Bënom has twin summits about 200 yards apart, and, although we reached the first one by the appointed time, yet it was an hour before we could find a way across the ravine filled with granite boulders which lay between the two, and on our arrival at the beacon, clouds prevented all but a few glimpses of the surrounding country. This lack of a view caused several days of very hard work in coming down the eastern side.

At the top the barometric pressure was only 23 inches.

After waiting about an hour in the vain hope of the clouds lifting, an hour fully occupied in the collection of botanical specimens, at 11.30 a.m. we started the descent southeast, following an old *rentis*, but, unfortunately, after passing the abandoned camp

of a previous party, all signs of a track were lost. We went down a tiny stream which had selected its channel along a porphyry-vein intrusive in the granite, bearing south-east, and nine hundred feet were dropped very quickly, with much scrambling over boulders. At 1.15 p.m. a camp was made at 6,000 feet.

The night-draught, accentuated by the narrowness of the valley, made the spot even colder than the previous night at a higher altitude, but in neither case was the cold unusually severe. Again everything was saturated with water, and no camp-fire could be made.

On May 24th, the sixth day, we started at 7.50 a.m., continuing down the small stream, in direction 100 degrees. It was thought that we were now in the head-waters of the Sungai Lompat, but really we were in the valley of the Sungai Terbau, two rivers further to the north (see map), though three days were to pass before the mistake was discovered. Progress was increasingly difficult as the stream became more and more precipitous, and at 8.45 a.m., at 5,500 feet, a landslide decided us to climb up the steep northern valley-side, to look for a ridge leading in the right direction. We had no success, for the ridge did not exist, so we came down again to the stream. However, after following it for a short distance, we once more found ourselves at the top of a waterfall, which this time was quite impassable.

A line was therefore cut east south-east, and later south south-east, along the slopes of the right (southern) valley-side, following the 5,500 foot contour until it brought us to the top of the ridge, where, to our extreme satisfaction, at 11.30 a.m., we found an ill-defined game-track, running through a peculiar, stunted, ridge-forest, which made a great difference to our comfort and to our rate of progress. From here looking south-west a good view was obtained of a north and south spur leading up to a north-west by southeast range about 6,000 feet high, two miles south-east was a mountain 5,000 feet high.

Our journey was continued south-east until one p.m. when the ridge died out at 3,700 feet. After a council of war, during which our mid-day meal was eaten, we took an easterly line, and came to a rather large stream, flowing through, and in parts completely under, a mass of granite boulders. This we followed over extremely difficult country, until its junction with another river was reached at 3,000 feet. Here we were able to camp on fairly flat ground at 3.30 p.m.

Mat, one of the coolies, gave us a fright by not turning up until after 6 p.m., more than an hour after the last of the others had straggled in. We were much relieved when eventually he did appear, with nothing the matter but a swollen foot and the usual scratches from thorns. It must be admitted that our motives in applying a goodly dose of iodine to the wounds were not of the highest, in fact, they were distinctly vindictive. Our feelings had

further been harrowed by a cloud of sandflies whose wholehearted enthusiasm for food was checked by nothing until a blazing camp-fire had been lit. They covered our soup with a brown film of their scalded corpses; they fell into the gravy, and still thousands were left to bite us with ever-increasing ferocity. Not until the fire had burnt up was there any relief, but then they disappeared entirely from our ken, and equanimity was restored. This day had been extremely tiring, and all were beginning to feel the accumulated effect of the exertions of the previous days, so it was cheering to lie down in more comfortable surroundings than had been enjoyed since our first camp on the Sungai Kéla. The noise of the stream was a good soporific.

On May 25th, the seventh day, we set off at 8 a.m., the latest start of the trip. As the going was so difficult along the stream, which was here a succession of waterfalls, with intervening stretches blocked by boulders and fallen trees, we climbed 800 feet to the ridge-top on the north side, in the hope of finding a convenient game-track descending eastwards. At 8.45 a.m. we reached the top and went east till 10 a.m., when both the ridge and the track died out at 3,400 feet, and we recommenced climbing and descending the spurs of the granite mountain.

At 11.30 a.m. we came to a contact of granite with fine-grained metamorphosed sediment at 2,600 feet, and noticed a remarkable phenomenon, that it coincided with the margin of a wide-spread windblow which extended along the steep ridge-side for an hour's travel. Many large trees had fallen, leaving nothing but shrubs and small trees standing; the slope was covered with prostrate trunks, *bélukar*, wild bananas and *bemban*. The destruction had not been caused by a landslide, for the soil was preserved intact. A hurricane or whirlwind had struck the mountain-side, and the depth of soil on the sedimentary rock was insufficient to provide a firm enough hold for the tree roots.

At 12.30 p.m. we came to a still larger tributary of the Terbau, and made our camp in a suitable spot at 1,700 feet. The stream-bed was very precipitous, with one waterfall leading to the next, but there were delightful, deep pools which made excellent bathing-places and, as camp had been pitched earlier than usual, it was possible at long last to get our filthy clothes washed and dried.

Next day we made a start at 7.30 a.m. going east or east-north-east along the flank of a hill of the same altered sedimentary rock or schist, on the northern side of our mountain torrent. It was a banded rock, fine-grained in texture, the product of intense heat-metamorphism on deposits of mud and fine sand. There were also abundant boulders of coarse-grained volcanic conglomerate, which had been converted to a very hard rigid rock by the same metamorphism.

At 8.40 a.m. we came to a contact of fine-grained granite with banded schist, and, five minutes later, the main stream of the Sungai

Terbau was reached, just below the mouth of the tributary on which we had camped the previous night. Granite was here *in situ*. We continued east downstream, passing exposures of banded schist dipping at a low angle (10 to 20 degrees) towards eastnortheast, and noted that boulders of volcanic conglomerate too were common.

At 11 a.m. we photographed the same banded schist dipping 30 degrees towards the eastnortheast (Plate VI) Boulders of granitic vein-rock were abundant, and their origin became evident when, at 11.30 a.m., a dyke of the rock was found intrusive into the schist (Plate VII).

At this spot there were big fish in the river, *kělak*, *sěbarau*, and others, more than two feet in length, and the stream had now become broad enough to cause a gap in the jungle through which the sunlight could penetrate. It was pleasant to spend an hour here, if only to get thoroughly warm in the sun. One of us was so interested in matters piscatorial and geological that he did not notice that he had become the centre of attraction for a few hundred bees, and only when two of them found their way under his vest did he really become conscious of their attentions. Luckily they were good-tempered, though a little later one of the Malays was stung.

Five minutes below we came to a great landslide, a consequence of the great floods of 1926, and saw that the débris from it had originally dammed back the river, drowning quite a number of tall trees. By this time the stream had cut through the dam, forming a channel with steep banks of red earth, twenty feet high. Banded schist could be seen *in situ* high up on the hill-side, and the landslide had brought down huge, freshly-broken boulders of hard, unweathered volcanic tuff, which is probably here interbedded with the schist. There were many boulders of the volcanic-conglomerate in the river. Further downstream great boulders of granite were seen lying on exposures of schist, indicating that granite is *in situ* higher up the valley-sides. It is likely that there was a trough-shaped depression in the original surface of contact of granite and schist, and that, when severe erosion had laid bare the granite, a tongue of schist penetrating into the granite was exposed. As is common elsewhere in Malaya, the stream elected to follow this tongue of sedimentary rock.

At 2.45 p.m. we camped at 500 feet and noted that the schist had now a steeper dip.

On May 27th, the ninth day, two hours' walk through an extensive area of flat land brought us to a Sakai kampong at Kuala Terbau, where we learnt for the first time that our party had followed the Terbau and not the Lompat. The Sakai here grow padi and own *kerbau* (buffaloes), and have such a permanent-looking settlement that they seem to have given up their wandering habits. A range about 1,500 feet high, one mile northeast from Kuala Terbau, showed a cliff-exposure of what appeared to be banded schist.

We followed the Sungai Kĕrau all morning, through riverside jungle and old *ladang* (clearings), until we halted to camp near Kuala Lompat at 1 p.m., on low banks of weathered quartzite and shale. Our rice-supplies were almost finished and none could be spared for the Sakai of the neighbourhood, who were anxious to get some. They sold us some two hundred head of *jagong* (maize), of which they had a large quantity.

From this camp, three hours' walk the next day brought us, through well-cultivated Malay kampongs, to the railway-station at Kuala Krau.

### GEOLOGY.

The rocks forming the country traversed have already been described in the preceding account, and the results will now be summarised.

Syenite, augite-syenite, and hornblende-granite are common in a north-and-south belt, two miles wide, between 1,200 feet and 2,500 feet on the western slopes of Bĕnom. While these rocks are intruded by granite, yet it is probable that the granite is of the same general age.

Further up the mountain, ordinary granite without hornblende is the country-rock, extending to the summit and down the other side until a deposit of banded schist, (sedimentary rocks and volcanic rocks which have been altered by the granite), is met at 2,600 feet. The Sungai Krau flows over flat land on the east side of the mountain, where infrequent exposures indicate that the country is built of quartzite and shale, interbedded with volcanic lava and tuff, all intruded by small granite-masses.

Concentrates washed from the syenitic rocks on the west side of the mountain are rich in magnetite and zircon. No tourmaline or other minerals commonly associated with tin-ore were seen, and no minerals of economic importance were detected.

### VEGETATION.

From a forestry point of view, the jungle above 600 feet on the Raub side and 2,000 feet on the Krau side is generally poor. A little *merbau* was found near streams below this altitude on the Raub side, and *chengal* was seen in isolated patches on the eastern slopes of Bĕnom up to 3,000 feet. It seems possible that *chengal* occurs in this manner all over the lower slopes of Bĕnom, but not in large quantities. The poorness of the surrounding jungle is characteristic; it is common with *chengal* in Pahang, that, where this species is found, there is very little else of value. The altitude 3,000 feet is much higher than that of 1,800 feet given by Foxworthy in Malayan Forest Records No. 3, though the average maximum height of *chengal* is about that mentioned by him. *Chengal* has also been recorded at 3,000 feet in Senaling Inas, Negri Sembilan. It seems possible that these isolated occurrences of *chengal* at comparatively high altitudes are relics of the time, estimated at 10,000 years, or more, ago, when it was forced to such high positions by the sub-



*A view of Gunong Benom from Paninjau, Fraser's Hill. The dotted line indicates the route from Pintu Padang to the summit.*





*Banded schist, derived from the metamorphism of volcanic mud, in Ulu Sungai Terbau, dipping at an angle of 30°.*





*A dyke of porphyry, intrusine into banded schist, Ulu Sungai Terbau*



mergence of the Peninsula in the sea. There are indications that the species is one of the longest lived of our trees, and that in the period mentioned *chengal* would run through only twenty or more generations, so that the age of this unique species must certainly be much greater than the time which has elapsed since the submergence of the Peninsula.

*Seraya* was met with up to 4,000 feet on both sides of the mountain. It is certain that, at least so far as Raub district is concerned, this name covers other species of the *Dipterocarpaceae* than *Shorea Curtisii*, whose range does not extend above 3,000 feet.

The hill-jungle, of which *Shorea Curtisii*, with its associated undergrowth of *bertam*, *Eugeissona triste*, is a characteristic representative, gave way to the mountain type in which the *Dacrydiums* appear at about 3,800 feet. True mossy forest was found above 5,750 feet (Plate VIII). In this type large trees are absent, none being more than about a foot in diameter. The stems of the very numerous small trees and saplings are swollen to two and three times their true diameter by a thick coating of moss, which is saturated with moisture as is the atmosphere and everything else inside the jungle here.

The statement attributed to I. H. N. Evans by M. R. Henderson (Jour. F. M. S. Mus. Vol. XIII., Pt. 4, Aug. 1927, pp. 217-227), that the whole of the top of Benom, from about 5,000 feet, is covered with low scrubby growth is hardly correct. Although the ridges above 6,500 feet bear a shrubby vegetation which does not exceed fifteen feet in height, yet, once off the ridge tops, the trees immediately become taller. In the sheltered valley where we camped at 6,400 feet, the trees were from forty to sixty feet high.

The ridge-vegetation in the mossy forest is dominated by *Dacrydium elatum* and *Leucopogon malayanum*, with numerous orchids and many species of moss and lichen. Lower down the Krau slopes the *Dacrydium* grows to large sizes. *Damar minyak* (*Agathis alba*) was not seen on the Raub side, but was common on the Krau side at about 3,000 feet.

In the Terbau valley, *keruing* (*Dipterocarpus* spp.), *meranti* (*Shorea* spp.), and *jelutong* (*Dyera* spp.) were common from 1,500 feet downwards. Except for a little rotan working by the Sakai, there was no sign of any working of jungle-produce until the boundary of the Krau Game Reserve was reached.

### LIST OF HERBARIUM SPECIMENS.

I am indebted to Mr. Symington of the Forest Research Institute, Kepong, and Mr. M. R. Henderson, of the Botanic Gardens, Singapore for the following remarks and identifications

#### VIOLACEAE

22464 *Alsodeia Wallichiana* Hf

#### TERNSTROEMACEAE

22336 *Anneslea crassipes* Hf. 6916 ft.

22331 *Pentaphylax malayana* Ridl. 6916 ft.

## OCHNACEAE

- 22466
- Gomphia oblongifolia*
- Ridl.

## OLACINEAE

- 22350 cf.
- Gomphandra affinis*
- Mast. 5500 ft.

## ROSACEAE

- 22318
- Pygeum*
- sp. Probably a new species; it will not match anything at the Singapore Herbarium. 5600 ft.

## COMBRETACEAE

- 22474
- Quisqualis indica*
- L.

## MYRTACEAE

- 22334
- Leptospermum flavescens*
- Sm. 6916 ft.

- 22335
- Eugenia Wrayi*
- King. 6916 ft.

## MELASTOMACEAE

- 22457
- Blastus Cogniauxii*
- Staph. 4000 ft.

- 22316
- Medinilla Clarkei*
- King. 5600 ft.
- 
- ing in the nature of the stamens. 6500 ft.

- 22472
- Memecylon garcinioides*
- Bl.

- 22460
- Pachycentria tuberculata*
- Korth.

- 22471
- Phyllagathis Griffithii*
- King.

- 22320
- Oritrephes Robinsonii*
- Ridl. 5700 ft.

- 22453
- Sonerila picta*
- var.
- concolor*
- Ridl. 4000 ft.

## RUBIACEAE

- 22342
- Argostemma nigrum*
- Hend The only previous specimen is the type in the Singapore Herbarium. 6916 ft.

- 22349
- Argostemma*
- sp. This is almost certainly new. The only other collection in the Singapore herbarium resembling this is an unidentified plant collected by Holtum at Brastagi. 5500 ft.

- 22463
- Ixora stricta*
- Roxb.

- 22468
- Mussaenda oblonga*
- King.

- 22461
- Pavetta indica*
- L.

- 22469
- Uncaria sclerophylla*
- Roxb.

## VACCINIACEAE

- 22315
- Vaccinium longibracteatum*
- Ridl. 5400 ft.

- 22345
- Vaccinium perakense*
- Ridl. 6916 ft.

## ERICACEAE

- 22344
- Rhododendron*
- sp. This is near
- R. longiflorum*
- , but is distinct from it and from anything else in the Singapore herbarium. 6916 ft.

## EPACRIDAEAE

- 22322
- Leucopogon malayanus*
- Jack. 6000 ft.

## MYRSINEAE

- 22332
- Ardisia benomensis*
- Hend. The only previous collection is the type specimen. 6916 ft.

- 22473
- Ardisia*
- aff.
- A. Virens*
- Kurz.

- 22347
- Ardisia*
- sp. Possibly new; it is unmatchable at the Singapore herbarium. 5500 ft.

- 22326
- Embelia rugosa*
- Ridl. 6916 ft.

- 22458
- Labisia pothoina*
- var.
- alata*
- Lindl. 4500 ft.

## STYRACEAE

- 22337
- Cordyloblaste pulcherrima*
- Ridl. 6916 ft.

## APOCYNACEAE

- 22462
- Ervatamia cylindrocarpa*
- K. & G.

## LOGANIACEAE

- 22456
- Gaertnera acuminata*
- Benth. var.
- montana*
- Ridl. 5000 ft.

## NEPENTHACEAE

- 22311
- Nepenthes sanguinea*
- Lindl. 5500 ft.

## BALANOPHORACEAE

- 22346
- Balanophora globosa*
- Jungh. 5500 ft.

## EUPHORBIACEAE

- 22465
- Alchornea villosa*
- Muell.

- 22470
- Antidesma salicinum*
- Ridl.

## MORACEAE

- 22341
- Ficus variolosa*
- Bl. 6916 ft.

- 22452
- Ficus pyriformis*
- Hook. var.
- augustifolia*
- 3000 ft.

## ORCHIDACEAE

- 22329
- Coelogyne carnea*
- Hf. 6916 ft.

- 22327
- Crinonia parviflora*
- Pfitger. 6916 ft.

- 22319
- Dendrobium augustifolium*
- Ridl. 5600 ft.

- 22310
- Dendrobium cornutum*
- Hf. 5400 ft.

- 22323
- Eria Scortechinii*
- Hf. 6000 ft.

- 22328
- Platyclinis gracilis*
- Hf. 6916 ft.

- 22324
- Sarcopodium longipes*
- Kranzl. 6500 ft.

## LILIACEAE

- 22451
- Dracaena*
- sp. Near
- D. umbratica*
- , possibly new.
- 
- 5000 ft.

## BURMANNIACEAE

- 22313
- Burmannia longifolia*
- Becc. 5300 ft.

## CYPERACEAE

- 22343
- Gahnia javanica*
- Moritz. 6916 ft.

## CONIFERAE

- 22321
- Dacrydium elatum*
- Wall. 5700 ft.

## LYCOPODIACEAE

- 22454
- Lycopodium phlegmaris*
- . 4000 ft.

- 22455
- Lycopodium casuarinoides*
- Spreng. 5000 ft.

## FERNS

- 22467
- Antrophyum reticulatum*
- Forst. Klf.

- 22459
- Dipteris Lobbiana*
- Moore. 3000 ft.

## LIVERWORT

- 22314
- Hymenophyllum Blumeinum*
- Spr. 5300 ft.

The numbers given are those of the Forest Research Institute Herbarium at Kepong, Selangor. Where no height is given, the species is a lowland form collected on the foot-hills.

## MAHMUD II and ABDUL JALIL III.

1685—1720 A.D.

By R. J. WILKINSON, C.M.G.

Although the reigns of these two kings represent a dark page of Malay History they are of special interest because we can trace to them the origin of five Malay dynasties; Lingga, Singapore, Trengganu, Pahang and Johore.

The principal authorities for this period are; (i) Netscher, "De Nederlanders in Djohor en Siak"; (ii) a Bugis History, of which the Malay text was published at Singapore in A. H. 1329 (*Silasila Melayu dan Bugis*), and its English version, slightly abridged, by Mr. Hans Overbeck in the Malayan Society's Journal, December, 1926; and (iii) a Malay or anti-Bugis History, the Hikayat Johor, still unpublished, in the Batavian Society's library at Weltevreden.

Mahmud II was the son of Sultan Ibrahim of Johor and Pahang by a daughter of the *laksamana*, feudal lord of Bentan Sultan Ibrahim died on the 16th February, 1685, having been predeceased by the *laksamana*, his father-in-law. During Sultan Mahmud's minority the government was administered at first by a *Dato' Paduka Raja*—not a *Bendahara Paduka Raja* as stated in the works of Netscher and Rouffaer and in my own history. This *Dato' Paduka* died in A.D. 1788. His name takes precedence of that of the *Bendahara Sëri Maharaja* of his time on a letter of protest sent to the Dutch Government in May, 1685 (Netscher, App., p. viii). The explanation is that he was *bin laksamana*, the Queen-Mother's brother, uncle and natural guardian of the young king. When the *Dato' Paduka* died in 1688 A.D. the *Bendahara* became *ex-officio* regent and took precedence of all Malay Chiefs in the treaty of 1689 A.D. (Netscher App., p. viii). One result of the change was a prompt move from Riau (the *Dato' Paduka's* domain) to the older capital at Makam Tauhid The Court was there in 1689 A.D.

Sultan Mahmud was not "Sultan Mahmud" at all. He was styled Sultan Abdul-jalil and is so named in the Johor History and in the Treaty of 1689 A.D. But he is called Sultan Mahmud by the Bugis History, Netscher and Rouffaer, so "Sultan Mahmud" he is likely to remain.

The *Bendahara Sri Maharaja* died at some date between 1689 and 1699. His name was Abdul-majid and he is almost certainly the *Bendahara Padang Saujana* buried at Kota Tinggi. He was succeeded as *Bendahara (Paduka Raja)* by his son Abdul-jalil cf: in the Johor history *Mëgat Sëri Rama pun përgi mëndapatkan Bëndahara Paduka Raja*.

Of Sultan Mahmud's character the less said the better. But as the Hikayat Johor (which champions him) has never been published it is only right to give its defence of him as well as its explanation of the wrong that he did to Megat Sri Rama. Briefly "he was under the influence of the moon," i.e., a lunatic.

Baginda tiada boleh bēristēri karna bērbanyakan pēri; tiada di-pēdulikan kērajaan, pulang kapada bēndahara mēmēgang pērentah nēgēri; akan baginda itu gila dēngan bini pēri itu. Dan jika baginda mēlihat pērēmpuan yang baik rupa-nya datang-lah bēnchi sahaja sēbab pēri itu dēkat baginda.

Kapada suatu hari Sultan Abdul-jalil Shah bēradu siang hari. Maka datang orang pērsēmbah nangka; dan kapada waktu itu bini Mēgat Sēri Rama musok ka-dalam karna ia bunting tujuh bulan. Sērta di-lihat nangka itu tērlalu-lah ingin hēndak makan nangka itu tiada dapat tahani rasa-nya. Maka bini Mēgat Sēri Rama pun datang-lah mēndapatkan pēnghulu istana minta nangka barang satu ulas. Maka fikir pēnghulu istana dari sēbab ia bunting-lah maka sangat bērkēhēndak ini. Maka lalu di-ambilkan-nya satu ulas; maka di-mokan-nya-lah Sa-tēlah sudah maka baginda-pun bangun dari bēradu. Maka sēgala pēnjawat-pun datang mēbawakan ayer basoh muka, lalu sēmamay di-atas pētēra-na, lalu tērlihat kapada nangka, lalu baginda suroh ambil. Maka pēnghulu istana pun datang mēbawakan nangka, lalu di-pērsēmbahkan-nya mēngambil satu ulas mēmbēri bini Mēgat Sēri Rama karna ia mēngidam hēndak makan nangka. Tatkala itu baginda didalam tiada ingat kapada waktu bulan baharu timbul. Sa-tēlah baginda mēndēngar sēmbah pēnghulu istana maka baginda pun tērtawa; titah baginda suroh-lah panggūl bini Mēgat Sēri Rama itu. "Aku hēndak mēlihat anak-nya, ia-kah yang makan nangka itu." Maka di-panggūl-lah bini Mēgat Sēri Rama itu, maka ia-pun datang. Maka lalu di-bēlah pērut-nya; dan anak yang didalam pērut itu mēngisap nangka. Maku bini Mēgat Sēri Rama pun mati.

We will pass over the story of his assassination. According to Hamilton a Malay noble "passed a long lance through his heart and so made an end of the beast." According to the Johor Annals Megat Sri Rama cut his head open with a machete (*parang*). It matters little how he died. He was killed in August, 1699, at Kota Tinggi when mounted on the shoulders of one of his followers, whence his posthumous names, *Mangkat di-julang* and *Marhum Kota Tinggi*.

He was succeeded on the 3rd September, 1699, by his Bendahara Abdul-jalil, not by virtue of any relationship (as is sometimes claimed by the Bendahara's descendants) but ex-officio. The Bugis History says, "It is the custom that if a ruling house dies out kingship goes to the Bendahara" (Overbeck, p. 348). When a King dies the Bendahara becomes regent till a successor is appointed; when there is no successor he becomes regent indefinitely, i.e. he takes the throne.

According to Hamilton who knew him personally Abdul jalil was a religious bigot and a weak man, submissive in all things to a masterful younger brother. Abdul-jalil made that brother's title (*Raja Indēra Bongsu*) rank on a parity with those of his elders, the Bendahara and Temenggong. Even so he did not satisfy Tun

Mahmud; for as the Bugis history tells us. "Raja Indra Bongsu was made Yamtuan Muda" (Overbeck, p. 349). In 1715 the Yamtuan Muda signed a treaty with the Dutch the terms of which indicate his arrogance, the Sultan not being even mentioned (Netscher, App., p. xxiii).

On the 21st March 1717, what Hamilton calls "an army of Menacaboes" attacked and captured Johor. The Bugis Annals say that "Johor lost the fight for there was no harmony between the people and the nobles who had oppressed the people, altered old customs and done much wrong." This is quite likely. The leader of the Minangkabau "army" was one Raja Kechil, pirate-king of Siak, an adventurer of uncertain origin. Sultan Abdul-jalil fled to the East Coast where he met Capt. Hamilton at Trengganu in 1719. The Yamtuan Muda fell in the fighting. He was shot by Raja Kechil's men in a coppice and was known posthumously as *Marhum di-Kayu*.

Late in 1719 or early in 1720 a peace was patched up between Raja Kechil and Sultan Abdul-jalil on the understanding that the latter would give one of his daughters in marriage to the former. A royal marriage meant much to an adventurer like Raja Kechil, while Sultan Abdul-jalil was destitute and had everything to gain by peace. Sultan Abdul-jalil then went to Johor or Riau where Raja Kechil was. All would probably have gone well had the Raja married the Sultan's eldest daughter, *Tengku Tengah* or T. Erang, as first arranged; but he changed his mind afterwards and wanted to marry the youngest, *Tengku Kamariah*, instead. This was agreed to; but it gave great offence to *Tengku Erang* and her friends, causing tongues to wag and questions to be asked regarding the genuineness of Raja Kechil's claims to be a prince. In the end the ladies decided that the Raja was not a fit and proper husband for a young princess like *Kamariah*. But how break off the engagement? They were all in Raja Kechil's power. The old Sultan and his women and children decided to flee away back to the East Coast. They were caught off *Kuala Pahang*; the Sultan was killed; and the women and children taken to Riau where Raja Kechil married *Tengku Kamariah* by force. Such, at least, is my reading of an episode on which the Bugis and Malay stories disagree hopelessly in detail.

In a passage left untranslated by Mr. Overbeck the Bugis History (p. 21) says that Sultan Abdul-jalil reigned 2½ (lunar) years of which 19 were peaceful. This tallies exactly with the facts that have been given above though not with the confused account in the History itself which makes only one episode of the attack on Johor (A.D. 1717) and the flight of Abdul-jalil and his daughters (A.D. 1720). The three troubled years were the interval.

Sultan Abdul-jalil is known as *Marhum Kuala Pahang*. His death ends the reigns under discussion; but the real interest of the reigns is genealogical. Who were the founders of the five dynasties first mentioned?

The first two dynasties give no trouble; they are in history. Sultan Abdul-jalil's son became Sultan in 1722 under the title of Sultan Sulaiman Badr-al-alam Shah. He is known as *Marhum mangkat di-Batangan* and died on the 20th August, 1760. Before his death he had raised his son Abdul-Jalil (*Tengku Bësar* and *Raja di-Baroh*) to royal rank as regent so that Abdul-jalil, though never installed as his father's successor, was a Sultan at the time of his death in January, 1761, and should count as such. From that date the genealogy is not in dispute. A list of the Sultans (omitting the *Tengku Besar Abdul-jalil*) is given by Rouffaer (p. 600), "Was Malaka Emporium voor 1400 A.D. genaamd Malajoer?"

The story of the Trengganu Sultans is less certain. Our authorities are: (i) a few statements of Netscher; (ii) a table of Sultans given by Sir John Bucknill in this Journal (April 1925; pp. 196, 197), and (iii) a short history of Trengganu in another number of this Journal (May, 1916). From the last we learn that the first Sultan was Zainulabidin bin Abdul-majid, *i.e.* he was a brother of our Sultan Abdul-jalil. By Netscher we are told that "according to native sources" he was installed as Sultan by Sulaiman Shah in A.D. 1725. Apart from that he seems to have made very little impression on history and is left unmentioned in both the Johor and Bugis Chronicles of his time. He died on the 7th March, 1733 (Netscher, p. 74, footnote).

He was succeeded by his son 'Tun Dalam or Raja Këchil' who took the title of Mansur Shah and was unquestionably a remarkable man. He is known as *Marhum Bësar* or "the Great." His personal name we do not know. He is almost certainly the *Yangdi-përtuan Këchi'* who was taken by Sultan Sulaiman from Trengganu to Riau in A.H. 1149 (1736 A.D.), he may be the "Raja Abdulkadir" who was circumcised shortly afterwards (Overbeck, p. 380). He married Tengku Bulang, daughter of Sultan Sulaiman, in 1739. He reigned sixty years, according to Bucknill he reigned seventy-one years, but the dates given by Bucknill are more like those of his birth and death. I am inclined to think it possible that he was born even later than the date given by Bucknill for his accession, as it was then usual to count as royal only such sons as were born after their fathers' accession to the throne and in that event his date of birth would be about 1725 A.D. Sultan Mansur played a great part afterwards as head of the "Malay" (in contradistinction to the "Bugis") party at the Riau Court, and if his father-in-law, Sultan Sulaiman had not chosen of his own free-will to remain a *roi-fainéant* the history of Malaya might have been very different. But this is a digression. From Sultan Mansur onwards Bucknill's names of Sultans agree with those in Netscher though his dates do not always tally and no relationships are given. The following (partly from Netscher) may be of use for comparative purposes:

III. Zain-al-abedin II, son of Mansur, 1793-1808;

IV. Ahmad I, son of III, 1808-1827;

V. Abdul-rahman, son of III, 1827-1831;

- VI. Daud, son of IV, 1831, reigned for three weeks;
- VII. Mansur I, son of III, 1831-1836;
- VIII. Mohammed, son of VII, 1836-1839;
- IX. Omar, son of IV, 1839-1876,
- X. Ahmad II, son of IX, 1876-1881;
- XI. Zain-al-abedin III, son of X, 1881-1918.

The Bendaharas—afterwards Sultans—of Pahang are still harder to trace. Our authorities are: (i) the Bugis History, (ii) the Hikayat Johor; (iii) a few statements in Netscher and titles mentioned in treaties given in his appendices; (iv) the “official” genealogy of the Bendaharas published (with some valuable notes) by Mr. Linehan in this Journal for December, 1926; (v) the “official” genealogy of the Temenggongs of Johor, given in my History, 3rd Edition, p. 82, and (vi) a genealogy given me in Singapore by a Malay with some inner knowledge of the facts. This last genealogy was looted by the Turks in 1922; what they wanted it for, I cannot guess; but it had served as the basis of the genealogy given on page 83 of the third edition of my History. One source of inference may be added. It was usual at that time for a Temenggong to succeed a Bendahara and for a Paduka Raja to follow a Sri Maharaja. I put the results of such inferences in brackets.

The following is my list of the Bendaharas after the accession of Sultan Abdul-jalil in A D. 1699.

I. Bendahara Sri Maharaja Tun Mas Anom, brother of Sultan Abdul-jalil. He is mentioned in the Bugis History (Overbeck p. 349), “Temenggong Abdullah was made Bendahara to replace Tun Mas Anom who had died.” His title (Sri Maharaja) appears on the seal of the Dato<sup>1</sup> of Rembau (1708 A.D.) and in a treaty of A.D. 1715 with the Dutch (Netscher, App., p. xxiii).

II. Bendahara (Paduka Raja) Tun Abdullah, brother of Sultan Abdul-jalil. We are told in the Bugis History (Overbeck, p. 349) that Johor was destroyed in Bendahara Abdullah's time. The date of the fall of Johor is March 1717.

III. Bendahara Sri Maharaja Tun Hussain, eldest son of Sultan Abdul-jalil. He was born before his father succeeded to the throne and was ruled ineligible for the Sultanate as he was not an *anak di-dalam* or “born in the purple”; but he claimed the throne (Overbeck, p. 350) and is mentioned as a brother (*saudara*) of Sultan Sulaiman in the Johor History also. His title (Sri Maharaja) appears in the Dutch Treaty of A.D. 1734. He is called the Bendahara Pekok or Pegoh in both histories. The Johor history says of Sultan Abdul-jalil. *Waktu ia lagi menjadi bendahara bĕranak sa-orang, itu-lah di-jadikan bendahara di-Pahang dan itu-lah keturunan bendahara Pahang yang ada sĕkarang ini.* This is categorical enough; but it is just possible that he is confused with his brother Mutahir (Tahir) from whom the Pahang Sultans are avowedly descended, and of whom the statement would

also be true. The Bugis History is very confused about him. It represents Tun Hussain as disputing the throne with Sultan Abdul-jalil who was not an *anak di-dalam*, as the History suggests. The dispute was with the *anak di-dalam* Sultan Sulaiman.

IV. Bendahara (Puduka Raja) Tun Abdul-jalil, brother of Sultan Abdul-jalil. While Temenggong he gave his daughter in marriage to the first Yamtuan Muda; cf. Overbeck's Bugis History, p. 358; Netscher, p. 59. He would naturally succeed as Bendahara on his nephew's death, and we find him as Bendahara in the genealogy given in my History, third edition, p. 83. His daughter had been married in infancy to Sultan Mahmud (Netscher, p. 59); so he would not be of Tun Hussain's generation. He outlived Tun Husain but not for long.

V. Bendahara Sri Maharaja Tun Mutahir (Tahir), probably a son of Sultan Abdul-jalil. He figures in the genealogy on p. 83 of my History as Temenggong to Abdul-jamal; and we know (from Linehan) that he ruled as Bendahara in Pahang where his grave is shown. He figures as "Sri Maharaja" in the Dutch Treaty of 1756 A.D. As his son married a daughter of Bendahara Husain I assume the two to be of the same generation, probably brothers.

VI. Bendahara Paduka Raja Tun Abdul-majid, son of Mutahir (v). Tun Abdul-majid is mentioned in the Bugis History (Overbeck, p. 380), "The Sultan married Tun Abdul-majid to the daughter of the Bendahara, Tun Inah,"—indicating that the parties to the marriage were very young at that time, *i.e.*, about 1736 A.D. In the Dutch agreement of the 12th December, 1757, we read of the "Datoë Temenggong Tun Abdul-majid." In 1770 he was Bendahara (Linehan). He installed Raja Haji, Yamtuan Muda of Riau, in 1778; and signed agreements with the Dutch in 1784 and 1787 (Netscher, App., pp. lix-lxx. Netscher (p. 107) speaks of him in 1760 (while he was still Temenggong) as Temenggong Puduka Raja which is what we should expect.

Tun Abdul-majid lived to a great age. He must have outlived his younger brother, Temenggong Abdul-jamal who should otherwise have succeeded as Bendahara. He was alive in February, 1802 (Netscher, p. 244).

From this time the Bendaharaship of Pahang separates from the Temenggongship of Johor, and the holders of the two offices are as shown in the official pedigrees. The "interregnum" to which Mr. Linehan alludes may have been due to the Temenggong—a Bugis—claiming to become Bendahara on the strength of the many precedents. For the rest of the Bendahara line Mr. Linehan's article should be consulted.

The line of the early Temenggongs may be deduced easily from that of the Bendaharas as each became Bendahara in his turn. It runs as follows:—

I. Temenggong (Paduka Raja) Tun Abdullah, afterwards Bendahara II.

II. (Temenggong) Sri Maharaja Tun Husain; afterwards Bendahara III.

III. Temenggong (Paduka Raja) Tun Abdul-jamal (Netscher, p. 59); afterwards Bendahara IV.

IV. Temenggong Sri Maharaja Tun Mutahir (History, p. 83); afterwards Bendahara V.

V. Temenggong Paduka Raja Tun Abdul-majid (Netscher, p. 107; Netscher, App., p. xxxiv); afterwards Bendahara VI.

The remaining Temenggongs are given in my "History," third edition, on p. 83.

No finality whatever is claimed for these lists and genealogies. Further evidence will come by degrees. All that is hoped from this article is that it may sum up what we know at present and so bring us a stage nearer the truth.

## HIKAYAT SULTAN BUSTAMAM.

By H. OVERBECK.

In the introduction to my account of the "Hikayat Gania Mara," published in vol. VI, part II, of this journal (June 1928), I mentioned that in one of the Malay bookshops I had found a copy of the "Hikayat Sultan Bustamam." Dr. Winstedt informed me that the Malays—as far as there are still Malays who read their own literature—treat this story with a certain veneration, and that a *Jampi* or incantation is read over it before the book is opened.

I have been unable to trace a manuscript of this Hikayat in the published catalogues of Malay MSS. Two lithographed editions are mentioned in the catalogue of the "Koloniale Bibliotheek" at the Hague, the one published in Penang A.H. 1312 (1895), and the other also in Penang A.H. 1317 (1900). My own copy is published in Singapore A.H. 1332. I have not seen the Penang editions, but from what I know of Malay publishers I assume that my edition is merely a third edition of the text published in Penang.

Dr. P. Voorhoeve kindly called my attention to the fact that Dr. C. Snouck-Hurgronje mentions a "Hikayat Sulutan Boseutaman" as belonging to Achehnese literature in his work "The Achehnese":—in vol. II, 143-155 (English Edition) a short account of the contents is given. The Achehnese story seems to be rather a "penglipoer-lara"—version of the original text. Dr. Snouck-Hurgronje gathered the material for his work mainly during the year 1892, and we may thus assume that the story was already widely known amongst the Malays before the Penang edition of 1895 (if that be the first edition) appeared.

In the Achehnese version, unless Dr. Snouck-Hurgronje left out in his account, which is hardly credible, the most important facts, there is not much to explain the veneration which the Malays show for this work. But it is otherwise with the complete story as published in the Straits Settlements. It is one of the legendary tales of the progress of Islam in India, exceedingly well written, though much of its original charm may have been lost in translating it into the Malay language. For it is not an original Malay story.

Both Penang editions, according to the catalogue of the Koloniale Bibliotheek, tell us something of the origin: "Ada-lah asal chëritëra-nya dengan bahasa Hindustan, di-obahkan oleh Dato' Saudagar Puteh.....kapada bahasa Jawi." (In my Singapore edition this information is omitted). But even without this information it is obvious that the "Hikayat Sultan Bustamam" must be of Indian origin. Leaving aside the Islamic basis, it is written by an author well versed in the "Nitisastra", the science of politics, of which the drama *Mudraraksasa* by Visakhadatta is the well-known paradigm. The author has not failed to underline the

sagacity of the viziers, who knew how to guide kings and princes so skilfully that without noticing it themselves they do exactly what the wise viziers deem necessary in the interest of their master the dynasty or the state, and who are not overscrupulous about the means as long as the end justifies them.

There is a certain kinship between the "Hikayat Ganja Mara" and the "Hikayat Sultan Bustamam" as regards some of the principal characters in the stories, which rather points to a common source, but where that source is, I have been unable to trace. The author of the "Hikayat Sultan Bustamam" apparently had a deep respect for the king of Gujerat (although he is nearly the only prince not converted to Islam by the hero) which may point to the story having originated either in Gujerat or somewhere in the neighbourhood. This would explain its finding its way into Malay literature, the influence of Gujerat on it being well-established. But I have been unable to trace the names of persons or countries mentioned in the Malay text in the Index to "The Arabic History of Gujerat" edited by Sir E. Denison Ross (London 1910-1928). The only hint as to its origin to be found in the Malay text is "Sultan Këbir Shah of our country" and his son Sultan Shah. (see below).

But in spite of its not being an original Malay story, and in spite of its being somewhat akin to the "Hikayat Ganja Mara," I think a synopsis of the "Hikayat Sultan Bustamam" is worth publishing, as it might lead to tracing the Indian original, and perhaps to a new edition of the Malay text, which well deserves it. Besides, I have been told that so far very little is known of the legends woven around the conquest of India by Islam, and a contribution to our knowledge of them might be acceptable, even if derived from a foreign source. As regards the beauty of the story, even after the adaption ("di-obah-kan") of it for the Malay language, I am sorry the condensation of 507 pages folio into the synopsis below can only give a very feeble reflection of it.

Amongst proper names the Malay scribe has played the usual havoc. They are sometimes interchanged, and are spelled differently throughout the text. I have corrected obvious mistakes, and have transcribed them, as they occur the first time or appear later more pronounceable.

I have to thank Dr. G. F. Pijper for his kindness in transcribing for me the Arabic titles and the Arabic genealogy of the kings of Sëmatrani.

This is the story of Sultan Bustamam, famous in Arabia and Persia, who conquered the whole of Khairani and converted people to Islam far into the North.

There is a country called Sëmatrani, with a port called Bandar Amasad, ruled by Sultan Yahya. His grand-vizier is Aplus, a

very wise man. Ships from Iskandariah, Arabia and Hindustan as well as from all islands visit the port, and caravans come from the interior.

In the interior, about eight days travelling, lies a kingdom of the Ibĕrani, called Bĕdĕrani. The name of its ruler is Maharaja Bĕniasin, and his grandvizier is called Taniasin.

Aplus puts an end to the frequent disputes and differences between Sĕmatrani and Bĕdĕrani by a letter and later a visit to Bĕdĕrani, and commerce between the two countries flourishes.

The rulers of both countries are childless.

Five days to the south of Sĕmatrani and subject to it lies a small principality called Damshik. Its prince, Amir Thalib, has two sons, Amir Sĕjaa, whose mother died at his birth, and Amir Ismail, son of a younger wife, who does not love her stepson. Amir Thalib divides his property; the share of Ismail he gives to the latter's mother, the share of Sĕjaa to the latter's fostermother. In Sĕjaa's share is a broad, curved dagger (*jambia*), an heirloom. Ismail's mother intrigues against Sĕjaa without success, but when Amir Thalib dies, she makes Ismail the ruler of the country, robs Sĕjaa of his patrimony, and though the courtiers try to intervene, she compels Sĕjaa to ask Ismail's permission to leave the country. Ismail agrees and tries to obtain the dagger from Sĕjaa against payment of 10 dirhams, and when Sĕjaa refuses, sends his courtiers to obtain it by force. They disobey his orders, bring Sĕjaa over the frontier into Sĕmatrani and build him a hut in the jungle. When his wife is going to give birth, Sĕjaa leaves her to find a midwife, is held up by bad weather, and loses his way in the jungle. During his absence his wife gives birth to a daughter,—assisted by the wife of a passing stranger, who calls the women of a village in the neighbourhood. Sĕjaa names the girl Siti Sĕlamih. In the jungle she reaches the age of nubility.

Sultan Yahya starts for a long hunting-trip. Five days after he has left the queen sends her brother, Amir Bahud, a coarse, brutal man, to take provisions to the hunting-party. One of his three elephants dies, and Amir Bahud, unable to find other beasts of burden or coolies in the jungle, forces Sĕjaa and his wife to carry the loads; Siti Sĕlamih escaping by chance. With cruel blows Bahud compels Sĕjaa and his wife to follow him for several days. When they break down, a man with a couple of elephants comes along, Bahud presses him into his service and leaves Sĕjaa and his wife lying on the road, unable to return.

Sultan Yahya, hunting deer, finds the house of Sĕjaa and sends his page to ask for water. The page finds Sĕlamih, exhausted by sorrow and want of food; she says that her parents have been carried away by robbers and gives him some water. The page reports, and the king goes to Sĕlamih, falls in love with her and sends for Aplus. He bids him have a search made for the robbers; meanwhile he will do his duty by the forsaken girl. Aplus

sends for some aged court-officials and the Khatib, and it being decided that in such a case the king may act as the Wakil who gives the bride away to himself, Sultan Yahya is married to Sēlamih, who at first is unwilling, but yields to the persuasion of Aplus that this is the only means of being reunited with her parents. The Sultan stays with her overnight in the hut, Aplus and the officials keeping watch outside, and returns with her to his town, where Sēlamih is given a palace.

When searching for the robbers Aplus meets an old man who calls him by name and promises him a child that will be an ornament to Islam. Search for the parents of Sēlamih would be vain. Two children would be born to the Sultan, the eldest of whom would be very fortunate. Aplus should make no enquiries about him who speaks to him; he will soon understand the will and the power of God. The old man disappears, Aplus returns to the town and reports to the Sultan, who orders alms to be distributed and prayers be read for the fulfilment of the prophecy.

Sēlamih is still mourning for her parents, of whom she has no keepsake but the dagger. She becomes pregnant, the queen tries to intrigue against her, but the Sultan protects her. One day he leaves the town to watch the repairing of the tomb of his ancestors, whereupon the queen sends two of her maids to call Sēlamih under the pretext that her parents have been found, but with the order to bring her to Bandar Amasad and sell her to the first ship sailing for a foreign country; the price the maids may share. The maids sell her to one Kakaduni, mate of an Arabian ship sailing for Pulau Sērindit. He pays 20 dirhams for her, but insists upon a letter of sale signed by the Sultan, which on the instigation of the queen is forged by her brother Amit Bahud and sealed with the seal of the Sultan. In vain Sēlamih protests; the Sultan's letter convinces the guards and the harbourmaster that everything is in order, and Kakaduni is allowed to take her on board of his ship. The maids report to the queen, who herself makes it known that Sēlamih has disappeared and informs the Sultan. All search is in vain. Aplus suspects the queen.

The queen gives birth to a son, Bahrum Shah; a few days later a son is born to Aplus and receives the name of Jamlus. Two years later the queen gives birth to a daughter. In both cases a messenger is sent to Bēdērani to Taniasin, and Maharaja Bēniasin sends presents. The Sultan and Aplus remember gratefully the old man, whose prophecy they think has now come true.

Sējaa and his wife at last crawl back to their hut, but Sēlamih is gone, and they find only her old clothes. They find no traces but those of men, and though a tiger may have carried off their daughter, they decide to go in search of her. Wandering from one village to another, they discover nothing, and when they come

to a large grange not very far from Bēdērani and are kindly received by the owner, Malik Jēmala, they settle down in the neighbourhood and adopt one of his children.

The ships carrying Siti Sēlamih meets not aing but contrary winds. Everybody knows that she is pregnant, but she refuses to tell even the captain the father of the unborn child. The captain suspects that she is a woman of ill omen (*orang malang*), as otherwise the sultan, who could not need the money, would not have sold her. A ship's council decides that she must be put ashore, and that the price he paid for her should be refunded to Kakaduni. The latter cannot refuse; he takes her ashore, gives her an amulet (*azimat ism'illah*), which he writes for her on the back of the letter of sale, some provisions, and after having prayed for her, returns to his ship. Sēlamih wanders along the shore, afraid to enter the jungle. The amulet protects her from tigers but the other animals, crowding round her in the night to be also protected, frighten her, and she finds no sleep. Wandering further next day, looking for water, she breaks down and swoons. Recovering, she sees a young man on horseback, who she thinks is her husband, but soon she sees that he is a stranger. He calls her by name and tells her not to be afraid, as God will protect her. She would find her family again in Tahta Yemen and should wander in the direction of Khairani, where she would find friendly people to take care of her and her child. Passing his hand over the bundle with provisions and over the dagger, he tells her that fresh water will spring from the earth wherever she thrusts the dagger into the ground, and that the victuals will never become exhausted. He adds another name of God (*ism*) to the amulet on the latter of sale, which will protect her from every danger, and rides away over the sea. It is believed that he was the prophet Khizr. Comforted and refreshed, Sēlamih resumes her wandering, and though friendly people, seeing her state, try to detain her, she continues her way until she reaches the mountain Jēbel Thēlahin, where she enters a pleasure-garden. The ruler of the country is a king of the Jins, Thēlahut, and the garden belongs to his queen, Dewi Nilawati. When the latter comes to her garden, she becomes angry at finding it entered by a human being, but none of her maids nor the Jins she calls up can approach Sēlamih owing to the protection of the amulet. Dewi Nilawati sends for her husband, but Maharaja Thēlahut, too, is powerless against the amulet. He comprehends its force, speaks kindly to Sēlamih, and recognizes her. He and Dewi Nilawati make friends with Sēlamih, and when the latter insists on wandering further, Dewi Nilawati tells her that no harm will befall her, as she has met the "Khatib al-aalam" (Khizr). She bids two fairy-princesses, Chēkur and Jērangau, accompany Sēlamih, and gives her a wishing-ring, to which Thēlahut adds another ring of great value. Sēlamih reaches the river Baidl, but her time has arrived, and she is brought to the house of a Zahid Sufian (or a Zahid of the Sufi-sect?), a large landowner living by the

river. In his house Sĕlamih gives birth to a boy, for whom the Zahid chooses, according to the *raksi*, the name of Bustamam, prophesying that he will conquer and convert to Islam the whole of Khairani. Sĕlamih should stay with him, her parents and her husband she would find again later at Tahta Yemen. Sĕlamih obeys, hangs the amulet round Bustamam's neck and gives the dagger and the bundle with victuals to the fairies to keep for her son. When Bustamam is about one year old, Sĕlamih, when visiting the plantations across the river with the wife of the Zahid, is carried off by a messenger returning from the prince of Tĕlĕk-tata to Sĕmatrani. He is, however, unable to do her any harm, and he promises to bring her to Tahta Yemen and to ask her in marriage from her parents, whom Sĕlamih tells him she is going to meet there. When they reach Sĕmatrani, the messenger is put into prison for some offence, and his family take care of Sĕlamih who they think is his wife.

The wife of the Zahid informs her husband of what has happened to Sĕlamih, but he is sure that no harm can befall her, and that it is the will of God that he should bring up Bustamam. The time when Sĕlamih would find her parents had not yet come. The fairies have already been informed of what has happened, by Dewi Nilawati. From his seventh up to his twelfth year the Zahid and the fairies educate Bustamam and teach him all they think necessary. When twelve years old, Bustamam asks who his parents are, and is told all. He would go to Tahta Yemen to search for his parents; the Zahid tells him that the time has not yet come when he shall meet them, but that he may go away to see the world. Taking the dagger and Kakaduni's bundle, and accompanied by the fairies, Bustamam leaves the Zahid, loses his way in the jungle and comes to a mountain where Sĕmbakas is the ruler of the Jins and spirits. He is prevented by the amulet from approaching Bustamam, but being acquainted with the fairies, obtains through them permission to meet Bustamam, entertains him and gives him five swords, two for fighting, and three ornamental ones, as Bustamam will meet four sons of officers and courtiers from Sĕmatrani, who have been compelled to leave their homes owing to the oppression by Bustamam's younger brother. He shows Bustamam the road to Sĕmatrani.

In former years, when the ancestors of Bĕniasin ruled in Bĕdĕ-rani, one of the kings, when feasting his ministers, had seen the moon being split in half.<sup>1</sup> He sends an expedition to find what has happened, and travelling through Rum, Turki and Persia the messengers reach Arabia. They are told that a man from Mekah, of good family, had proclaimed himself the torch of the Lord of all the worlds, and had altered the old creed. A great prince from the East had come to him and had asked for a token, whereupon the man from Mekah had invoked the moon and had

<sup>1</sup>The well-known legend, in Malay "Hikayat bulan berbĕlah duwa."

done the wonder, which had converted the prince and many other people. But before the wrath of the prince of Mekah the man had fled to Medinah. The messengers decide to report to their king by letter and to proceed to Medinah to make further enquiries. The report duly reaches Bédérani, and the king resolves to wait for the return of his messengers. The report is placed in a golden casket, which the king keeps locked in a chest next to his bed. From time to time he reads the report, but dies awaiting for the messengers (who never return). His successor took out the casket from time to time, burned incense before it and sprinkled it with perfumes, but never opened it or read the report. His successors worshipped the casket, over which they used to scatter flowers, but none dared to open it, and that worship had come down to the time of Bēniasin. Once Bēniasin dreams that he will remain childless. He talks his dream over with his grandvizier Taniasin, who advises him to put his trust in God. The king mentions the casket and proposes that some vow should be made to it. The casket is brought and an offering of gold and silver is promised, if the king's wish should be fulfilled. The following night an old man appears to him in a dream, saying: "orang bėrkaul bėrnadzar mėmintakan mėmėlihara diri-nya, maka raja bėrnadzar akan mėrosakkan diri-nya." ("People generally offer prayers and vows to God wishing to protect themselves; the king makes vows to destroy himself") The king calls Taniasin, who has had the same dream, and Taniasin consults the sages. They say that they have had signs that an immense flame of fire would rise and burn the whole country of Khairani, that it would look quite white and not a single leaf would be left in it, but they are unable to find out the meaning. Taniasin sends them away, but mournfully ponders over the king's and his own dream. In the following night the king dreams that a beautiful youth comes to him and tells him, only the unclean (najis) will disappear and everything will be clean; he should therefore not sorrow. The king informs Taniasin, who tells him what the sages have said and thinks that it is a good omen. Alms are distributed, and two months later the queen and the wife of Taniasin become pregnant. The queen gives birth to a daughter, Princess Kėmalawati and the wife of Taniasin, fifteen days later, also gives birth to a daughter, who is named Rakna Mala. The king of Sėmatrani and Aplus are duly notified. The two girls grow up together; many princes sue for the hand of the princess.

At a distance of about 6 months' travelling from these countries, in the North, lies a kingdom of sun- and fire-worshippers (*kafir maiusi*), called Loban Kaladesa. It is ruled by Maharaja Kerbabahur, to whom the country of Khairani is also subject. His two queens have given birth to two sons, the elder Dandam Bachtiar, who is as most men of his country about 6 cubits high, and immensely strong. His younger halfbrother is called Dandam Serjana. Their father sends female messengers out to the courts of

all the neighbouring countries to sell clothes in the palaces, and to draw pictures of the marriageable princesses. At a distance of ten days' travelling from his own city he causes an immense town to be built, which he calls Tahta Yemen. In that town Dandam Serjana shall rule, whilst Dandam Bachtiar will inherit the kingdom of his father. Bachtiar is known as a bad brutal and violent character. When one of his messengers brings him a picture of Princess Kēmalawati of Bēdērani, Kerbabahur chooses her as wife for Bachtiar; to choose one for Serjana he waits for pictures from the West.

There is a small country called Samaluki, which has a flourishing export of spices, but suffers greatly from invasions from Turki and Sembat. The king and his ministers therefore resolve to institute a gynarchy, the ruler, ministers, officials and soldiers to be women; the men shall not participate in the affairs of state but do the work of the women. The woman also chooses her husband and has to ask him in marriage. The female army succeeds in repelling an invasion of the Turks and others, to their great shame, and soon the neighbouring princes leave Samaluki alone. The picture of the princess of Samaluki is brought to Kaladesa, and Kerbabahur chooses her as a wife for Serjana. Embassies are sent to Bēdērani and Samaluki.

King Bēniasin is against the proposed marriage, as the bridegroom is a stranger in race and creed, and besides a brutal giant. He may not, however, decline, his country being too weak, and Taniasin advises, him to accept the suit but to ask for Serjana as bridegroom for the princess, who is younger and would not live so far away. Kerbabahur is satisfied, and the arrangements are confirmed by letters. The town of Tahta Yemen will be the present of Kerbabahur to his daughter-in-law; in three months the marriage shall take place.

Bēniasin puts a life-size portrait of Serjana in his palace. Kēmalawati sees it and is horrorstruck, but is told that Bachtiar is still worse, and that her father, being weak, must fulfil his promise. Kēmalawati further finds the casket near the bed of her father, her maids imploré her not to open it, but Rakna Mala encourages her, as with that bridegroom neither wrath nor death should have any terror for her. They open the casket, and read the report, which the princess commits to memory. Rakna Mala informs the king, who is not offended. He builds a special palace, wherein the princess and Rakna Mala with their own court are installed, but being in great apprehension as regards the future, the king informs Sultan Yahya of Sēmatrani of what has happened, and calls up the princes subject to him.

The other embassy reaches Samaluki and is greatly surprised to find a women's reign. The queen tells them that according to the custom of the country the princess must ask the prince in

marriage, but they would send an embassy to Kaladesa, and if they liked the prince and he would submit to their customs, he should have the princess. Kerbabahur is furious, sends the letter back and threatens war if Samaluki disobeys his will. He orders Bachtiar to prepare to attack Samaluki, and gives him the picture, which appeases Bachtiar, though at first he was offended as he knew that the princess of Bēdērani was intended for him. The picture of princess Kēmalawati Kerbabahur gives to Serjana and tells him to proceed to Bēdērani and marry her. Together the brothers depart and pitch a camp where their roads separate. There they meet an ambassador from Samaluki, and open the letter addressed to Kerbabahur, which reproaches him for his attitude towards a weak people. They are a weak people, with heads as fragile as the egg of a pigeon, but they will offer resistance as well as they can, and when they are vanquished and powerless, he can do what he likes. Dumbfounded the courtiers and officers look at each other, giddy as from the smell of datura. The two princes quarrel as to which of them is concerned in the matter, and Kerbabahur is called to make peace between them. He arrives in haste, but is furious and ashamed when the letter is read to him, and orders his officers to impale the letter and the picture of the princess. He promises Bachtiar another bride, but Bachtiar insists now on princess Kēmalawati, whilst Serjana will abide by his father's decision. Kerbabahur ponders how to find a way out of this dilemma.

Sultan Yahya of Sēmatrani gives his son Bahrum Shah as companions Thahak, the son of his brother-in-law Amir Bahud, Jamlus, the son of his grandvizier Aplus; Dhadan, the son of an officer; Sulan, the son of a biduanda, and Halwan, the son of a merchant. Under the influence of Thahak, whose character resembles that of his father, Bahrum treats his companions very cruelly, especially Jamlus. Once he is whipped until blood is drawn, and then bound and exposed to the sun. His father and the Sultan find him, and Thahak is removed from the court of Bahrum Shah. His father Bahud is offended at this and intrigues with the queen against Aplus and his son. The queen tries to persuade the Sultan to appoint Bahud grandvizier, and though not yielding to her, the Sultan neglects Aplus and give some of his work, especially outside the court and the town, to Bahud, who tries to incite the officials against Aplus. Once, when villagers bring contributions to Aplus according to custom, a scene ensues in the audience-hall between Bahud and Aplus, and the Sultan has to take the side of his grandvizier and to reprimand Bahud. But the Sultan is weak against his queen and his son, and soon Thahak is admitted again into the companionship of Bahrum. Life becomes unbearable for the other boys, and Jamlus and the three friends resolve to run away. One night they leave their homes, and disappear. To put pursuers on the wrong scent, they kill a deer, tear their clothes, and leave them, smeared with blood,

in the jungle. Some peasants find the clothes and everybody thinks the boys have been carried off by tigers. The Sultan, too, mourns for them, recognising that the behaviour of his son is the cause of their running away. The boys lead a happy life in the jungle and the villages.

Bustamam in the meantime has come into the neighbourhood of the town. The fairies hide invisibly in his knees, the swords he conceals in the jungle. He meets Jamlus and his friends, and they soon feel great sympathy for each other, Bustamam persuades them to follow him and leads them to the swords. Dhaban chooses immediately one of the fighting swords, the others choose an ornamental one. They tell him who they are and why they have run away, and Bustamam asks them to wait a few days for him, as he wants to see the town. He feeds them with food from his bundle, and they drink the water produced from the ground by the dagger. Bustamam calls Chëkur and Jërangau, and Chëkur is told to guide the boys to the hills. Jamlus tries to find out from Chëkur who Bustamam is, but she will not tell him. When they have reached the foot of the hills, Chëkur disappears. Sëmbakas finds the boys, and to test their courage, appears in the form of hideous animal. Jamlus and Dhaban show no fear; the latter snatches up his sword to defend Jamlus. He fights with Sëmbakas, who captures him and orders Jamlus to await with his two other friends the return of Chëkur. He will take Dhaban with him, and Jamlus should tell Chëkur that he who had given Bustamam the swords had taken Dhaban with him, and would bring him back when Bustamam returns. He tells Jamlus who Bustamam is, and disappears with Dhaban, to whom he teaches the science of war. All the boys are glad to have found a new master.

Chëkur finds Bustamam in the house of Aplus. The latter had found the boy in the town where he had made preparations for the voyage of the Sultan to Bëdërani, and feeling a strange leaning towards him, has taken him home. Bustamam tells his name and that he has been separated from his mother, for whom he would search in Bëdërañi. The fathers of the other boys come to Aplus, and when they talk over the disappearance of their sons Bustamam opines that they have run away to find a better master and will return later. Aplus ponders over the possibility and asks Bustamam to go with him to Bëdërani, but Bustamam is afraid of prince Bharum Shah after all he has heard. He consents however to stay over night with Aplus, who sees his dagger, and reflects that Bustamam may be the son of the Sultan and Siti Sëlamih. Chëkur receives permission to tell Jamlus everything, and following his advice she brings the necklace of Jamlus and the sword of Dhaban, which the boys had given to Bustamam to be sent to their parents, to the mothers of the two boys, saying that she had found the things outside the citygates. Chëkur then

returns to the other boys and finds Dhaban gone and Jamlus already knowing all about Bustamam. They remain together at the foot of the hill. Aplus finds cause for further musing in the reappearance of the necklace and the sword.

The news of the visitor of Aplus and of his beautiful dagger reaches the Sultan and Thahak, who persuades Bahrum to send for the boy. Bustamam declines to come or to send his dagger for the inspection of the prince, and Thahak and Bahrum send some of their men to take the dagger from him by force as soon as he leaves the house of Aplus. Aplus is anxious on Bustamam's account and thinks it better that Bustamam should leave at once for Bědĕrani. He gives him a jacket as a keepsake, and Bustamam leaves him, declining to be accompanied by an officer. Bahrum's people approach and ask him to sell the dagger; if he will not consent, they will take it by force. Bustamam asks whether he is dealing with a prince or a streetrobber? Much ashamed the messengers return, but are bidden by Thahak and Bahrum to do as they are ordered. They approach Bustamam again, who says that this is a matter for the king to decide. One of the messengers snatches the dagger and runs away, through a charm Bustamam makes the dagger harmless, goes to the audience-hall and asks the Sultan, whether the robbery had been committed in his name. The Sultan sends an officer to Bahrum to fetch the dagger; Thahak exchanges it for another one, though the officer sees it and warns him. Bustamam declines to accept the proffered substitute and calls witnesses who have seen his dagger. The officer relates what has happened, and the Sultan sends Bahud with strict orders to reprimand his son and to bring the real dagger back. Bahud, who naturally takes the side of his son and the prince against the village-boy, is easily persuaded and returns with empty hands. The Sultan offers Bustamam one of his own daggers, but Bustamam declines. He had not come to ask for a weapon, but to tell him of the robbery. He saw now that he would have to bring his case before the judge, the Sultan being busy with other things and having no time for this small matter. But the Sultan would think otherwise as soon as a righteous judge could be found; he, Bustamam, would now go to Bědĕrani to search for his parents. Jĕrangau brings him his dagger, substituting a similar-looking one, and he returns to the other boys. The jacket Aplus has given him he gives to Jamlus. Sĕmbakas brings back Dhaban, and they take leave of Sĕmbakas and set out for Khairani.

When they reach Bědĕrani, they meet Taniasin, who likes the boys at first sight. They tell him that they have come to see the marriage of the princess of Bědĕrani, and he advises them to find lodgings near the palace. They see an immense number of people carrying water into the town and hear that there are no wells inside the walls. They find lodgings in the house of an old woman called Sokma and her husband Dahdi, on the condition

that every day they have to fetch two jars of water. Sokma brings them back to Taniasin to ask his permission to house the strangers and is chaffed that Dahdi will become jealous. The head of the water-supply frees her and her guests from carrying water for the palace, but advises her to bring now and then some flowers or fruits to the princess to show her good will. Sokma will cook for the boys but they decline and eat from the bundle of Kakaduni, and Sokma thinks they are followers of Islam and may not eat her food. During the night, when they have a room to themselves, they ask the fairies to change the looks of Jamlus and his friends, so that they may not be recognised by their parents who are sure to come to Bédérani to attend the marriage. They arrange that Bustamam should be given out as the son of their "Guru" and be addressed as Tuan; the names of the other boys are changed: Jamlus into Johar, Dhaban into Khamis, Halwan into Jumaat, and Suban into Sabtu. The next morning the old couple are surprised at the change, but accept the explanation that it is due to their having had their first good sleep for a long time. Johar hints that Bustamam would probably be able to find water within the town, for which the old people think the king would give whatever he would ask for, but Bustamam says he is still too tired for that task and requests them not to talk about it.

Every day the boys stroll through the town, and Jumaat, acting as a broker in the market, earns enough money to buy food, and to make a present to the old couple. Bustamam wishes to send the two fairies in search of his parents, but they tell him that he will find them at Tahta Yemen, though the time had not yet arrived.

One day Sokma brings a little present to the Queen who tells her that she is freed from carrying water for the palace. She then pays her respects to the princess, who is still mourning over her fate. Sokma is mercilessly chaffed by the maids and Rakna Mala, and says that she has her grandsons living with her, one of whom would probably be able to find water within the town. Rakna Mala asks about him, and Sokma says she does not know who he is, but is sure that he is of noble descent. He does not eat her rice and curry, but lives from the provisions he has brought with him and is probably a Muslim. The princess and Raka Mala think of the report they have read. When Sokma returns to her house, Johar gets from her all the information about the princess and her sorrow over the intended marriage, and Bustamam arranges with him that Johar and his friends, under the protection of Jérangau, shall go to Tahta Yemen and make enquiries about Kerbabahur and his power. They reach Tahta Yemen, stroll through the town and hear in the audience-hall that the prince will soon start for Bédérani. They proceed to Kaladesa, where in the audience-hall Kerbabahur shows the pictures of other princesses to Bachtiar, who likes none of them. The audience-hall being thronged, they wait outside for the princes. First comes

Serjana, who looks so hideous that they think he must be Bachtiar, but when the latter comes, they are really frightened. He talks to them, and when they tell him that they have come to see the wedding, he bids them return promptly, as he will soon leave for Bédérani. They have trouble in leaving the town, as the gates are closed and are opened only once in ten days when Kerbabahur bids his sons visit him; but Jêrangau opens the gate for them. They have seen the impaled letter and portrait of the princess of Samaluki, and Jamlus learns the letter by heart. They return to Bédérani, where meanwhile the guests from Sēmatrani have arrived. Aplus is lodged near the house of Taniasin, and the two friends discuss the loss of Jamlus and his friends. Taniasin does not believe in the tiger-story but thinks that the boys have used the ruse of the bloodstained clothes to avoid pursuit, and tells of the five boys who have come to see the wedding. He sends for them and greatly frightens thereby the old couple, as four of the boys have left. The old woman runs to the palace of the princess, and mad with fear talks wildly against Tamasin, whilst old man Dahdi feigns to sleep. Rakna Mala finds out what the matter is, and the old dame is much chaffed and sent to Taniasin, where Dahdi appears with Bustamam. Aplus recognizes him and Bustamam admits that he has stayed with Aplus at Sēmatrani; he has come to Bédérani to try and find justice. Aplus informs Taniasin of the matter of the dagger. They try to find out from Bustamam who his friends are, but he feigns to know nothing and tells their new names, to the great disappointment of Aplus, though Taniasin thinks that names are nothing and that they must see the boys first. The old couple are chaffed again and sent home with Bustamam. Aplus draws Taniasin's attention to the latter, who does not look and act and speak like a village-boy and in a certain way resembles his king, while the dagger he had seen with him had been of great value. His king, however, had no other wife but his queen; he had once been married to a village girl, who had died after a few months. They then discuss matters of state and the dilemma of the king of Bédérani, who does not want to have his daughter married to Dandam Serjana, but is unable to oppose Kerbabahur.

Rakna Mala sends two of her maids to fetch Sokma, the maids see Bustamam in the house of the old woman and are surprised at his beauty. Sokma tells them that he is the son of the Muslim Guru. Arrived at the palace, Sokma is questioned about Bustamam, and whether he will be able to find water. Sokma is not sure whether it is Bustamam or one of his friends who has gone away and is sent home with the maids to make sure. Bustamam finds out that Sokma has already talked about the matter, though she tries to deny it. He admits that he knows something about finding water, but the real expert had gone to Kaladesa. The maids return to the palace and are sent again to Bustamam to enquire whether he could find a small spring in the palace from which they could water their flowers. The maids should carefully

note each word of Bustamam's reply. The latter answers, the real expert being away, that he would try and find some water; the reward the princess and Rakna Mala would know themselves, he only wants to buy some cloth for a headkerchief (*těngkolok*). The maids return and find the price very cheap; Rakna Mala opines that they do not understand and asks the princess to decide. A headkerchief means a crown (*makkota*), and no village-boy would use such words which could be interpreted according to one's own desire. The princess replies that if the water was found she would ask her father for the price of a headkerchief. Rakna Mala sends the maids to tell Bustamam that they promise to procure as his reward a headkerchief suitable for his rank. Bustamam is startled and wonders whether they have come to know his descent, but understands and promises to do his best. He sends the ring the Jin had given him to Rakna Mala as a pledge that he accepts the task; when it is accomplished, he will claim the ring. Rakna Mala is surprised at the value of the stone and says to the princess that God has sent them a deliverer from their distress. She explains about the "headkerchief suitable for his rank" and opines that his gift in return confirms that Bustamam is of noble descent and could be trusted to deliver them from the hideous giant. They decide to ask Sokma to bring Bustamam to the palace, and Rakna Mala sends two maids to ask Taniasin to their palace before he goes to the audience on the next morning, and her two usual messengers to take Bustamam a little box of perfumes (*lapetangan*), when they come to the palace on the following morning.

In the night Bustamam asks Chėkur to make a well in the palace of the princess with his dagger, and to bring him something back from the palace. Chėkur obeys, steals into the chamber of the princess and takes away the coverlets of the princess and Rakna Mala. She plays all sorts of tricks with the sleeping maids, exchanges their garments, powders them with chalk and knots their hair together. Then she thrusts the dagger into the ground of the courtyard and brings it back to Bustamam together with the coverlets, praising the beauty of the princess and Rakna Mala. The coverlet of the princess, recognized by the richer embroidery, Bustamam keeps for himself, the other he rolls up.

When the two maids come in the morning, Bustamam feigns still to be asleep, and they are much surprised at seeing the coverlet of their princess. They invite him to the palace; Bustamam replies that during the night he had already disclosed a spring, but if the water should be insufficient, they could call him again. The maids ask about the coverlet; Bustamam replies that he and his friend had bought a coverlet each when they arrived at Sėmatrani, and his friend had left his with him to sell it. He shows the other coverlet to the maids, who recognize it as that of Rakna Mala, and he gives them both to show them to Rakna Mala in case she would buy them to match her own; and that of the princess the price Rakna Mala would know. The maids give him the box of perfumes and

return to the palace, where great disorder has reigned when the maids woke up and found out the tricks they had been played, but merry washing and bathing follows when the water is discovered. Taniasin, is astounded at seeing the water, as within the memory of man nobody could find water within the town. The hurrying of Taniasin to the palace of the princess, and the noise of the maids, have created excitement in the town, and the king himself goes to the palace of his daughter, but seeing Taniasin there returns with an easy mind. At the request of the princess Taniasin has the spring controlled and returns to his house, where he informs Aplus of what has happened. Aplus thinks the appearance of water in a barren city is a good omen, but the will of God they cannot know. Taniasin tells him of the king's and his own dreams when the princess was born, and the interpretation given to them by the sages, adding that he has had another dream that his house was falling in, that he escaped, and looking back had seen his house whole again and finer than before. Aplus can make nothing of it.

After a merry bath, Rakna Mala says to the princess that this must have been Bustamam's doing. The maids report and deliver the coverlets, which the princess and Rakna Mala recognize as their own. Rakna Mala would send Bustamam a message that the coverlets had been stolen during the night and that they would reward him if he could find the thieves, but the princess thinks this rather indelicate, and Rakna Mala sends the message that they would buy the coverlets but would agree on a price later; if he could not wait, they would send them back. They dare not send him the price, as they could not know whether he would accept it or find it below cost price. If he would name a price, and it agreed with their own estimate they would buy, but it would be difficult to bargain at a distance. Bustamam replies that Rakna Mala should keep the coverlets, as she knows the price very well. Though it would be difficult to come to the palace, he would try to do so if Rakna Mala invited him with the consent of the princess to bargain. The maids interpose that he had already been to the palace, and Bustamam replied that there is a difference between finding a spring and going to the palace to bargain and bring goods with him; when his friend returned, the matter would be easier. The princess and Rakna Mala are uneasy at this reply and fear that Bustamam has already another attachment, but Rakna Mala trusts in God that he will deliver them from the giant. When later the king and Taniasin bathe in the spring, Taniasin opines that they owe the water to the luck that rests upon Dandam Serjana; the king turns pale at the mention of the name, which Taniasin reports to Aplus.

Next day Bustamam goes to the audience. Maharaja Bēniasin asks who he is, and Sultan Yahya says that he is a village-boy from his kingdom. Bustamam brings forward his complaint, Bēniasin orders a courtier to enquire into it, but Bustamam refuses to answer him, saying that he knows it useless for him to prefer his

charge here. Běn.asin enquires, Bustamam refers him to Sultan Yahya, who narrates how his son had missed a dagger, and how his pages had seen a similar dagger with Bustamam and had asked to have a look at it, which Bustamam had refused, whereupon they had taken the dagger by force. He had bidden his son return the dagger to Bustamam, who had refused to accept the proffered one, saying that the original had been exchanged for another one. Prince Bahrum Shah had asked that the boy should be punished for theft, but he himself had not thought that the boy was a thief and had offered him one of his own daggers by way of amends. This Bustamam had declined saying that the king kept robbers in his employ. Bēniasin laughs and tells Bustamam not to cause trouble, offering one of his own daggers and to take him into his employ. Bustamam declines, he wants a righteous judgment whether he is a thief or not; if he is not, he is the robbed one, and the robbery having taken place near the palace of the king, it has been done by the king's men. As long as the matter was not decided, it was useless for him to enter the service of the king; if he thinks that later he can be of service to him, he will offer himself. Meantime he will search for a righteous judge who will judge his case without respect of persons. He leaves the audience-hall, and Aplus and Taniasin wink at each other. Bēniasin sees this, and Aplus reports what he knows about the boy and his friends.

Bustamam sees the entry of Amir Ismaël, the son of Amir Thalib, prince of Lamshik, who is subject to Sēmatrani. Bustamam knows that he is his grand-uncle.

On the following night Bustamam, led by Jērangau and thus invisible, enters the palace and gazes admiringly at the princess, who is eating pomegranates with Rakna Mala. They smell his perfume and the maids think that the thief who formerly stole the blankets, has come and they try to find him. Bustamam steals the pomegranate the princess and Rakna Mala are sharing, but the latter skilfully hides the incident. The princess tells Rakna Mala to send for mother Sokma, who has not visited the palace for many days, and Bustamam returns to her house. When the maids come and call mother Sokma, she asks what she is wanted for. Bustamam explains; though Rakna Mala had given him a piece of pomegranate for his silence, he must tell her that she is called to the palace to be sent to the vizier to be punished, as her husband is very jealous since he and his friends were staying with her and had complained about her. Mother Sakma swears dreadfully and sends the maids away. Bustamam gives them the pomegranate for Rakna Mala, who should offer it to the princess, as he dare not eat it being afraid of "*tulah*." The maids report, and the princess is thrown into confusion, as Bustamam is sure to have overheard them. She wants to return to the palace of her mother; Rakna Mala opines that thereby she would drive away the saviour whom God had sent to deliver

<sup>1</sup>A calamity consequent on sacrilege or extreme presumption against royalty.

them and the country from the giant. The princess is afraid that Bustamam will abuse his invisibility to do something shameful; Rakna Mala says she would not be any safer in the palace of her mother, if Bustamam wanted to do wrong; he had had ample opportunity, but had only played a joke on them. If the princess wishes to return to her mother, Rakna Mala will not follow her but hide in the forest, as she will not become the servant of the giant. The princess yields, and Rakna Mala suggests that they should entrust themselves to Bustamam, and ask his assistance; if he promises to save them, they should swear that they will shrink neither from danger nor shame. The princess agrees, but doubts if Bustamam and his friends will be a match for Dandam Serjana. Rakna Mala sends the maids for mother Sokma, and bids them tell Bustamam that they thank him for the well, but that a ghost is still hovering round it. If Bustamam could drive him away so that he would never molest them again, they would be grateful. The maids should also talk of the price of the coverlets and pay it to Bustamam.

Bustamam replies that Rakna Mala could surely find a man to drive away the ghost, who must not remain there, as he might harm Dandam Serjana, for whom the princess would mourn deeply. He did not know how to drive him away, and Rakna Mala should find another man to do it, but it should be done promptly, as Dandam Serjana would come very soon. As to the price of the coverlets, it would be better to await the return of his friend, as he was afraid that Rakna Mala would not pay him the right price unless the owner was present.

The maids want to take mother Sokma along, but she refuses, and Dahdi explains that she had a touch of fever. The maids return and report, Rakna Mala is disappointed, as she wants the calamity to be averted before it actually reaches them.

Johar and his friends return. Bustamam informs him of what has happened. The maids from the palace arrive again to fetch the old woman, who excuses herself that she has to look after her guests. The maids see Johar and his friends and report their arrival, saying that all of the newcomers do obeisance to Bustamam, but one of them seems to be much respected by the others and is intimate with Bustamam. Rakna Mala sends the maids again to Bustamam with the message that they are so afraid that they do not know what to do. The ghost had come with the water, and surely Bustamam should be able to drive him away, being the son of a Guru. Bustamam promises to do his best if Rakna Mala's order was given with the consent of the princess. The maids reply that Rakna Mala is acting with the consent of the princess, and Bustamam promises to try and drive the ghost away, but if the ghost should refuse to go, he had no other resource as perhaps the ghost had been there before and obtained a firm footing. Bustamam asks Johar whether he had brought anything they could give as presents to the princess and Rakna Mala. Johar has not thought of that, and Bustamam thinks they should buy something locally,

even if they were to get into debt for it. Johar offers even to sell himself to assist Bustamam, and to ask the maids if they know anybody who would allow him credit. The maids report at the palace, and Rakna Mala sends them back with two dishes of fruits and the order to bring mother Sokma. In vain the princess and Rakna Mala ask her for some news from Kaladesa.

Taniasin has heard of Johar's return and bids Dahdi to bring his guests to the audience-hall. Bustamam stays at home. Aplus and the fathers of the other boys are with Taniasin and at first sight think that their children have returned, but when they approach are disappointed because they only resemble them. Johar had threatened his friends with the great danger Bustamam would incur if his secret were disclosed, and the boys manage to control their feelings. Taniasin has watched them closely, and knows what Johar has been saying. Johar reports to him all he has seen and heard, and advises Taniasin to collect a store of provisions sufficient for the many guests that are sure to come ere long. Taniasin brings him to king Bēniasin and Sultan Yahya, where Johar has to repeat his story, leaving the two old princes in great sorrow.

Bustamam and Johar confer, and Bustamam declares his intention to stay and see what fortune will bring him. His friends swear to follow him even into death. He declares the same to the two fairies, who tell him not to be afraid. They bring him, unseen, into the palace, where Rakna Mala has prepared a meal of fruits. The scent of his perfume announces his arrival, and Rakna Mala tells the princess that the thief has come, but it takes her whole power of persuasion and a threat to abandon the princess to her fate and Dandan Serjana, until the weeping princess allows her to call Bustamam. Rakna Mala sends the maids away to look for the thief outside the princess' room as the princess wanted to hear the news his friend had brought from Kaladesa, and to ask him to drive away the ghost. Bustamam appears and warns Rakna Mala to be on her guard as he is a thief. He declines her invitation to sit down next to the princess though Rakna Mala opines that as the son of a Guru he is above all of them. He takes a seat opposite the princess and reports what Johar has seen, adding that Bachtiar was sure to come, as his younger brother would be unable to oppose him. Frightened, the princess retires into her bedroom, and with the consent of Rakna Mala Bustamam follows her. The princess wants to run away. Bustamam embraces and kisses her and asks her pardon if he has offended her. She rebukes him and when Bustamam twits her with having invited him, the princess says that not she but Rakna Mala had called him. In vain he tries to console her, and only by threatening that he will leave her to her fate and Bachtiar can he persuade her to precede him into the other room, where Rakna Mala has the meal prepared. Bustamam complains that Rakna Mala has cheated him, as the princess has denied having invited him and had asked him to go away, which he was now compelled to do. Rakna Mala offers to follow

him, as originally the princess had consented to have Bustamam called, but her heart had turned when she had heard what a mighty prince her bridegroom was. Thus they force the princess to implore Bustamam's aid against the "gërgasi,"<sup>1</sup> which Bustamam promises to give. He shares the meal with the princess, who offers him a goblet of Arrak Bërma. Bustamam arrests her hand and says that this drink, though lawful for her, was forbidden to him by the law he follows, which law the princess and her court should also adopt, so that God may love them and deliver them from her bridegroom, an unbeliever, who was recreant to Him, and adored sun and fire and professed that these had created the world. Is it not nonsense to call lord something we can create and carry from one place to the other like fire, something that is dependant on ourselves? Or something like the sun, which moves from one place to another, and sometimes is there and sometimes not? The princess and Rakna Mala follow the faith of the Adziz, the prophet of God, which had been right in its time, but now God had sent a new faith into the world, and it was right to follow it and not to stick to the old faith. He converts the princess and Rakna Mala and wine and spirits are thrown out with their vessels. Rakna Mala has new dishes prepared with nothing unclean in them and Bustamam explains to the princess and Rakna Mala the story of the letter which they still keep, and the story of the moon. The two fairies appear as a mouse and a cat; the mouse flees before the cat to the couch of the princess, followed by the cat, jumps down again and tries to hide under the skirts of the maids, causing much consternation and merriment. At last the mouse flees behind Rakna Mala, and the cat sits down before her. As Bustamam sees Rakna Mala's fear lest the cat molest her, he gives her a piece of cake and asks her to spare the poor little mouse. The cat replies that he was helping the princess and Rakna Mala, because he was promised a splendid crown, but what was the mouse giving him for his help? Bustamam replies that he expects no reward from the mouse but wants to help it for the love of God and out of pity. The cat asks why he had no pity for her, whose daily bread the mouse is, and she had not tasted food for several days? Bustamam replies that he had only asked her for the mouse and had offered her other food in return. In a dialogue with Rakna Mala the cat professes to be clairvoyant and says that Rakna Mala is the daughter of a vizier and will become the daughter-in-law of a great vizier. Bustamam joins them and says that Dandan Serjana is an enemy of God, and they owe him no pity. The cat accepts that but asks about the mouse, which according to tradition had begun to gnaw a hole into Noah's ark to make it sink, when out of the tears of the prophet Noah the cat was created to destroy the enemies of God. Since that day the cats had caught mice, and now Bustamam wanted to help a mouse. Bustamam replies that he has not prevented her from catching the

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<sup>1</sup>A man-eating demon.

mouse, but had given her the choice between the mouse and the cake. Rakna Mala understands that it is a play of Bustamam's, but one of the maids stares with open mouth at the talking cat, and the cat promptly puts her tail into the maid's mouth excusing herself that it was a hole she must stop up to prevent the mouse from escaping. A wild and gay hunt of the maids after the cat ensues, and the princess forgets her sorrows. The mouse asks Rakna Mala to save its life by taking it into the bedroom of the princess, promising as a reward to teach her clairvoyance. Not without misgivings Rakna Mala obeys, as she is curious to find out who Bustamam is. The mouse tells her the history of Bustamam, binding her to secrecy as Bustamam wants to remain unknown in order to search for his mother. Rakna Mala returns to the princess, saying that she had saved the mouse, and Bustamam, who suspects what has happened, smilingly tells her not to believe everything the mouse says. The fairies slip away and reappear in the shape of Dahdi and Sokma, knocking at the door and causing great consternation, the princess thinking that her father has come. She wants to hide Bustamam in her bedroom, but he declines, as he is no thief. Greatly embarrassed Rakna Mala goes to the door and finds the old couple, who in rather coarse language enquire after their grandson. Rakna Mala admits them, and there is so much merriment that king Bēniasin hears the laughter and sends two maids over to enquire. At a sign from Rakna Mala the princess draws Bustamam into her bedroom, and Rakna Mala explains that the old couple had quarrelled, as Sokma was jealous with Dahdi. Sokma complains to the king's two maids that the maids of the princess wanted to seduce her husband, and laughing the two messengers return. There is more merriment, until all go to sleep, Bustamam in the bedroom of the princess. Bustamam repeats his visit to the palace every other day, while the preparations for the royal wedding go on.

Maharaja Kerbabahur has tried in vain to interest Bakhtiar in another princess; Bakhtiar insists on marrying the princess of Bēdērani, whom Kerbabahur wants to give to Serjana, in accordance with his promise to her father. Serjana himself offers to withdraw, but his father wants to keep his promise and still hopes to find another bride for Bakhtiar. To gain time Serjana proposes to visit the princes of the subject countries, and Kerbabahur agrees. Serjana gives the order; Bakhtiar hears of it and reproaches Kerbabahur for having given Serjana permission to leave with the troops, as he is sure to go to Bēdērani and marry the princess by force. Kerbabahur promises to call Serjana back, but Bakhtiar says he will see to it himself, and leaves his father. Kerbabahur orders the gates of his city to be closed and not to be opened to any one unless he himself calls his sons to come to him.

Bakhtiar calls up his courtiers and in spite of their expostulations that Serjana would return on receipt of his father's order, he follows his brother and reaches his camp on the following day

just when Serjana had given the order to depart. Bakhtiar orders the troops to stop and kills all who disobey. He meets Serjana, tears him from his horse and blows his brains out. The terrified officers of Serjana, fearing the wrath of Bakhtiar and his father, arrange to throw the whole blame on Serjana. They bring his body to Kerbabahur, who has it cremated and orders an enquiry as to why this fratricide has not been prevented. As all the courtiers assert that Serjana was the first to use his arms, the court acquits Bakhtiar. Kerbabahur asks the Brahmans what should become of the princess, and they answer that not having been married to Serjana, Bakhtiar can still marry her, but only after the present year has expired, as she is still under a vow (*di-dalam kaul*). According to the stars great luck awaits the princess, but she will bring bad luck to Khairani. Kerbabahur is not afraid of that, as he can destroy Bēdērani in half a day, and he decides to give the town of Tahta Yemen, which he has already promised her, to the princess, to reside there, with her court and army, and reign there until she is married to Bachtiar. He sends his vizier, Tewangga, with his whole clan, 200 courtiers, 1000 officers and 20,000 men with a letter to the princess to inform her of his intentions, and with the order to bring the princess to Tahta Yemen and crown her. All expenses will be paid by Kerbabahur, and if the family of the princess, whom Kerbabahur regards as poor people, will follow her, they may do so, and Tewangga shall see to it that they want for nothing. They as well as Tewangga must obey the princess in all matters. Only if they conspire against Kerbabahur, Tewangga must not join them, and if the prince of Bēdērani tries to oppose these orders, he is to attack his country and destroy it.

The news of the coming of Tewangga and of some of the contents of the letter he brings reach Bēdērani; Taniasin consoles his king that they must acquiesce in the will of God, and prepares everything for the coming of Tewangga, who is agreeably surprised by the reception and the honour done to the letter of his master. The letter is read in the hall of audience; Taniasin politely regrets the death of Serjana, Maharaja Bēniasin does the same and asks Tewangga to stay for some days with them, as he wants to think over the matter. Johar and his friends are present at the audience and report to Bustamam, who at night-time goes again to the palace of the princess. He informs her of the message Tewangga has brought and thinks that her father should accept the proposal, as Tahta Yemen is a well-fortified town, with plenty of provisions. If the princess reigns righteously, he hopes to prefer his charge against the son of the Sultan of Sēmatrani, and also hopes to find there his mother, who has been sold to Sērindit by people of Sēmatrani. He does not want to stay longer, as his friends press him to return and besides his funds are exhausted. The princess implores him not to abandon her, and Bustamam promises to persuade Johar to change his mind.

Tewangga is entertained by Taniasin, and Aplus, too, is invited. After the meal they discuss matters of state, and Taniasin bewails again the death of Serjana, Tewangga narrates that Serjana was the favourite of his father and of the court, while Bakhtiar was generally detested on account of his cruelty. Kerba Bahur knew that Serjana had been no party to the quarrel with his brother, but had been unable to find out what happened. Besides, the Brahmans had emphasized that Kerbabahur now had only one son. But what would Maharaja Bēniasin do? At Kaladesa they were in great trouble as Kerbabahur had been nearly maddened by the death of Serjana, and was following all the wishes of Bakhtiar, who was madder still. Thus sudden and cruel deeds could easily come to pass, and he trusts that Maharaja Bēniasin would try to meet and not rudely reject the wishes of Kerbabahur. Disobedience would mean destruction. Taniasin and Aplus admire the sagacity of Tewangga's words, and Taniasin tells him that they are like a ship on the open sea which founders if it does not sail with the wind, and they must trust in God to show them the right way. When later Taniasin and Aplus confer with Maharaja Bēniasin, they repeat the words of Tewangga which they interpret as a warning that he has orders to declare war if they do not obey, but also as showing them a way to gain time for further deliberation. They advise that the offer should be accepted. Maharaja Bēniasin asks the Sultan of Sēmatrani and the other princess and ministers to join in a council, and Sultan Jahya, after having heard the advice of the viziers, agrees that they should all follow the princess to Tahta Yemen under the pretext that she is still too young to reign by herself. All else they must leave to God. Tewangga is very glad that the wish of his master is obeyed.

Maharaja Bēniasin calls his daughter to his palace. Bustamam is in her bedroom; Rakna Mala enters and summons her, and the princess is frightened. She visits her father and is informed of the decision.

Saptu has attended the council and has informed Johar and Bustamam, who have returned to the house of the old couple. They decide to follow the princess to Tahta Yemen, but when Bustamam meets her again in her palace, he asks permission to return to his village, as Johar insisted upon it. The princess and Rakna Mala implore him to stay and reproach him with having played them false; Bustamam says that he had promised to deliver them from Serjana, and Serjana being now out of the way, his task was done. When they begin to cry, he suggests that they should ask the assistance of Johar. Bustamam sleeps in the room of the princess, whilst the maids prepare for the journey to Tahta Yemen.

On the following morning, Rakna Mala is made to call Johar, who immediately appears in the gallery, being brought there unseen by the two fairies. He studies the princess, who is sharing her meal with Bustamam, and admits that his master is right to risk

his life for her sake. He does obeisance to him and Bustamam says it was Rakna Mala who had called him. The princess likes Johar, and Johar and Rakna Mala are very pleased with each other. When Bustamam and the princess have finished their meal, the tray is brought to Johar, and the princess tells him that he may eat without fear, as she has already professed his faith. When Johar has finished, the tray is brought to Rakna Mala, who declines to eat, but is forced to obey the princess, who insists upon Rakna Mala obeying her as she has formerly obeyed Rakna Mala. Rakna Mala is sorry that she did not ask the mouse who Johar is. She asks him not to abandon them. Johar has all sorts of excuses, but the princess will take the wrath of his parents upon herself, and Rakna Mala, as daughter of a vizier, will be able to look after his and his friends' wants. The princess, who sees a chance now of paying back Rakna Mala in her own coin, orders her to bring Johar one of her own cloths and to measure him for a jacket, while Bustamam and the princess chaff her that God is now making her do what she had made others do. Johar and Rakna Mala fall in love but Johar says that he must see his friends before he can definitely promise to follow to Tahta Yemen. When he leaves, he kisses the cloth and the princess thinks there must be something peculiar in it, whilst Bustamam says that Johar has forgotten to take leave of Rakna Mala, and is now making up for it with her cloth. With the aid of the fairies Johar leaves the palace unseen. The princess tries to find out from Bustamam who Johar is, but he pretends not to know, and tells her to ask Rakna Mala, who is clairvoyant. Rakna Mala replies that she had only inquired about the *pēnghulu*, and being asked by the princess whom she means, Rakna Mala says that according to her ideas nobody but those of equal rank with the princess would be able to enter her palace and sit on her throne.

In the meantime everything has been prepared for the journey to Tahta Yemen, which under the supervision of the viziers is accomplished without mishap. The old couple are allowed to follow the princess.

Kerbabahur, having received Tewangga's report, sends rich presents for the princess and her family. The presents Tewangga, accompanied by Taniasin, brings to the princess, whom he sees for the first time, understanding the jealousy of Serjana and Bakhtiar. A letter also has come from Kerbabahur, which Tewangga reads to the princess and Taniasin. It confirms in kind words that the princess should be crowned as queen of Tahta Yemen, and that his two brothers, the kings of Bēdērani and Sēmatrani, and Tewangga should take good care of her, until she is married to Bakhtiar. The princess replies that she will obey the wishes of Kerbabahur, as she has already obeyed him in coming to Tahta Yemen, but being ignorant of matters of state, she relies upon the aid of the viziers. Tewangga and Taniasin promise to stand by her, but Tewangga has noticed how the princess changed colour

when the letter was read, and on their way home he remarks to Taniasin that she seemed not to be pleased with the letter, and why had she turned pale? Taniasin replies that perhaps the princess was still fond of Serjana, and Tewangga understands that she will not like Bakhtiar. He tells Taniasin that the princess will be much worse matched with Bakhtiar than with Serjana (*sēperti kupang dengan pongsu'*), and that he pitied her very much. If it was in his power, even if her father and the princess herself would come to like Bakhtiar, he would not agree to this match, and he would rather see the sun fall down upon him than this unequal couple married. Taniasin replied that they must leave it to God.

The old couple have been given by Taniasin a house near the palace of the princess; Bustamam and his friends try in vain to find them and rent a house near the market, where Jumaat and Saptu earn enough money for the daily wants of the friends. In the evening Bustamam visits the princess, who with her mother is still busy arranging things in her palace, which she likes very much, with its rich gildings and talking minahs and paroquets everywhere. They smell the scent of Bustamam, and the queen asks where it may come from. Rakna Mala says that the woodwork has been sprayed with it. The birds begin to talk, greeting Bustamam and congratulating themselves that they see his face which makes them forget hunger and thirst. The queen is startled, but Rakna Mala explains that these greetings are meant for the princess. The situation becomes rather embarrassing, as the queen shows no sign of going away. Her first maid, Nilam, pretty and intelligent as Rakna Mala, notices that the scent is fresh and that when the birds started talking, the princess arranged her dress and knew that somebody has come. Bustamam has brought two pomegranates with him; he takes off a piece of peel and throws it into Nilam's lap, she does not seem to notice anything, but hides the piece of peel in her hand. At last the queen departs, followed by Nilam; Rakna Mala accompanies them to the gate. The princess asks Bustamam where he has been all the time. Bustamam says that he had wanted to return to his village, but Johar had not allowed him to do so, and had sent him here with his present. He gives the princess and Rakna Mala a pomegranate each, Rakna Mala remarks that it is the present of a village-boy. Nilam returns to the palace; the princess and Bustamam disappear, and Rakna Mala receives her. Under the pretext that the queen had sent her to assist the princess, Nilam comes in and sees the pomegranates. She takes them up and says that on one of them a piece of the peel missing, and that the missing piece is in her possession. She tries it, and it fits exactly. She tells Rakna Mala that the queen has given her the piece to find out where it came from. She departs, convinced that Rakna Mala is hiding some secret. Rakna Mala reports, and the princess is alarmed but Bustamam explains that they have nothing to fear.

<sup>1</sup>Like a mussel with an ant-hill

Bustamam gives his dagger to Johar. When Johar visits the hall of audience, Amir Ismael sees the dagger, which looks exactly like that of his brother, and wonders how Johar came by it. Bahrum Shah, followed by Thahak, enters. Thahak recognizes Johar and points him out to Bahrum, who is not convinced, but Thahak insists and supposes that Aplus has kept him in hiding somewhere all this time. Amir Ismael talks to Johar, who says that he is a village-boy and that the dagger is as given him by his teacher, who bade him not to draw it from his belt and spoke many charms over it for fear that it would be stolen. Bahrum orders Thahak to fetch the dagger. Scarcely has Thahak touched it, when his hand begins to tremble and to smart so that he rolls screaming on the floor. Johar says that he knows no charm against that pain; they had called him a liar when he warned them, and Thahak must now suffer. He answers Bahrum's threats insolently, and is sent away to fetch his Guru. He leaves, doing obeisance to Amir Ismael, and taking Khemis away with him, shouts to Bahrum that for aught he cares Thahak may die. Bahrum is furious, Aplus tries to calm him, it was a village boy with no manners, and Bahrum should not start a quarrel here in a foreign country. Thahak's screams bring Amir Bahud to the spot, and also the king of Sēmatrani. The king says that Thahak had already once brought him into trouble about the dagger, and that he who won't listen must feel. Aplus replies that Thahak had acted on the order of Bahrum. Bahrum had sent his pages out to beat Johar. Khamis threatens to split their heads. Taniasin arrives in time to prevent a fight. Johar meets Bustamam, who is just going to the audience-hall, accompanied by old Dahdi. Bustamam spits into Dahdi's hand and bids him cure Thahak by rubbing the aching spot. Dahdi succeeds, and Thahak, ashamed of having rolled screaming on the ground before the whole audience, swears vengeance on Johar. The king bids Bahud watch his insolent son that nothing may happen. Thahak is carried home, followed by Bahrum and Amir Bahud. One of Bahrum's pages meets Bustamam and Johar and warns them against Thahak's vengeance. Johar replies that Thahak, if he had not had enough of the hilt of the dagger, can have a taste of the blade. Aplus hears of it and thinks that no village boy would use such words. He asks Dahdi, what was his cure Dahdi replies, the spittle of his grandson had effected the cure. When Aplus hears that by grandson Dahdi means Bustamam, he becomes pensive. Taniasin tells him of Khamis's words.

Amir Sējaa and his wife, who are still living in the village of Malik Jēmala, mourning for their lost child, hear that the king of Sēmatrani has gone to Tahta Yemen. With the son of Malik Jēmala, who brings presents from his father to the king, they wander to Tahta Yemen. They stay over night before the city gate and next morning while the son of Malik Jēmala takes his father's presents to Taniasin, Sējaa strolls through the town. The festivities for the coronation have just begun, and seeking the shadow of a

shed against the noon-day sun, Sējaa meets Bustamam and his friends. Johar wears the dagger, Sējaa sees and thinks he recognizes it. He asks Johar to let him see the blade; Johar replies that only yesterday it brought the whole country into uproar, but Bustamam asks him to humour the old man, who with his long hair and beard looks like a jungle-dweller. Sējaa draws the dagger out of its sheath, without anything happening to him. Bustamam wonders and mutters all the charms he knows, which make the blade red hot, but Sējaa feels it not. Chěkur and Jërangau observe this and give Bustamam a hint, but he pays no attention to it in his fear that his dagger and his charms have lost their magic. Sējaa says that he is sure it is his dagger, but why does it become red hot? He would return the dagger to Johar, who is afraid to touch it, and Bustamam takes it, muttering another charm. He asks Sējaa who he is, and when Bustamam realises that he is talking with his grand-father, he covers him with kisses. The old man is startled; Bustamam's head-kerchief falls off, and out of it the amulet written on the bill of sale which under the seal of Sultan Yahya delivers Sëlamih to Kakaduni. Sējaa reads it and bewails the fate of his daughter. Johar and his friends understand that the old man must be Bustamam's grand-father, and do him obeisance. He asks them how they have come by the dagger and the letter, and when Bustamam tells him, he recognizes his grandson. They go to Bustamam's house, close the door, and the two fairies appear and narrate to Sējaa, what has happened to his daughter. He fetches his wife. The fairies tell them not to mourn about their daughter. She is not far away and they shall soon be reunited. They stay at the house of Bustamam.

Bustamam and his friends watch the coronation. The throne is hidden by seven veils. Before it an enormous crowd is waiting Sultan Yahya and Maharaja Bëniasin stand on the steps of the throne, before them the viziers: Taniasin and Aplus to the right and left, and Tewangga in the middle. The princess takes her place on the throne, Rakna Mala behind her, and two veils are raised as a sign that the princess is present. Taniasin and Aplus cross their arms awaiting the speech from the throne; Tewangga would do the same, but the two kings stop him: as an old man he has to stay with them. Tewangga knows that they do this by order of the princess, and obeys. Three times the trumpets are sounded, but there comes no word from the throne. Tewangga is perplexed, and at last calls out that they are ready to receive the royal commands. The princess replies that she entrusted everything to him and has nothing to say. Tewangga explains that the princess will only consent to rule if they will serve her "with the swords hung round their necks," as she is ignorant of matters of state and of the laws of the land. If anybody does wrong she will punish him in accordance with those laws but she does not know how to conduct an enquiry and to decide right and wrong, and cannot accept the responsibility. All agree to serve the princess, and it is arranged that the kings of Bëdërasi and Sëmatrani shall

administer justice, the viziers shall conduct enquiries, and the officers shall execute judgment upon those who escape or try to evade the law. Four more veils are raised, the *nobat* is sounded, and all do homage, touching the ground with their foreheads three times. At this moment Bustamam gives a sign to Chêkur, takes her hand and thereby becomes invisible. Rakna Mala sees the four friends of Bustamam, standing outside and not joining in the homage, whilst Bustamam is invisible. The homage is repeated seven times, whereupon Rakna Mala scatters gems and flowers of gold and silver over the three viziers and sprinkles them with rose-water. The two kings do the same to the feudal princes, and everybody prays, according to his faith, for Sêri Maharaja Putêri. Dresses of state are distributed, and then the knights and officers draw their swords, and touching them with the forehead swear that their own swords shall cut their throats if ever they turn their back on the enemies of the country, or rebel against the sovereign. The princess and Rakna Mala are amazed at the gigantic warriors. The ladies of the viziers and the high officials then do homage to Sêri Maharaja Putêri, who returns into the palace, whilst alms are distributed to the poor and the fakirs, and a feast is given to princes, officials and warriors.

Bustamam visits the princess in her palace and sits down next to Rakna Mala, pretending to be afraid to take his seat near the reigning queen. Sêri Maharaja Putêri draws him to her throne and Rakna Mala chaffs him that he has not joined in the homage. On the following morning he asks Sêri Maharaja Putêri whether she would like to see a real jungle-dweller; there was one with his wife staying in his house, who had come to see the coronation and to prefer a complaint. The princess tells him to bring them and Bustamam adds that he also has to prefer a charge, for which he had not found a righteous judge in the kings of two countries, but which she must examine with the utmost care.

The fame of the administration of justice in Tahta Yemen penetrates to the remotest countries, beyond Arabia and beyond India, to Bêdêrani, Zanjirat, Sêkandariah, Têrki and Aajam, even to Persia, and to the islands Talkia, Sêrindit, Sêterkia, Mêdêrih as far as the island of Habshah.

When Bustamam and his friends have watched this for some days, Bustamam remarks to Johar that he likes this way of administering justice, as his teacher has told him to prefer his charge in a court where it would be examined "without looking at the person," and here the ruler, sitting behind the curtains, could not see the people. He would prefer his charge on the following day. The viziers look round, but Bustamam pretends not to see them and leaves with Johar. Aplus and Taniasin laugh at the pun; the kings are startled, thinking that they have laughed at some silly action of theirs, and enquire. Taniasin repeats the pun of the misunderstood saying of the teacher, but Aplus opines that so far the boys have proved too intelligent, and is sure that they are no mere villagers. The kings agree; Tewangga asks, who the

boys are, and when he hears that nobody has found out yet, promises that he will find out their secret on the next morning.

When the princess returns to her palace, she remarks to Rakna Mala that on the following day she would know who her pēnghulu is, and his real name. Rakna Mala says she knows all about him, and tells the princess what she heard from Chēkur. Sēri Maharaja Putēri reproaches her for not having told her before, as she would have informed her father. Bustamam, who is just coming in and has heard the last words, suspects that Rakna Mala has told the princess his history, and letting go the hand of the fairy, appears before them and tells the princess, she should not believe Rakna Mala, who in her longing for Johar would tell her all sorts of foolish nonsense.

On the following morning he appears in the hall of audience, greets the kings like a blind man without respect and awe, and the viziers suspect that there must be something behind this behaviour. In a loud voice he claims to have his case tried. Generally in such cases Sēri Maharaja Putēri promptly orders the viziers to begin with the examination, but now she hesitates for some time, and lastly gives the order in a very low voice. Tewangga begins with the examination. Bustamam narrates how he has come to Sēmatrani, how the pages of Bahrūn Shah had robbed him of his dagger, while he himself had been charged with theft, how both kings, to whom he had preferred his charge, had dismissed it without careful examination, and so he is still charged with the theft. To Tewangga's repeated questions, who he is, Bustamam answers only that he has come as a plaintiff. Taniāsīn informs Tewangga that Bustamam comes from a village near the frontier of his country, but Tewangga does not believe that Bustamam is a village-boy. He asks him, where he comes from; Bustamam replies from the village of Zahid Safian. Tewangga asks him the name of his father; at this question Rakna Mala laughs and opines that now they would hear it. The king notices that and wonders what is going on; he changes colour, and Taniāsīn is in great trouble. Bustamam replies that the name of his father was Bustamam, too, and that of his mother also. Tewangga laughs and says that it is of no use to go on with the case of such a liar. Bustamam replies that indeed it will be of no use if they continue their present method. He leaves the hall, Johar asks him, what he means by his reply, as nowhere in the world father, mother and son have the same name. Bustamam replies very audibly that Johar is just such a fool as the viziers and should sit down next to them, as it would make four of the same sort. Tewangga hears this and becomes furious, the other viziers also jump up, and four soldiers who have to stand by Tewangga, approach. Johar repeats his question, and Bustamam his answer, adding that a child calls his parents only "ma" and "bapa," using the same names when talking of them, and that also by other people they were called "Ma Johar" and "Pa Johar." Tewangga shakes his head and observes that he has served his master for sixty years, but never

in his life has he been so stupid as to-day. He takes off his turban and throws it down so that the gems roll over the floor, rushes after Bustamam, takes his hand, kisses his mouth and asks his pardon for his stupidity. Bustamam replies that there is nothing to forgive, explaining, as Tewangga cannot follow him, that the fact of his seeing his stupidity was a sign that it had been forgiven, as that discernment was a confession that he would not follow it any more. In silence Tewangga leads him back to the audience hall. When he had confessed his mistake, Rakna Mala laughed and said that now he had come to some knowledge of his self and had conceived that there were still others wiser than himself. Her father hears the remark and becomes very pensive. Tewangga calls for the scribes, has everything read which they have written down, and asks the two kings to give him a short report. All concerned are bidden to appear before the court; Bahrum Shah is alarmed when an officer of the court comes to call him, but Thahak says that they have nothing to fear as long as they keep to their former statement. The pages are instructed accordingly, but are rather uneasy as the officer warns Thahak that the case is now tried by other methods than formerly. They appear in the court with the old broken dagger. The pages give evidence according to the instructions they have received, but Dumis, the *mëntëri* who was sent first to Bahrum Shah to fetch Bustamam's dagger back, is so uneasy in trying to shield his master, that Tewangga knows that there is something wrong. Bustamam asserts that Dumis has frequently seen the dagger on him, before he was robbed of it, and a thundering admonition from Tewangga, ordering two of the soldiers to approach with drawn swords, makes Dumis confess. He had seen Thahak hide Bustamam's dagger under his thigh when he had come to fetch it, and in spite of his warning Thahak had given him the other dagger which he had brought to the court. The pages admit their part in the crime. Bahud, Bahrum and Thahak are called and are too afraid to leave their place, but Tewangga thunders that better people than princes have had their heads cut off. They come, and Taniasin is told to examine them. Bahrum tries to lay the blame on Thahak but is reproached with being an accomplice in the crime. Thahak confesses that he has the dagger still at home. It is fetched, and Bustamam recognizes it as his weapon. All three are severely reprimanded by Aplus and led away by the ears to stand in the sun, while the kings shall pronounce judgment. The kings orders the dagger to be returned to the owner; Thahak is guilty of theft and robbery, and only the fact that the deed had been done publicly saves him from having his hands and feet cut off; otherwise he will be punished as severely as the law permits. Bahrum and Bahud are guilty of complicity and will receive the same punishment (*hukunf shubahat*), the one for following Thahak, and the other for not bringing up his son better. The viziers ask Sëri Maharaja Putëri to confirm the judgment; she declines and leaves the matter to Sultan Yahya, to whose family the

culprits belong. They are brought into his palace and kept prisoners, Thabak in chains and iron collar.

Aplus gives the dagger to Bustamam and asks him whether he now sees ways and means to enter the service of the king, and whether his friends had found the master they were seeking. Johar laughs at this question, and Aplus thinks whether he could not be his son Jamlus; he seems too much changed. Bustamam replies that Aplus had already answered the question, and repeats this again when Aplus cannot understand him. Bustamam asks to be permitted to put some questions himself, and receiving permission asks as follows.

If a prince has no will of his own, and no power, and follows the will of his subjects and his army, is he a good prince? The viziers laugh and reply that nobody should pay homage to such a prince.

Bustamam asks again: If a prince issues a decree that 10 catties of paddy should be sold for one dirham, and after some time issues another decree that 20 catties of paddy should be sold for one dirham, which decree should be followed? Would his subjects be justified in clinging to the old decree and continuing to sell 10 catties for one dirham. The viziers say that the question is foolish. If subjects do not obey each new decree of their ruler they are guilty of disobedience and must be punished.

Bustamam asks further: an official who cannot discern between good and bad, and though he sees he has done wrong persists in it, is he a good official? The viziers and princes laugh, and say that such a man should not be given office, and a man who knows that he does wrong but persists in it does not deserve the name of a human being. Bustamam thanks them and leaves the audience.

Johar asks Bustamam's permission to see his mother, and Jërangau brings him to the house of Aplus. Invisible he stands near his mother, who still weeps for her son. She smells the scent of his body and thinking that the spirit of her child is present, burns incense. Johar implores Jërangau to show him for a moment to his mother. Jërangau lets go his hand and gives him back his former looks and Johar quickly kisses his mother, saying that the incense has brought him, and that she should not mourn for him any longer, as he would soon be re-united with them. Afraid that perhaps he has already gone too far, Johar grasps Jërangau's hand and disappears. Aplus is told by his wife of the appearance of Jamlus, but does not know what to think of it, and Taniasin, to whom he relates the matter on the following day, can also find no explanation.

Siti Sëlamih still mourns her parents and her son. She perfumes the ring which Dewi Nilawati had given her. Maharaja Thëlahut by geomancy finds out what has happened and bids Dewi Nilawati bring Siti Sëlamih to Tahta Yemen, where she would find her parents and her son. Her son is living with the princess, but God has protected them so far from all carnal lust. Dewi Nilawati brings Siti Sëlamih to Tahta Yemen right into the palace of Sëri

Maharaja Putëri. The princess is just rising with Bustamam, and Rakna Mala, outside their bedroom, prepares the breakfast. Nilawati appears before Rakna Mela and demands what manners they have here that the daughter of a mighty king kidnaps her boy and keeps him in her bed, the princess must give back her boy immediately. Rakna Mala, frightened, tries to turn her off, but with no avail, and is sent to tell Bustamam that somebody has come to fetch him. Rakna Mala hurries to the princess, both Sëri Maharaja Putëri and Bustamam have rather a bad conscience, and Bustamam sends the princess to meet the visitor in order to gain time. Dewi Nilawati enjoys the situation immensely, saying that she had come from Sëmatrani to fetch her run-away boy, who, as Nilam, the maid of the queen, had told her, was kept by the princess. Bustamam, in the princess' bedroom, calls in vain for the fairies, who have recognized their mistress and know that she is going to have some fun with the young couple. The princess, sure that Bustamam has disappeared, asserts that there is nobody in her bedroom and threatens to have Taniasin called to turn the insolent intruder out. Jërangau and Chëkur assume the shape of Nilam and Silam, the two trusty maids of the queen, and when they appear on Nilawati's calling for them, Nilawati tells them of the princess' denial and threat; if the princess had told the truth, she would consent to be brought before Taniasin, but if not the princess would be punished. She enters the bedchamber, drags out Bustamam, puts him on the throne and asks the princess, who the boy is, whether he did not come out of her bedroom, and whose place it was now to be thrown out of the palace? But when she sees the frightened faces, she lets Bustamam go, and kisses the princess Sëlamih clasps Bustamam in her arms. He does not know who she is, until Nilawati tells him. Jërangau and Chëkur fetch Amir Sëjaa and his wife, who find their daughter awaiting them. The princess is rather surprised at the looks of the jungle-dwellers, but at a sign from Rakna Mala renders them obeisance. Nilawati bathes Sëlamih and restores her former beauty. Sëri Maharaja Putëri gives Sëlamih dresses and jewels and asks Nilawati to rejuvenate also Sëjaa and his wife, but Bustamam objects, as they must first go to the court so that everybody can see what they have suffered. Nilawati agrees, and departs, having given Sëri Maharaja Putëri a magic ring, and having warned the fairies to stand by her children in the difficult times that are to come. The fairies take back Sëjaa and his wife to the house of Bustamam; Sëlamih stays with Sëri Maharaja Putëri.

Johar, instructed by Bustamam, brings Sëjaa to the hall of audience and introduces him with a few words to the viziers. Sëjaa prefers his charge that Bahud had pressed him and his wife into his service as coolies, whereupon Sultan Yahya had carried off his daughter and sold her as a slave. It had happened 15 years ago, but he had so far been unable to prefer his charge, as he had not known the king. Aplus laughs; Tewangga thinks that the matter is so old and incredible that he would like to dismiss it, but after his

recent experience has not the courage to do so unless the other two viziers agree. They do, although Tewangga reminds them to be careful, as the boy who has brought the old man hither has already played a part in the affair of the dagger. Aplus, however, tells Sējaa that the matter is too old, and Sēri Maharaja Putēri and the audience agree. Johar says to Sējaa, he should come away with him and try and find justice elsewhere; here they were progressing by leaps, and that was injustice. The viziers ponder over these words; Sēri Maharaja Putēri asks them to try to find a way. Sējaa must repeat his tale; he narrates what happened to him and his wife; a few days later the king had carried off his daughter and sold her. Aplus suddenly remembers Sēlamih and changes colour; Tewangga observes this and remarks that the boy must have dropped from heaven to point out their faults. He asks Sultan Yahya whether he has a brother-in-law Bahud, and has Bahud called. Bahud pretends not to remember anything, but Tewangga's method and the warriors with the drawn swords force him to confess. Tewangga praises the boy who has saved them from dismissing the case opining that the three questions the other boy had asked were hinting at some other foolishness of theirs, whereat Rakna Mala laughs. Sultan Yahya has to give evidence; he knows nothing of what Bahud has done, but admits that he has found the girl and married her. After four months she had disappeared, and his search for her had been vain. Sējaa asserts that she has been sold to a man from Malabar called Kakaduni, the mate of a ship from Sērindit. The Khatib and the witnesses of the marriage are called, and the validity of it is proved beyond question. Tewangga says that there can be no question of a sale; Johar opines that being duly married she had surely not run away and besides, she had been quite young. Tewangga agrees. Messengers are sent to Bandar Amasad to fetch Kakaduni, and at the suggestion of Johar, also the captain and the crew of his ship.

Bahud is examined and is told that instead of pressing people into service, especially a woman, he had better have given his own horse to carry provisions for the king; he is not worthy of the rank of Amir, but should be a cattledriver. He is delivered to Sultan Yahya to be punished and he is imprisoned together with his son, to the great fury of the queen, who curses the viziers.

Tewangga asks Sējaa, whether his family would stand bail for him that he would not run away. Sējaa says he has no family, that he lived formerly in Damshik, but has now moved to the frontier of Sēmatrani. Tewangga asks Amir Ismael whether he knows the man; Ismael denies it. An officer of Damshik is called; he recognizes Sējaa, runs to his prince and tells him that the old man is his elder brother. Amir Ismael changes colour and sends for another officer who also recognizes Sējaa. Ismael instructs them to lie, but Tewangga and his warriors make them confess that the old man is Amir Sējaa, the eldest son of Amir Thalib, and the brother of their prince. Tewangga assigns him a place amongst the other

princes and tries to find out why he left his country and has come to such a state. Sējaa replies that it was the will of God; and Ismael says his brother had wanted to devote himself to pious living. Tewangga has Sējaa bathed and dressed, and by order of Bustamam Chēkur gives him back his strength and looks. Returning to the hall Sējaa would render obeisance to Sēri Mahara'ia Putēri but she refuses to accept it from an old man. Tewangga says that some crime of Ismael must be behind it, otherwise where would be Sējaa's share in the treasures which Amir Thalib, being a mighty prince, must have left at his death? Where was Bustamam? Johar replies, as Bustamam had instructed, that he returned to his village when he received his dagger. Aplus hears this and is very uneasy.

Sultan Yahya is very uneasy about the coming trial. Bustamam takes Sējaa and his wife every few days to the palace of Sēri Maharaja Putēri, where Sēlamih is slowly forgetting her past sorrows. To the queen of Bēdērani, when she visits her daughter, Sēlamih is introduced as a trusty maid who has come from one of the villages. With the consent of Bustamam Sējaa informs Rakna Mala and the princess who Johar and his friends are.

Kakaduni and his ship are found at Sērindit, and sent to Bandar Amasad, and the whole crew is brought to Tahta Yemen. The case is opened again, and Sējaa is called. Bustamam asks Johar to accompany him and gives Chēkur the bill of sale to show Kakaduni at the right moment. Taniasin examines Kakaduni, who at first does not remember anything; but being sent with the other men from Malabar to a room in the palace to think the matter over, he opens his bundle, and Chēkur slips the letter into it. Then things come back to Kakaduni; he repairs with his friends to the court, and declares that it is true that he bought a girl called Sēlamih from Sultan Yahya for 20 dirhams. He produces the bill of sale, which is shown to Sultan Yahya. The Sultan recognizes his seal, and the handwriting of Bahud, and black in the face returns the letter to Tewangga, saying that it is his seal, and that he must take the consequences, but that there were still ways to search further into the matter. Taniasin understands that there is something more behind, gives the bill of sale to Aplus and asks him whether he knows the handwriting. Aplus does not want to express an opinion but says that there is something more, and Tewangga leaves further investigation to him. Kakaduni narrates how he bought Sēlamih, who was already with child, describes the two women who sold her, though he does not remember their names, and tells what happened until he put her ashore. The captain and the crew confirm his statement. All pity Sēlamih, only Sējaa remains unmoved, and Aplus suspects that Sēlamih is still alive, and Bustamam her son. Sultan Yahya remembers that Kakaduni's description of one of the women fits Sēlina, the first lady of the court of his queen, and has her called. Kakaduni recognizes her and she declares that she sold Sēlamih by order of the queen, and that Bahud had written the bill of sale and without authority sealed it with the king's seal. Bahud

is placed in the sun to await his sentence which the Sultan leaves to the viziers. Sēlina states that Sēlamih was with child, and that this caused the queen to have her sold.

Tewangga is of opinion that Sēlamih is alive, and an expedition is sent to search for her. Kakaduni, who refuses compensation for the purchase-money he has lost, as he had given Sēlamih liberty of his own free will, is given rich presents, and so are the captain and the crew of the boat. All ships of the Malabar-people from Sērindit are made free of port-dues. The men from Malabar accompany the expedition. Tewangga proposes that the sentence on Bahud be suspended until they know the result of the search, as he is sure that Sēlamih is alive.

Sultan Yahya returns to his palace, has the queen called and would kill her, but Aplus throws himself at his feet and begs him to have patience, as he is sure that Sēlamih is alive and not far off that Bustamam is her son, and that Jamlus, his own son, is with Bustamam. The Sultan becomes more composed, but the queen and Sēlina are kept prisoners in chains and neck-irons. The queen learns that her crime against Sēlamih has come to light and is in a great fright. Aplus stays with the Sultan during the night and compels him to discharge his duties as usual during the following days.

The expedition finds the man with whom Sēlamih had stayed one night, he is sent to Tahta Yemen, examined and receives rich presents. When they reach the realm of Maharaja Thēlahut, the king, knowing that the expedition has been planned by Bustamam to make sure of the fate of Sēlamih and his own parentage, assumes the shape of an old man and tells the leader of the expedition that about 15 years ago he had met a pregnant woman, who in the house of Zahid Sañan had given birth to a son, he does not know whether she is still there. The expedition reaches the house of Zahid Sañan, who is just starting for Tahta Yemen to look for Bustamam. He confirms that the woman gave birth to a son in his house, who later went to Tahta Yemen to search for his parents. He accompanies the expedition to Tahta Yemen, is examined and states that Sēlamih, the daughter of Amir Sējaa, grand-daughter of Sultan Thalib and the lawful wife of Sultan Yahya, had given birth to a son, but a year later had been carried off by a warrior from Sēmatrani called Jēlpa. As she stood under the special protection of God, he had felt no anxiety about her fate, and had brought up the boy, whom he had called Bustamam. Tewangga would have Sēlamih fetched by a special embassy; the Zahid smiles and replies to Tewangga's question that in his opinion Sēlamih must be here in Tahta Yemen. Tewangga agrees and looks at Sējaa, whose face remains unmoved.

Tewangga now asks for the sentence. Sultan Yahya admits that he is guilty. The Zahid asserts that the Sultan is innocent, and Maharaja Bēniasin agrees, but Sultan Yahya has conferred power on people who were not worthy of it, and they being members of

his family (*milik*), he is guilty of negligence. Sultan Yahya offers to pay the price for the culprits, whom nobody else would buy, to Sĕri Maharaja Putĕri. The viziers ask how high the price would be, and who is going to receive it. Maharaja Bĕniasin replies that the heirs of those against whom the crime has been committed have to receive the price, and also to fix it. Sĕjaa leaves every thing to Sĕri Maharaja Putĕri. She complains that though she is ignorant of the law, such matters are forced upon her. How many culprits where there? Sultan Yahya answers, two, with their two children, who are to be sold. Sĕri Maharaja Putĕri orders the viziers to bring the culprits to her palace on the following day. She will not accept any excuses; it is wrong to entrust power to people who abuse it. She does not know yet how she is to punish such doings which bring disgrace and ruin not only upon the thoughtless people themselves but also upon all those who are serving the state but anyhow she will dismiss the culprits from their office. Sultan Yahya delivers his crown and seal to the viziers, who give them to Rakna Mala. Sĕri Maharaja Putĕri would also settle the case of Amir Sĕjaa, and giving the crown and seal to Taniasin, says that with the realm of Sĕmatrani she pays the debt. Sĕjaa shall be crowned forthwith and repair to Sĕmatrani to receive the tribute of the subject countries, and those of Bĕdĕrani, which she would make good to its king. Sĕjaa dares not refuse the gift, and Sĕri Maharaja Putĕri bids the three viziers bring the people she has redeemed to her palace.

Tewangga shakes his head; he thought that he had crowned the daughter of the king of Bĕdĕrani, but now the Lord of the World seems to sit on the throne, and he hopes to be permitted to die in his service. The king of Bĕdĕrani tells the king of Sĕmatrani that they better go home, they had fared as sugar that had dropped into milk. Sĕjaa returns with Johar and his friends and the Zahid. Ismail comes to Sĕjaa and asks his forgiveness; Sĕjaa replies that Ismail is not guilty, that it was only his fate. Bustamam welcomes the Zahid, and the fairies fetch Sĕlamih to greet the Zahid. When she has returned to the palace, they discuss the coming events, and the Zahid prays for Bustamam.

On the following morning they repair, with the exception of Bustamam, to the hall of audience, where preparations for the coronation of Sĕjaa have begun. Tewangga draws Johar before the Zahid and asks him who the boy is, that had pretended to be a village-boy and had made fun of them. The Zahid laughs, bids Johar's friends approach, sprinkles water and murmurs a charm over them, whereupon they regain their former looks. Their parents hurry to embrace them, only Aplus does not show his great joy and continues the duties of his office. Taniasin asks him, and Aplus replies that Johar is really his son, but having now found his own master, he is nothing more to him.

Sĕjaa is crowned, and by order of Sĕri Maharaja Putĕri given the title Sultan Sĕjaa Amir Al-Amur.

Tewangga is still surprised at the wisdom of Sĕri Maharaja Putĕri, who had found the title of Amir Al-Amur; Aplus opines

that it is the blessing that rests upon her office which has inspired her, and is more perplexed by the three questions of Bustamam, the meaning of which he cannot fathom; Johar says that according to the Zahid Bustamam is still in the town, but perhaps does not appear because he is afraid of the viziers, they often act otherwise than they talk, and great men never confess their foolishness. Aplus tells the Zahid of the three questions. The Zahid laughs and says it is no common thief who steals a man's brains without his body feeling it. He then explains: If God sends one prophet into the world to teach mankind the faith, and later sends another to teach another faith, mankind must follow the new one and not cling to the old, which is disobedience to God. A prince who follows the will of his people is a man who prays to idols or fire, which we have created ourselves, and which cannot do anything for us and are even powerless against ourselves, as we can smash or burn idols or throw them into the sea, and with fire we can do what we like. The officers who cannot discern between right and wrong, or knowingly persist in wrong, are hypocrites and of these Bustamam is afraid. The viziers are ashamed, and the Zahid adds that one of the ancestors of the prince of Bédérani had received a sign and had sent out an official, who sent a report but had never returned. The report was still preserved, and they could read it. The fact that the moon had descended from the sky and risen again, had divided and the two parts had united again, was connected with a man of noble descent who was proclaiming the new law of God in Arabia. When he had not been believed, he had shown his power by that miracle. The Zahid himself intends to go to Arabia and find out more about that man. The Zahid explains the new dispensature to Tewangga with such convincing reasoning that the king of Bédérani and Taniasin are converted. Tewangga is convinced that praying to idols and the sun is idle, but does not say a word. The others know how hard the fight will be for him to vanquish his old beliefs, but trust that God will show him the right way. Tewangga passes a sleepless night, but when on the following morning the Zahid asks him to try to find in the new faith greatness and sublimity (as if he were unable to do so, he could always return to the former creed), Tewangga declares that he will follow the faith of the Zahid. He sends messengers out to extinguish the fires in the temples and destroy the fire-altars; when the Brahmans and Sages, who guard the fires, come terrified at him, he says that if the god they pray to cannot even protect himself against such action of men, how could he protect them? They should meditate on these words, and follow the new faith. Many of them do so.

In the palace everything is prepared for the meeting. The ladies of the high officials are also invited to witness the punishment of the culprits. Opposite Séri Maharaja Putéri the kings of Bédérani and Sématrani take their seats, the three viziers behind them. Behind Séri Maharaja Putéri her mother is sitting and

Sēlamih next to her, but so that only the king of Bēdērani can see her. The queen of Sēmatrani, her daughter and Bahrum Shah as well as Sēlina are brought in chains. The guards let the princess pass, the queen and Sēlina are detained by the maids at the foot of the staircase, and Bahrum Shah outside by the guards. Rakna Mala brings the princess to Sēri Maharaja Putēri, who pretends not to have noticed the commotion. Tewangga says that the guards are right, as there is no place here for chains and men, and Sultan Yahya orders that the queen and Sēlina be freed. They are allowed to pass by the maids and would sit down near the door, but Rakna Mala brings the queen to Sēri Maharaja Putēri, to whom she would render homage. Quickly Sēri Maharaja Putēri grasps her hand and says she may not wrong her by letting her commit a great sin. Crying the queen sits down, Sēlina is led behind her by Rakna Ma'a. Tewangga is greatly pleased with the latter and thinks her a proper match for Johar. Sēlina recognizes Sēlamih, whisper to her mistress, and the latter, too, recognizes her, Sēri Maharaja Putēri asks Sēlina whether she has not worried and beaten Sēlamih on their way to the port, Sēlina denies, and being asked whether she can bring a witness, throws herself at Sēlamih's feet, asks her forgiveness and to give evidence for her the queen of Sēmatrani also implores her forgiveness. Sēri Maharaja Putēri seems surprised that her new trusty maid is Sēlamih. She says that those who have wronged her and for their crime had been sold, had been redeemed by her, and she gives them back their liberty but the young princess she asks to keep as her play-mate. Sēlamih should not be angry with her husband, who is innocent. Sēlamih replies that nobody is guilty, as Fate has willed all. Sējaa and his wife, the Zahid and Bustamam and his friends are fetched to the palace, and there is great joy. Aplus throws himself at the feet of Bustamam and says he had had his suspicions from the moment that Bustamam had told him Jamlus had looked for a new master. He kisses Johar and says that he has not left him in vain. Tewangga sees that Rakna Mala is rather shy with Johar, and remarks; "Somebody has stolen a march upon me." When Bustamam renders obeisance to the king of Bēdērani, Taniasin opines that now he will enter his service; the others understand, but are much afraid that Tewangga will find them out. Sēlamih kisses Bustamam, who will not render her homage, in spite of the sign of Aplus, and Tewangga ponders what may be behind that. Sultan Yahya renders obeisance to Sējaa, who gives his crown and seal to his son-in-law, saying that he had accepted the realm as a gift, but being to old and ignorant of matters of state, Sultan Yahya should rule in his stead. All wonder at the sagacity of Sēri Maharaja Putēri. Sultan Yahya asks Bustamam to render homage to Sēri Maharaja Putēri, but he declines and Sēri Maharaja Putēri says smiling, it would be useless to force him.

Tewangga remarks that they have obeyed the will of his master and crowned the princess. But now there is somebody, who  
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disobeying the king of Sēmatrani declines to render her homage. The kings are silent, and Sēri Maharaja Putēri and Rakna Mala fear that a quarrel will arise. Tewangga opines that by not rendering homage to his mother Bustamam had shown that it was forbidden to him (*pantangannya*) to render homage to any woman. Angrily he asks the two other viziers to accompany him home, as there are many things to settle, Taniasin objects as Sēri Maharaja Putēri will offer them a meal. Tewangga replies that he has already eaten and feels filled to satiety. Johar remarks to Khamis that that was a very true word, and Khamis should keep his ears open, as there were many lessons to learn this day. He explains that Sēri Maharaja Putēri had just decided that a man who would not render her homage should not be forced to do so, as she was neither richer nor poorer by it, and thus one would suppose that it would not be right to force a person to eat who had already had his fill. But apparently it was right, as Sēri Maharaja Putēri intends to force Tewangga, who has already had more than his fill, to eat some more! Tewangga laughs and begins joking with Johar, whose ready wit surprises Aplus.

When matters had taken a serious turn, Sēri Maharaja Putēri had sent for mother Sokma in the hope that she would be able to divert the vizier from his anger. The old dame arrives and first comes into conflict with Bahrum, who, she has heard, has been redeemed by Sēri Maharaja Putēri. She would ask the princess to make her a present of him and promises him happy times as her servant. Johar then chaffs her, and she blurts out that the spring in the palace is the work of Bustamam. Tewangga hears this, and though Sēri Maharaja Putēri tries to interfere, most skillfully draws the old woman out and hears how Maharaja Bēniasin has been compelled to accede to Kerba Bahur's demand and how the princess was afraid of the Gērgasi, the son of Kerba Bahur, but that this fear has vanished since Bustamam has come into the palace. Bustamam laughs at the old woman. Sēri Maharaja Putēri, too, seems much abashed, whereat Tewangga wonders. The Zahid knows the reason, but remains silent.

A meal is served. Rakna Mala serves the royal families, but when she comes with another tray, Johar jumps up and takes it from her. She hides her confusion by talking to mother Sokma. Tewangga is told that there is nothing unclean in the food or the drinks, and that even the dishes and vessels have been changed. Aplus hopes that he will not suffer by not having his usual drink, but he will soon learn to go without it. Tewangga, of whom most of the others are afraid, seems quite at ease; he chaffs Johar and Rakna Mala, asking the latter whether she had promised Bustamam his reward, and why she has not given it to him. Timidly she replies that the promise had been given in Bēdērani; being now in Tahta Yemen she had no means to fulfil it, and Tewangga should help her. When Tewangga hears that a headkerchief has been promised as a reward, and that Tewangga will know best what kind

of headkerchief would be suitable for him, he asks Johar, what kind Bustamam would like best. Johar replies that when the reward was promised, there was no question of what Bustamam would like, but Tewangga should do what he considers best, as he will have to take the blame for it. Tewangga asks what blame could be thrown upon him. He adds laughing that when he talked of being blamed he had referred to Bustamam having refused to render homage to her to whom they had all rendered it. Why did Johar talk of blame for choosing a handkerchief. Johar replies that in his opinion it is the same problem. Tewangga asks where Johar has learned such tricks; Johar says from Tewangga himself.

When they have finished the meal, Tewangga asks Sëri Maharaja Putëri, who it is that has invented the title of Amir Alamur, and when he hears that she got it from Bustamam, enquires if she had not forgotten to add Had As Salathin<sup>1</sup>. Sëri Maharaja Putëri says not. Tewangga had suspected that Johar invented the title and had promised to punish him, whereupon Johar had denied it. He now says that Johar has saved his neck, but he would put a chain round his feet. Johar replies that it would not matter to him whether his neck or his feet are put in irons, and Tewangga asks Taniasin to give him Rakna Mala to hold the end of the irons so that Johar could not escape. Taniasin places not only his child but himself at Tewangga's disposal, and ask the Zahid to marry the young couple. Johar objects, as he has to accompany his master on a voyage. Bustamam explains that he has to go to the mountain Thëlahin to bring back the two fairies, which he promised to do as soon as he had found his mother. Jërangau and Chëkui appear at a sign from Bustamam behind Sëlamih, and the viziers wink. Tewangga says, Bustamam must explain first why he would not render homage to Sëri Maharaja Putëri. He knows very well that Bustamam wants Sëri Maharaja Putëri to render homage to him, and they, the three viziers, agree. Thus Bustamam is safe, but he must also bring them into safety. If Tewangga's master hears that he has deserted him in this matter, he would have him put to death, and all he would ask Bustamam is to have him buried and not cremated. Tewangga asks Taniasin and Aplus to arrange with the kings the betrothal of Bustamam and Sëri Maharaja Putëri. Maharaja Bëniasin fears the anger of Bachtiar and Kerba Bahur; Tewangga replies that he does not care for the former; the anger of Kerba Bahur he will take upon himself; what he intends to do, is not disobedience to his sovereign. He was looking for means to justify his action to his master, and they should therefore grant his request, as the Zahid is present and can betroth the two. Maharaja Bëniasin agrees, but leaves everything to Tewangga, and will take no responsibility. The consent of their parents would be sufficient for Sëri Maharaja Putëri ordinarily, but as she is a ruling

<sup>1</sup>Grandfather of the King.

princess she had better also give her consent. Sēri Maharaja Putēri protests: Bustamam had promised to deliver her from the giant, but if he is asking her in marriage, she feels not the least inclination to consent. Raka Mala is her witness, and if she had suspected that Bustamam had such intentions, she would never have allowed him to enter her palace. Bustamam had always treated her as his younger sister, and it is wrong of him to ask her in marriage. Tewangga should take her away, and if it must be, to Kerba Bahur, who could put her to death if it pleases him. Crying Sēri Maharaja Putēri withdraws into her bedroom. All are dumfounded, but the Zahid says that now they could see the kindness of God, who had allowed those two children to live together in an intimacy, without any unlawful doings. God has preserved them from sin and made them grow up like brother and sister, while the amulet written by the Kathib AlAalam, too, had helped them. Tewangga also declares that he is convinced no wrong has been done. Zahid Safian explains how the Khatib AlAalam had appeared before Sēlamih and written the amulet and blessed her bundle and the dagger. Tewangga snatches the dagger from Bustamam (who has just time to mutter a charm so that it cannot harm Tewangga) and tries the dagger on the ground before the palace, whereupon a spring appears at once. Rakna Mala is sent to tell Sēri Maharaja Puteri that the three viziers threaten to return to their countries and leave her to her fate if she insists in thwarting their good intentions, Johar tells Rakna Mala to explain to her. Rakna Mala succeeds in coaxing the princess to come out again, and Tewangga persuades her that all is done for her good, as it will justify Tewangga's action in the eyes of his master, and prevent Bachtiar from coming to Tahta Yemen, if they can spread the news that Sēri Maharaja Putēri is engaged to somebody else. The princess still objects, that Tewangga, who has made her ruler, now wishes to give her somebody to rule over her, but when Tewangga explains that she would rule as hitherto, and that his master's command had been to crown only her and nobody else, Sēri Maharaja Putēri consents, and the Zahid reads the betrothal-service. Sēri Maharaja Putēri takes hold of Bustamam and reprimanding him severely for his intrigues, makes him render homage to the queens and his mother. The Zahid prays for the happiness of the young couple and their descendants. Aplus ask him about the old man he met while searching for the parents of Sēlamih, who had told him that the time to find them had not yet come, and had further told him that two children would be born to Sultan Yahya. The Zahid explains that he had only referred to boys, and Aplus recognizes in him the old man. The Zahid further explains the dream of Maharaja Bēniasin: had not their old faith been destroyed, and had they not all found the way to salvation? Mother Sokma appears again, and being told of the two engagements, is afraid that the other three friends of Bustamam will be caught too. She joins the little fingers of Bustamam and Sēri Maharaja Putēri (*bērkait kēlingking*).

The viziers discuss the letter to Kerba Bahur, which is composed by Johar. In it Tewangga reports that the king of Bēdērani had followed his daughter to Tahta Yemen, where the princess had been crowned in obedience to Kerba Bahur's order. She had been inconsolable over the death of Serjana and had remained silent when the other letter arrived that she was to marry Bachtiar, but Tewangga had perceived that her sadness had increased. He had questioned her father, who had replied that he had given his daughter to Kerba Bahur. But this was said out of fear of Kerba Bahur. The princess had accepted the regency on condition that the three viziers should determine all cases of law, and that the two kings should administer justice. The court of justice of Tahta Yemen had become famous, but to maintain the tradition was costing troops and money. The princess had asked Tewangga to inform Kerba Bahur. The letter is approved by the viziers, and Johar with his three friends accompanies the messenger to Tahta Yemen. Bustamam bids Jērangau protect them.

The Zahid, loaded with presents, is escorted to his village, and Amir Alamur is sent with great pomp to Sēmatrani. Amir Alamur, as soon as he has reached Sēmatrani, sends troops from there and from the subject countries to Tahta Yemen.

Tewangga's embassy reaches Kaladesa, Kerba Bahur is pleased with the letter and orders troops, funds and presents to be sent to Tahta Yemen. He sees Johar, who pretends to be sent by Sēri Maharaja Putēri to buy her baubles at Kaladesa, comes to like him and orders him to choose for Sēri Maharaja Putēri whatever he likes.

Johar meets Bachtiar, is recognized by him, and follows him to the audience-hall. Kerba Bahur gives him the letter, which so far only he himself has read. Bachtiar thinks that Tewangga does not want him at Tahta Yemen, but as he has heard that a prince from beyond the sea is coming as a suitor for the princess, he proposes to go and guard her. Kerba Bahur does not agree. Bachtiar is much too passionate and better wait. Bachtiar insists, as the princess is his fiancée. If Tewangga gives trouble, he will drive him off. Kerbabahur however, forbids him to go to Tahta Yemen, when the time comes he will take him. Angrily Bachtiar leaves the audience, and ask Johar further news about Tahta Yemen. Johar exaggerates the influence of Tewangga, of whom even Sēri Maharaja Putēri is afraid, and insinuates that reinforced by funds and troops he might become dangerous. Bachtiar flares up, and the following morning goes again to the audience-hall. He meets the ministers, but they are sure that Kerba Bahur will not consent. They advise him to have patience and not to irritate his father. Bachtiar replies that he does not fear the anger of the old madman, and goes into the palace. Kerba Bahur, sees him and discusses with his ministers what he is to do, as he fears Bachtiar will disgrace him.

Bachtiar finds his mother talking with the mother of Serjana. When he explains his wish, Serjana's mother warns him against the

princess, who is a woman of ill omen (*pilek*) and has already caused the death of her own son. Bachtiar answers rudely. When she says that Bachtiar may kill her and so reunite her with her son, but that she has spoken only with the best intention, he furiously grasps her hair, and she knocks her head on the steps of the throne, and dies. Bachtiar, escapes into the jungle and decides to go to Tahta Yemen, which is fortified and wait there until his father's anger has abated. He will take his cousins, Dendam Siwati and Dendam Kiwabi, the sons of Maharaja Tesnahur, to intercept with them and their troops the reinforcements and funds which Kerba Bahur is sending to Tahta Yemen. Maharaja Tesnahur is the younger brother of Kerbabahur and king of Siukam. Bachtiar sends him a letter that Tewangga has obtained strong magic powers in Tahta Yemen, has brought Kerba Bahur under his influence and is swindling him out of his troops and his treasures, and that he has tried in vain to dissuade his mad father from following the wily vizier. When he had discussed the matter with his mother, Serjana's mother had tried to murder him, and when he had thrust her back, had smashed her head on the steps of the throne. He asks that his cousins may help him with troops. He would then go to Tahta Yemen, do away with Tewangga, and bring his bride to Tesnahur.

Tesnahur believes Bachtiar and sends his two sons with the troops. Tewangga is to be punished; the troops and treasures, when captured, they shall bring to him, and he himself will take them to Kerba Bahur and inform him of Tewangga's treason. Another army shall follow.

Kerba Bahur sends the troops and monies to Tahta Yemen and a special messenger with a letter to Tewangga, informing him of what has happened and asking him to give sound advice to Bachtiar, if he should come to Tahta Yemen. Johar asks permission to return with the messenger to Tahta Yemen, which is graciously granted, and given a letter to all and everybody to assist him on his voyage, and an invaluable jewel as a present for the princess. On their way to Tahta Yemen they meet Siwati and Kiwabi, are examined but allowed to proceed. When the two princes meet Bachtiar, he asks them to go with him at once, they would have preferred to await the second army, but by his jibes he forces them to follow him. Kerba Bahur is informed of Bachtiar's intentions and curses him that he shall be unlucky wherever he comes. Bachtiar hears and makes fun of it; his cousins don't like his behaviour, and inform him that they have met a messenger carrying a letter from Kerba Bahur to Tewangga. Bachtiar has him captured, takes the letter from him by force and destroys it. Johar and his friends, who have come to Bachtiar's camp, have seen this, and in the evening Johar pays his respects to Bachtiar. He regrets that Bachtiar had not informed him of his departure, otherwise he would have gladdened Səri Maharaja Putəri's heart by the news of his coming, and would have enabled her to make preparations for his

reception. Bachtiar, flattered, tells Johar of his intentions, and Johar advises him not to worry about the wrath of his father, who is an old man: Sėri Maharaja Putėri, if she hears that Bachtiar has now taken matters into his own hands, will be glad to get rid of Tewangga, whom she fears. Bachtiar should not intercept the troops and treasure now, as Kerba Bahur is only a short distance away, but close to Tahta Yemen, which would allow him to take his booty there and to finish Tewangga. Bachtiar agrees, but his cousins fear that their troops will not fight against Tewangga himself. Johar perceives with dismay that Siwat and Kiwabi are not such fools as Bachtiar, but opines that the troops will rather follow their prince than the vizier, and on no account will fight against their prince. Johar receives permission to leave for Tahta Yemen in advance in order to inform Sėri Maharaja Putėri of Bachtiar's coming.

At Tahta Yemen Johar makes his report, and Tewangga thinks that they must oppose Bachtiar. Sėri Maharaja Putėri and the two kings leave everything to him, and he sends troops to meet the reinforcements with a letter to their commanding officer and other troops which are to prevent the army from Siukam from following Bachtiar's orders. With Bustamam's consent, and protected by Jėrangau, Johar and his friends depart as scouts, taking a bottle of perfume from Bustamam, and some victuals. They march to Bachtiar's camp, and Johar gives Bachtiar the perfume and the victuals, which Bachtiar accepts as presents from Sėri Maharaja Puteri. The troops from Kala Desa arrive; their leaders refuse to appear before Bachtiar, as they have orders to march to Tahta Yemen. Bachtiar orders his cousins to bar the way and to bring the leaders to him if they will not obey. They object, as they will lose their good name if they act like thieves taking away the treasures of his father, they prefer to follow the troops to their destination, and if Bachtiar there shall ask for the treasure, nobody will refuse him. Bachtiar calls them cowards, and in their fear they promise to obey. The leaders of the army from Kala Desa refuse to obey Bachtiar; in the jungle there are no princes, and the sword is king. Fighting begins. Johar reports by letter to Tahta Yemen, and Tewangga decides to hurry to the spot. Bustamam insists on accompanying him. Bustamam declines horse and carriage, and marches with Khamis and Saptu, who had carried Johar's letter to Tahta Yemen, to the camp of Bachtiar. The guards let them pass when they say that they belong to Johar, and they go to Bachtiar's tent. Bustamam, who stays outside, is surprised at the appearance of his enemy. Khamis and Saptu pretend that they have come to warn Johar lest he may fall into the hands of Tewangga, who is keeping a strict watch. Bachtiar laughs and repeats his order to capture the leaders from Kala Desa. The latter again refuses to obey Bachtiar's orders; princes and viziers command in the town, but not in the jungle. Bachtiar's officers cannot but agree, but when they report to Bachtiar, he cuts down a few of them, and the rest

prefer fighting in a battle to being cut down by their prince. Fighting begins in earnest; a few men from Kala Desa are captured, and Bachtiar has then impaled. He sends his last troops against those of Kala Desa, who fail back. Bustamam joins in the battle, merely kicking the warriors of Bachtiar when they come too close. Johar and his friends come to help him, cutting their way through Bachtiar's troops, and the men from Kala Desa, thinking that Tewangga has come to their aid, attack with fresh vigour and press back Bachtiar's troops. Bachtiar hurries to the fight. All flee before him, only Bustamam and his friends remain where they are. Bachtiar asks what they are doing here; boys should watch such play from the tents. With the sheath of his sword he aims at Khamis, who avoids the blow and would attack Bachtiar with his sword. Bustamam grasps his hand and asks him whether he does not know His Majesty? Johar explains that they had come only to see the fight, but had been attacked. Bachtiar asks them to follow him to his tent. The fight lasts until the evening without success for either party. In the night Tewangga arrives, and decides to join the troops from Kaladesa by going round Bachtiar's army. He is heard by the guards, who report to Bachtiar, and the latter thinking the troops from Kala Desa are trying to pass through, orders his troops to bar the way. But they get behind Tewangga, who meets the troops from Kala Desa and hears their report with great sorrow. He camps with them, while Bustamam and his friends stay over night in Bachtiar's camp.

Siwati and Kiwabi propose to fetch the second army from Siukam. Bachtiar agrees, but only one of them may leave him. Kiwabi departs, meets Tewangga's troops and asks to see the viziers. Tewangga declares that for him there is only one master, and he cannot let Kiwabi pass. Kiwabi, in fear, asks to be allowed to return to Bachtiar. The latter arranges his troops in echelon on the jungle road, and (Kiwabi and Siwati to his right and left) waits for Tewangga. The troops from Kala Desa arrive, and the battle begins. Tewangga is unable to advance. Bustamam orders Johar and his friends to assist Tewangga's troops. Made invisible by the fairies, he assists a knight of Tewangga, who otherwise would have been slain, to capture Siwati. From the order of the knight to bring the prisoner to Tewangga, Bustamam learns that the latter has joined the troops from Kala Desa.

Kiwabi, hearing his brother's fate, attacks Tewangga's troops and drives them back. Bustamam, still invisible, wrests his sword and mace but has to assist Tewangga's knights in capturing him, as Kiwabi's strength is too much for even four or five of them. Kiwabi is brought to Tewangga and kept with his brother.

Bachtiar tries to free his cousins. Tewangga forbids the killing of his master's son, and orders that he be taken alive. Lassoos are of no avail, as Bachtiar's horse is trained to avoid them. Bustamam wonders at Bachtiar's strength when Tewangga approaches Bachtiar, he slips his dagger into the vizier's belt. Tewangga is startled the

dagger drops, but when it is slipped into his belt again, he recognizes it and knows that Bustamam is near. Bachtiar attacks Tewangga, but is unable to bring down his sword or his mace upon him. Furiously he asks Tewangga where he has learned such magic, and Tewangga knowing now what protects him, drops his shield and orders his knights to surround Bachtiar. The fighting stops, and all wonder at Tewangga's daring. Bachtiar attacks the vizier with his Khanjar<sup>1</sup>; Bustamam takes up Bachtiar's sword, which the latter had dropped as useless, and cuts down Bachtiar's horse. Bachtiar falls; Bustamam is unable to keep him down, and Bachtiar jumps up again and attacks the knights with his mace. They flee, only Johar and his friends remain, and Khamis jumps before Johar, ready to cut the mace with his sword. Bachtiar is alarmed at the sight of that sword, and demands what the boy of ill omen is doing there. Johar replies that Bachtiar himself has invited them to witness what he would do with Tewangga. Tewangga laughs, Bachtiar attacks him again, but Bustamam from behind wrests his mace, and Bachtiar falls on his back. A knight jumps on his chest, but is torn to pieces, and Bustamam can only keep Bachtiar down by pressing his heavy mace across Bachtiar's throat. Bachtiar tries to get away; Tewangga presses down the other end of the mace, and two warriors seize Bachtiar's hands. Face downwards, with sand and dust in his mouth and nose, Bachtiar gives up the struggle requests Tewangga not to bind the son of a master, whom he has to thank for everything. Tewangga replies that Bachtiar has not acted like a prince, but like a thief. If Bachtiar will behave like a prince he will do homage to him. Bachtiar answers that in coming to Tahta Yemen he had no other intention but to receive Tewangga's homage and to load him with presents. Tewangga promises to render him homage when Bachtiar has returned to his parents and follows their instructions. Khamis scoffs at Bachtiar for the follows their instructions. Khamis Scoffs at Bachtiar for the spectacle he has invited them to witness, and when Bachtiar threatens him, Johar tells him to take care that he is not bound and made prisoner like his cousins. Bachtiar is frightened and promises to return to his father; his cousins he will take with him. Tewangga refuses; he will set the princess free if Bachtiar brings him a letter from his father with that instruction; meanwhile he will keep them as hostages for the good behaviour of Bachtiar. The latter promises to mend his way, and is allowed to return to his camp. Johar and his friends follow, and when Bachtiar's men start bragging, the boys ask them why they did not help their master when he was lying on his belly in the dust like a crocodile. Some say that Bachtiar had suffered himself to be vanquished in his pity for Tewangga, his father's trusted servant. Bachtiar confirms this and adds that Tewangga in his fear had promised to crown him as reigning prince if only he would return to his father. Johar and his

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<sup>1</sup>A cutlass.

friends are expelled from Bachtiar's camp and join Tewangga, who in the meantime has met Bustamam. Together they returned to Tahta Yemen, passing Bachtiar on the way.

Bachtiar meets the army of Siukam and asks the commander to follow him to Kala Desa. The gates of the town are closed, Bachtiar sends the warder of the gate to ask his father for an audience. The warder reports how Tewangga has frustrated Bachtiar's plans and has captured Kiwabi and Siwati. Kerba Bahur refuses to see his son, and Bachtiar marches to Siukam. Tesnahur receives him, and crying Bachtiar reports how Tewangga has abandoned their old faith, and acquired magic which enabled him to capture Kiwabi and Siwati and even himself. His cousins were treated shamefully by Tewangga, who had refused to set them free unless he received a letter from Bachtiar's father. He had abstained from further fighting, but is willing to march out again and annihilate Tewangga. Tesnahur, in a fury, orders a letter to be written to his sons bidding them return at once.

On his return to Tahta Yemen, Tewangga is received with great honours. Before he reached the town, he has freed Kiwabi and Siwati, has clad them in princely garments, and in sedan-chairs they are carried to the hall of audience, whilst Tewangga, joined by Aplus and Taniasin, follows on foot. He renders homage to Sēri Maharaja Putēri and the kings, and makes Kiwabi and Siwati do so. The kings embrace and kiss the princess. Tewangga reports, praising Bustamam's help, which has enabled him to settle the matter without wounding his master's heart. The kings understand what he means.

Kiwabi and Siwati are given a house and their own little court, and Aplus is to be their adviser and Councillor.

The three viziers together draft the letter to Kerba Bahur, reporting, that Tewangga had to act as he did to uphold the honour of his master, and that Bachtiar had been set free to obtain a letter from his father that Kiwabi and Siwati may be allowed to return. The letter repeats that the kings of Bēdērani and Sēmatrani are still mourning the death of Serjana and are so afraid of what is coming that they could rather retire into the jungle and live as hermits than witness the unhappiness of their child. Tewangga does not know what to do; he has to follow the orders of his master, but Kerba Bahur should compare the picture of the princess with that of Bachtiar, whose character events had shown in full light, and Kerba Bahur would surely change his mind. Tewangga and the two kings were awaiting his decision.

The letter is sent, together with another letter of Tewangga to Tesnahur regarding his two sons.

Kiwabi and Siwati are visited daily by the three viziers and by Bustamam and his friends. Kiwabi, the younger, shows signs of favouring the new faith, but Siwati remains reserved and inaccessible. When the messenger from Siukam arrives, he is brought before the two princes and hands them the letter of Tesnahur.

**Kiwabi** is of opinion that their father misunderstands the situation; they are prisoners of war, and their father must either beg for their release, or rescue them by force. Siwati thinks they are free to do what they like, and suggests that they show the letter to Tewangga. **Kiwabi** says that the honourable treatment they have received binds them more strongly than prison, fetters and guards, and even if Tewangga allows them to follow their own choice, Siwati may return, but he himself will remain at Tahta Yemen. They go to Tewangga and show him the letter; he reads it and returns it in silence. Siwati asks him whether they should return or not; Tewangga laughs and says he should do what he thinks right, and if he does not know it, should ask his younger brother. Siwati leaves Tahta Yemen, whilst **Kiwabi** remains.

Tewangga's letter reaches Kerbabahur, who replies condemning **Bachtiar's** doings, and renouncing him as his son. He approves of everything Tewangga has done and sends his vizier **Sējan Bada** with 500 officers and 4000 men to assist Tewangga. If the viziers can find another prince whom they and the kings deem suitable, they should marry him to **Sēri Maharaja Putēri** crown him as king of Tahta Yemen and watch carefully over his two children. **Bachtiar** he had torn out of his heart. He had deserved death by killing **Serjana** and her mother, and should be treated without any consideration if he came to Tahta Yemen. His two brothers (the kings of **Bēdērani** and **Sēmatrani**) should remain, if possible, at Tahta Yemen, and watch over his and their children: he would provide for their wants.

**Sējan Bada** departs with his whole clan; he asks the two viziers who remain with **Kerba Bahur** to watch over his old master and inform him at once if danger threatens him.

Tewangga's messenger reaches **Siukam** and gives **Tesnahur** the letter. **Tesnahur** gives it to **Bachtiar**, who tears it up, saying that if Tewangga does not send the princess back with the troops who have gone to fetch them, he should wait for **Bachtiar** himself, as he would not be satisfied unless he had boxed Tewangga's ears. That reply the messenger should deliver to Tewangga; a letter he would not send. The officer replies that the letter was addressed to **Tesnahur** and not to **Bachtiar**, who, not better than a corpse on the battlefield, had begged Tewangga to spare him fetters and neck-iron, had promised to mend his ways, and had left his cousins as hostages. **Bachtiar** should brag before Tewangga and not here. In a fury **Bachtiar** draws his sword; the officer remarks that this is not a place for fighting, and leaves without paying homage.

**Bachtiar** persuades **Tesnahur** to assist him in crushing Tewangga, and the princes subject to **Siukam**, the kings of **Gujerat**, **Jēzam**, **Siulan**, **Sētīn**, **Basmit**, **Kēmusat**, **Sēmbals**, **Guha**, **Jusi** and others are called up with their armies. The letter to the king of **Gujerat** says that Tewangga is planning treason, had caused all the fighting

and the death of Serjana, and that in the interest of the dynasty it is imperative to destroy Tewangga and make Bachtiar the ruler of Tahta Yemen.

The troops of Siukam arrived with Siwati, who reports that Kiwabi has remained at Tahta Yemen of his own free will. They had been treated honourably, but Tewangga has abandoned their own religion and is following the faith of Bustamam, the son of the king of Sēmatrani, whom Tewangga would surely crown as ruler of Tahta Yemen. Siwati has met Sējan Bada and knows that Kerbabahur has agreed to another prince being married to Sēri Maharaja Putēri and crowned as king of Tahta Yemen. At this report Bachtiar throws himself on the ground and howls so that the whole town hears it. Tesnahur renews his promise to help him; Siwati warns him that Tahta Yemen is very strong and the viziers are so wise and strong in magic that even Bachtiar had been defeated. Tesnahur is rather taken aback, but decides that they may not suffer Tewangga to become their master, and their religion to be destroyed.

Sējan Bada reaches Tahta Yemen, is received with great honours and approves of everything Tewangga has done. Everybody is pleased with Kerbabahur's letters, and Tewangga is praised for his sagacity. Kiwabi decides to remain at Tahta Yemen, and before the full audience Sējan Bada and Kiwabi swear allegiance to Sēri Maharaja Putēri and to the constitution. Kiwabi is given the name of Raja Shah Malik.

The four viziers draft the report to Kerbabahur, and Sējan Bada is introduced to Bustamam, Johar and their friends. They are invited to the palace, and Sējan Bada is pleased with Sēri Maharaja Putēri. After the meal Tewangga says that they now have to solve the difficult problem of finding a suitable husband for Sēri Maharaja Putēri. With enigmatic hints he intimates that with Kiwabi a new factor has entered into their plans, who may upset all their former doings. At first nobody comprehends him, until at last Sējan Bada understands the hint and says to Sēri Maharaja Putēri that the nephew of his master had come to her country, renouncing his home and his family, to stay with her for ever and serve her, and is now asking for a sign that the kings accept his trust. The king refers him to Sēri Maharaja Putēri, who says that the moment for a decision had not yet come, as first the viziers should agree amongst themselves.

The viziers ask for time to deliberate, and meet in the evening at the house of Sējan Bada, where Bustamam and Johar are also present. Sējan Bada says that he had asked Johar to explain to him the meaning of Sēri Maharaja Putēri's words; Tewangga replies that he should not have asked the pupil, but the master, meaning Bustamam. He relates how Bustamam has already made fun of him over the dagger, and with the question of the prince and the

vizier, of which the Zahid had given him the right explanation. They should try carefully to find out the meaning of Sēri Maharaja Putēri's words.

Sējan Bada is taken aback when he hears the Zahid's answers to Bustamam's questions; Tewangga remarks that he had been converted by them at once, and Aplus with his wisdom would be glad to assist Sējan Bada. They leave him for the night, but Sējan Bada keeps back Bustamam and plies him with many questions, all of which Bustamam answers, adding many wise teachings and advice, so that Sējan Bada is converted to the new faith. (The author adds that all these people have been converted so quickly because they were wise men, acquainted with the teachings of many religions, so that they wanted but a hint to distinguish between truth and falsehood.)

On the following morning the viziers meet again, and Sējan Bada tells the others that Bustamam had shown him the right way. They request the kings to begin with the wedding-festivities, invitations are sent to the subject princes; embassies are sent to fetch Amir Alamur and the Zahid. One day in the hall of audience, Tewangga bids Johar sit down next to him and reminds him of the day when his master had told him that he had as good a brain as the other viziers and should sit down with them. The work they are now busy with is the service of his master, and Johar should take it over and relieve the old viziers of it. Johar murmurs that Sēri Maharaja Putēri had given the order to them and not to him, and it is not right for them to back out of it. Tewangga laughs and says that Johar is right, but this time they will back out of it. Johar and his friends should get accustomed to the service of their master and should not form a separate party opposed to the old viziers. Johar takes over the work of preparing for the wedding. The two kings agree and smilingly reprove them for all their pranks: Bustamam must relate how and where he has found his friends. Tewangga takes the dagger out of his own belt and gives it to Johar to return to his master. Bustamam nods, and Johar goes down, thrusts the dagger into the ground and returns it to Bustamam. Water begins to flow, and when the excitement has ceased, is caught for the use of the palace and the public. The king of Bēdērani and Taniasin now guess where the well in the palace of Bēdērani came from.

Bustamam disappears into the palace, where all the ladies of the court are busy with the preparations for the wedding. The queen of Sēmatrani sits disregarded in a corner, and Sēri Maharaja Putēri does not even allow the princess of Sēmatrani to be near her. Bahrum Shah has his place with the pages and is made their laughing-stock.—Bustamam complains that he feels lonely, his friends being pressed into service by the viziers, and Rakna Mala is chaffed that she has been the cause of it in order to have Johar always near her.

Amir Alamur and the Zahid arrive with their wives, and Amir Alamur asks the king of Sēmatrani to pardon Amir Bahud and his son, as all they have done has been ordained by God. The king replies that the matter lies with the viziers. The viziers agreeing, Amir Bahud and his son are released from prison.

Tewangga asks Amir Alamur about the origin of the dagger. Amir Ismail turns as white as a sheet, but Amir Alamur merely states that he had inherited the dagger from his parents, that robbers had attacked him for the sake of it, but that God had preserved him. The names of the robbers he pretends not to know. The Zahid laughs, and Tewangga says that he knows everything and only has asked in order to fathom the mind of the first man he knows who would not divulge the wrong done to him by his fellow-creatures.

The messenger of the 4 viziers reaches Kerba Bahur and delivers the letter, wherein they propose to marry the son of the king of Sēmatrani to Sēri Maharaja Putēri, and Kiwabi to the princess of Sēmatrani. Kerba Bahur joyfully agrees and sends rich presents. In a letter he bids Tewangga bring the young couple to Kala Desa, but to beware of Bachtiar, who he had heard was in Siukam preparing a new attack on Tahta Yemen. He himself would come to assist them, as everybody joining Bachtiar is a traitor against himself. With Kiwabi the viziers may do what they consider best. The little army reaches Tahta Yemen safely and is sent back by Tewangga, who is afraid that Bachtiar might even attack Kala Desa.

Bachtiar in the meantime has urged his uncle to hurry up with the preparations for the expedition. Siwati visits with Bachtiar his teacher Tembun to inform him that Tewangga has turned apostate, and to ask him to put his course on Tewangga. Tembun refers them to his own teacher, the Braman Jakni, who for three hundred years has been living as an ascetic on the mountain Jaktun, has become the mightiest Brahman on earth, is clairvoyant and has all his wishes fulfilled by the Gods.

Bachtiar and Siwati climb the mountain Jaktun. Jakni is at his praying-palace, which is on the top of a huge column of fire. The two princes visit the top of the mountain, where the enormous fire is blazing, with thousands of pupils praying around it. Two days later a gigantic dragon appears, carrying in its mouth a fruit of the jungle which is the food of Jakni. Having taken the fruit, Jakni, climbs down on the body of the dragon from his praying place, and taking his customary seat on a rock, resumes the teaching of the worship of fire to his pupils. Seeing Bachtiar and Siwati, he knows at once the purpose of their coming, and tells them that they will not see their desire fulfilled. Bustamam, prince of Sēmatrani, will marry Bachtiar's bride and become ruler of Tahta Yemen. Through his misbehaviour and the murder of his brother and mother Bachtiar has forfeited the goodwill of the Lord of the World, and his inheritance will be given to Bustamam; Bachtiar should give

up all ill-will against Bustamam as being of no avail. Bachtiar and Siwati implore him to help them and not Tewangga, the accused apostate. Jakni replies that he is unable to grant their desire, but he can show Bachtiar a way to repent of his sins and thus obtain the forgiveness of the Lord. Bachtiar promises everything and is given a corner where he has to live for seven days as ascetic, worshipping the fire; as soon as he is given a sign, he should inform Jakni. Bachtiar obeys, living on the provisions he has brought with him, and on the eighth day pretends to have received a sign that all is disclosed to Jakni. The latter says that he also has received a sign, but of all omen, and proceeds to his own place of worship to make sure. By the will of God he asks by mistake his gods about the fate of Bustamam and not that of Bachtiar, and receives a favourable reply. Returning to Bachtiar, Jakni says that he is now able to help Bachtiar, whom three more days of ascetic life will make invulnerable. When Bachtiar has accomplished those three days, Jakni says that there is only one sword that will be able to kill Bachtiar, he "calls" that sword, which immediately appears before him and is thrown into the big fire. He promises to help Bachtiar if he cannot vanquish Tewangga, and likewise "calls" for the only sword that can kill Siwati, which he gives to the latter to take care of. They thank Jakni and return to Siukam, where the subject princes are already arriving with their armies. Bachtiar boasts of the assistance which Jakni has given and promised him, and Tesnahur is glad that the mighty Brahman is with them. When all the princes have arrived, a banquet is given in their honour, and all brag of the great feats they will do. Only the king of Gujerat remains silent. Tesnahur asks what he thinks of Tewangga's treason; the king of Gujerat asks whether Tesnahur has consulted his elder brother. Tesnahur says that he has not, as Kerba Bahur through old age and grief has become so inaccessible to reason that he is even angry with his only remaining and first-born son Bachtiar and has given orders to kill him. He repeats all the lies which Bachtiar has told him about his own innocence and the treason of Tewangga. The king of Gujerat is unable to believe such things and demands that Tewangga be called. Tesnahur refuses, but the king of Gujerat insists, if it is only to find out whether Tewangga will come or not. Faith is a private matter, which Tewangga has to settle with his own conscience. He and his brothers had come to ask Tesnahur to leave the work to them and stay at home unless they were unable to accomplish their task, but what he had heard now had blunted his passion (*nafsu*), and Tesnahur knows that without the right anger (*march*) a war comes to naught. Even if Tesnahur had broken off his relations with his elder brother, Kerba Bahur is still the heart. They themselves are the body and the limbs, and without Kerbabahur's consent they could not have the true fighting spirit. If however Tesnahur will order them to march, they will follow him unto death. The kings of Jezat and Jertalis agree, and the king of Gujerat suggests that he and his two

brothers should proceed to Kerba Bahur and ask for his order to remove Tewangga. Tesnahur admits that they are right, but it will be useless, as Kerba Bahur dotes on Tewangga. In the interest of the dynasty he asks them to help him and Bachtiar. The kings reply that they will obey Tesnahur unto death. On Tesnahur's question the king of Gujerat explains that according to the belief they have inherited from their forefathers a war is like a lawsuit, the right gains the victory, and if they are vanquished, it is a proof that they have been in the wrong. Tesnahur can say nothing against this, but as he has decided to help Bachtiar, he orders that those of the kings who are with him might join their troops on the following day, as the next day he will depart himself. Much grieved that the three most powerful of his vassals have not offered to do the work for him (*berchakap*), he retires.

On the third day eight of the kings have departed with their armies; the king of Gujerat and his brothers have not moved, and some of the subject princes have not yet arrived. Tesnahur is furious, and Bachtiar suggests that he stays behind and destroys the countries of all those kings that are not with them, in order to leave no traitors behind. Tesnahur fears that such a policy will give him a bad reputation and decides that they will settle Tewangga first and later on those who have not joined them. The vassal-princes hear of that conversation, and much afraid all of them depart on the following morning together with Tesnahur. They pass Kala Desa, and Tesnahur, afraid that the capital may be attacked by another enemy or that Tewangga may fall back on it, orders the kings of Kĕmusat and Sĕtin, both his trusted friends, to surround the town with their armies and prevent anybody from leaving or entering it. Kerbabahur hears this and is greatly enraged; he fears for Tewangga, but being unable to do anything, has the gates closed and the walls guarded by his troops.

Tesnahun continues his march on Tahta Yemen, destroying and plundering villages. Tewangga is informed, and preparations against the attack are made. The Zahid returns to his village, which belongs to Siukam. He suspects that Bachtiar has invoked the help of Jakni, which will cause them much sorrow, but God will protect them.

Tewangga sends out spies, who mingle with the troops of Tesnahur and obtain information. He also sends a trusted messenger to Kerba Bahur; the messenger avoids the army of Tesnahur, but is captured by the troops of Gujerat and brought before the king and his brothers. He pretends to be a native of Kala Desa who has visited Tahta Yemen, and having heard of the blockade of Kala Desa, is hastening to rejoin his family. He reports that on the order of Kerba Bahur Tewangga is going to resist the attack and gives the kings a full account of what has happened in Tahta Yemen. Bustamam, who will lead the defence, is the same who has vanquished Bachtiar, and is not the least afraid of Jakni's promised assistance. Tewangga and Kiwabi have been converted to Islam. The kings,

rather uneasy, give him a letter to Kerba Bahur and another letter to pass the troops who surround Kala Desa. The officer enters the town safely and delivers his letters. Tewangga reports that Tesnahur is going to attack Tahta Yemen; if he yields, he defames his master, if he resists, he becomes a rebel against Tesnahur. They have decided to defend the town until their last breath, but are uneasy about Kala Desa of which they have heard that it is blockaded. They are however unable to relieve Kala Desa, as they cannot leave Tahta Yemen without Kerba Bahur's order. Kerba Bahur agrees with the decision of the viziers and bids them resist the attack, and to care not for him but for his good name.

The king of Gujerat reports that he and his brothers have been called up by Tesnahur and Bachtiar to capture Tewangga, who had rebelled against his master but that they had not been given time to consult Kerba Bahur, and suspecting something they ask for his commands. Kerba Bahur has a reply written that not Tewangga but Bachtiar is the rebel against God and himself, having murdered his brother and his mother. The messenger easily passes the surrounding troops when he leaves Kala Desa

In Tahta Yemen Tewangga and Sĕjan Bada will defend the town outside the gates, Aplus and Taniasin to remain with the two kings. Bustamam and his friends will accompany Tewangga; Johar and Khamis select 1000 knights to be Bustamam's bodyguard. Bustamam takes leave of Sĕri Maharaja Putĕri and asks her for the ring he had given her; Sĕlamih also gives him the ring she has received from Dewi Nilawati. Bustamam joins Tewangga and sends Johar and Khamis as spies to Tesnahur's camp. Chĕkur is to accompany them and look for magic charms in the tent of Bachtiar, which Jakni may have given him. She finds some charms and returns with Johar and Khamis, who have mingled with Tesnahur's troops. Bustamam orders the charms to be buried in the jungle. Johar and Khamis report the army of Tesnahur so big that the forces of Tahta Yemen will easily be surrounded, and following their advice Tewangga decides to resist the attack under the walls of the town. Bachtiar, who leads Tesnahur's advance-guard, storms the empty camp and thinks that Tewangga has already fled. Pressing onwards, he meets with Tewangga's rearguard and fighting begins. Johar and Khamis with the 1,000 knights keep Bachtiar's troops back, and fighting lasts until the night comes. Bachtiar pitches his camp and the other princes arrive and reproach him for his rashness. He says that Tewangga had barred his way and started the fighting. Tesnahur holds a council of war. The kings of Siulan and Guha are of opinion that fighting having begun, no other way is open to them, but the king of Gujerat insists that a letter to be sent to Tewangga, as fighting is the last means they may resort to. Tesnahur sends a letter to Tewangga reminding him that Kerba Bahur has given him his high office and his confidence, which Tewangga may not abuse by turning rebel. Other officers were sure to follow his example. Tewangga should repent and

proceed to Kaladesa, delivering Tahta Yemen to Bachtiar. Otherwise they are compelled to take Tahta Yemen by force and hand it over to Bachtiar.

Bustamam in the meantime has divided his army into four troops, one for himself, one for each of the two viziers, and one for Johar. Through a magic potion and charms, he makes his men invulnerable. One of his rings he gives to Johar, the other to Khamis. Jumaat and Jêrangau are to watch over the viziers, Saptu on his mute appeal is allowed to participate in the fighting.

Tesnahun's letter arrives. Aplus and Tamiasin come, and the four viziers draft a reply. Tewangga gives it to Johar to peruse, who also dictates a letter. Both versions are read: in their letter the viziers say that Tewangga has acted on instructions received from Kerba Bahur. Kerba Bahur had sent Sêjan Bada with instructions of which they enclose a copy. Tewangga acknowledges the order of Tesnahun, but requests to be given time to await Kerba Bahur's decision, for which he has already asked—Johar's letter is practically the same: Tesnahun well knows that Tewangga has acted solely on Kerba Bahur's orders. He has never deviated from the custom of their ancestors, and if he is shown a single line from Kerba Bahur to that effect, he would surrender not only the town but also his life. Johar's letter is sent and causes consternation. The kings of Gujerat and Jezam explain that by alluding to the custom of their ancestors Tewangga claims that a king as such has no brother, son or grandson, and the letter further says that only his master can accuse Tewangga of being a traitor, that Tesnahun as brother of the king is of no importance, and that Tewangga may not surrender the town without Kerba Bahur's order. They admit that Tewangga is right, but Tesnahun should decide what they should do. Bachtiar says that he told them that it would be of no use to write to Tewangga, and they could do nothing else but cut off his head. The king of Gujerat objects that they would spoil their good name by attacking a servant appointed by his father. Bachtiar replies that those who are afraid could stand aside, but if he was wrong, his teacher Jakni would not have helped him. He takes down his waistband which Jakni had given him, throws it on the ground, and it turns into a gigantic snake. Some of the princes become afraid; Tesnahun says that they believe that Jakni will assist them, but Bachtiar should not act rashly and disturb their council by such things. Bachtiar excuses himself that Jakni has ordered him to act quickly, as otherwise their religion will be destroyed, and by tarrying they may incur Jakni's anger. The princes fear the mighty and strong-willed Brahman, with the exception of the king of Gujerat and his brothers, who worship idols and not the sun or fire. This king says that they had come not to trifle but to hear Tesnahun's orders; there were death and wounds in war also; and it would come to the same as if they were devoured by a snake. Tesnahun decides that they will assist Bachtiar. They were fighting not for Bachtiar, but for their faith. The kings of

Gujerat and Jēzam, being the eldest and most experienced, should take the command. Both reply that they will obey, but they cannot do so with all their heart.

On the following morning the king of Gujerat has the war-drum beaten; Tewangga does not answer but hoists a white flag with a red border, which signifies that he declares himself subject to him under whose authority he acts. The kings of Gujerat and Jezam are in great sorrow: for the second time the drum is beaten with the same result. Bachtiar, rejoicing, suggests that Tewangga is afraid and that they go to fetch his head after beating the drum for a third time. The king of Gujerat replies that he is in command and shall not obey Bachtiar's wishes. When the sun is in the zenith, the war-drum is repeated twice, and this is done again in the afternoon. Then, at the second beating Tewangga lowers his flag, and at the third time replies, keeping up beating his drums until late in the night. The kings of Gujerat and Jēzam are startled and conceive that they will gain nothing but trouble and sorrow from this war. They report to Tesnahur, but do not share Bachtiar's opinion that Tewangga is so afraid that he did not answer the drums until so late that he was sure nobody would attack him, and that he will flee during the night.

On the next morning Tewangga answers the drums, and the king of Gujerat arranges his army. The king of Guha takes the right wing, the king of Siulam the left, the king of Jezam the centre, and the king of Gujerat with his two brothers forms the head. Bustamam and the viziers know that the king of Gujerat, who has never lost a battle for Tesnahur, is in command, and that his order is to enclose and surround them. They agree that Khamis shall keep back one wing, the viziers the other, and Bustamam is to try to smash the head and the centre. Thus they arrange their troops, the knights in front of the soldiers, but with strict orders to restrict themselves to defence. The drums are beaten again, but Tewangga does not give the order to advance. The king of Gujerat feels uneasy, as he understands that Tewangga will do nothing but prevent him from carrying out his intentions, but he has to obey Tesnahur's order. So he sends his son Amir Bedla with four knights to challenge the enemy, but Tewangga forbids his warriors to fight unless they are attacked where they are, and the challenge remains unanswered. Bachtiar urges the king of Gujerat to storm, as Tewangga was sure to flee, and following closely they could enter the town. The king of Gujerat refuses; if Bachtiar will attack on his own account, he may do so. When night falls, both armies return to their camps. At a council of war, Tesnahur, urged by Bachtiar, asks the king of Gujerat to try a general attack, and the king of Gujerat agrees on condition that Bachtiar joins in it.

On the next morning Amir Bedla, Bachtiar and forty knights try to press back Tewangga's knights without using their arms, but to no purpose. Bachtiar draws his swords, and though unwounded, the knights fall back before his blows. Khamis jumps to the front,

calling Bachtiar a dead dog, cuts off the leg of a warrior of Gujerat mounted on a steer, snatches his sandal and throws it at Bachtiar. Dodging the strokes of Bachtiar's sword he picks up the sandal again and thrashes Bachtiar with it, who unable to hit Khamis, falls slowly back, trying to ward off the blows as well as he can. Bedla laughs and asks why Bachtiar allows himself to be thrashed with a sandal? Bachtiar replies that he cannot fight with such an unequal adversary, and asks Bedla to have that boy captured. Bedla sends some of his knights against Khamis, and fighting becomes more general. Tewangga's knights remain unharmed, but many of the warriors of Gujerat are wounded, and some slain. Bustamam wonders at their bravery. Just before the fighting ends, a warrior of Tewangga, whose sword has been broken, is lassoed and brought to the king of Gujerat, who takes him to Tesnahur. Tesnahur questions the prisoner and hears that Sĕjan Bada has been sent by Kerbahahur to help Tewangga to have Sĕri Maharaja Putĕri married and her husband crowned as king of Tahta Yemen. Bachtiar opines that to-day it has only been play, and unless they attack in earnest, the war will last a year. Tesnahur reminds him that Tewangga's troops are invulnerable: Bachtiar says that Jakni has given him charms for invulnerability too, and sends Siwati to fetch them from his tent. When Siwati reports that the charms have disappeared, Bachtiar opines that the boys have stolen them for their own men, but he will cut off their heads and impale on the battlefield those who now think themselves invulnerable. If the king of Gujerat will provide sufficient men with lassoes and maces, the matter will be quickly settled. The king of Gujerat replies that he will only fight in a fair manner, but if another would capture or kill the boys, he would undertake to vanquish Tewangga and the other vizers. If he does not succeed within a few days, they might thrash his face with a sandal as Bachtiar's had been thrashed to-day on the battlefield by one of the boys. The knight of Tewangga is set free, given presents, and sent back to his army.

On the following morning both armies march up in the same order of battle. Khamis advances, and those he vanquishes in the first fighting, and who fight fair, he sends back as "dead men" to their own princes. Soon he is fighting against superior forces, who try to surround him, and Busamam comes to his rescue. The king of Jezam, personally leading his troops, succeeds in encircling Bustamam and Khamis, in spite of his heavy losses, and the king of Gujerat, who is watching the two boys with growing sympathy, sends his son Amir Bedla, who is of Bustamam's age to capture them. The viziers see the dangerous position of Bustamam and Khamis, and fighting becomes general, the kings of Guha and Siulan also joining. Johar, followed by forty of the bravest knights, cuts his way through to Bustamam, who is just encountering Amir Bedla. The two boys like each other at sight, and Bustamam warns Bedla that fate may turn the tables against him, as his father is in

the wrong. After a short struggle Bedla is captured and bound. All his friends try to rescue him; the king of Gujerat fights against Khamis and Johar, the king of Jezam against Bustamam. The latter dodges the weapons of his adversary without attacking, and when called upon to show his arms, Bustamam replies that if he wanted to kill the kings he would not wait for their order. This is a foolish war, thoughtlessly plotted to the detriment of Kerba Bahur and their own good names, and any king who took part in it had better return and repent, as otherwise the dynasty in his kingdom might be changed. The king of Jëzam is in a great fury, but has to admit that Bustamam is right. He turns his elephant and seeks the king of Gujerat, who is rather surprised at seeing his friend, for the first time in his life, turning away from his foe, but he leaves Johar and Khamis to meet him. The king of Jëzam explains, praising Bustamam, and adds that the king of Gujerat need not trouble about his son, who would come to no harm in the hands of Bustamam and the viziers. The king of Gujerat agrees with him.

Bedla is safely carried to Tewangga, who unbinds him at once, has him bathed and clothed in royal garments, leads him to the royal armchair and with Sëjan Bada and Jumaat takes his seat below him.

The kings of Gujerat and Jëzam give the signal to break off the fight, to the surprise of Tewangga, who promptly does the same, and that of Tesnahur, who is taken aback when he hears of the capture of Bedla and the heavy losses.

Bustamam returns to his camp, greets the viziers and sits down next to Bedla, takes his hand and asks him not to mourn his fate, as victory and defeat are the lot of the warrior, and in war one should have God on his side. He proves this by quotations from old epics. He shares his meal with Bedla and orders the captured knights of Gujerat to be set free and to pay respects to their master. When Bedla asks to be allowed to visit his father in order to compose his fears about his fate, and to implore him to withdraw from this war, promising to return speedily, Bustamam and the viziers agree; the knights of Gujerat shall go with him, and an officer and ten men of their own. They leave it to Bedla whether he will return or not: their own men may return without him. Bedla reaches the tent of his father, who has just gone to Tesnahur. He waits for him, detaining Tewangga's officer, with whom he wants to return.

The messenger from Kala Desa arrives; with great joy Tewangga reads Kerba Bahur's letter and sends the messenger with the letter for the king of Gujerat to the latter's camp. Bedla takes the letter to Tesnahur's tent. The king of Gujerat, who had already requested Tesnahur to relieve him and his brothers from participating in this war, declares that his master now orders him to withdraw. He gives the letter to Tesnahur, who has it read before the other

kings. The king of Gujerat declares that Kerba Bahur not having ordered him to help Tewangga, he will withdraw to Kala Desa to await Kerba Bahur's further orders.

Bachtiar furiously exclaims that the old man in his madness is only obeying Tewangga, he will abolish the accursed, mad dotard. All grasp their arms, and the king of Gujerat reprimands Bachtiar; they will have to cut off his lips, and would rather perish in a fight with him than hear such words again. They neither fear nor respect Bachtiar as being the son of a king; for them there is only one master. Bachtiar is frightened and remains silent; the council of war is broken off.

Tesnahur does not know how to act. Boasting of his and Siwati's invulnerability and the assistance of Jakni, Bachtiar implores him not to give up the matter, and Tesnahur, knowing that he has gone too far to withdraw without losing his good name, and anxious to please the mighty Brahman, decides to try and find another king to take command.

The kings of Gujerat and Jëzam receive accounts of what has happened from Bedla and Tewangga's officer, and as Bedla chooses to return to Tewangga, his father decides to return to Gujerat and then proceed to Kala Desa, Bedla shall procure him a letter to Kerba Bahur that he may be admitted.

Bedla returns to Tewangga's camp, and the viziers, overjoyed, send the letter he had asked for to the king of Gujerat, who departs at once with his brothers and the king of Jëzam and their armies. They reach Kerba Bahur, ask his pardon and report. Kerba Bahur is alarmed at the news that Jakni stands behind Bachtiar, and though the kings try to calm his fears, praising Bustamam and the viziers, he bids them prepare their armies to assist Tewangga.

Tesnahur holds a council of war, Bachtiar boasts again of his and Siwati's invulnerability, which they prove with each other's swords. Tesnahur orders the kings of Kamis and Guha to take supreme command.

The viziers recognize the red and blue standards of the kings of Kamis and Guha and warn Bustamam that they and their warriors carry a narcotic in their clothes, which in a fight gets into the mouths of their foes and makes them faint. The fairies Chëkur and Jerangau fetch certain roots from a near hill, which, when eaten, form an antidote against the narcotic, and Bustamam distributes them amongst his knights and his friends.

On the following morning, when Tewangga has answered the war-drums, the king of Guha arranges his armies in four big troops who are to encircle the enemy. He himself with his brother takes position far in front of his troops.

Bustamam, Johar and Khamis their knights are drawn into the battle and the enemies close round them in a wide circle. The viziers advance to break this circle, which is always reinforced from behind. Johar forms a barrier behind the kings, cutting off further reinforcements and attacking the kings from the rear. He breaks

the troops immediately behind the kings, and they turn to meet him. Johar cuts off the trunk of the king of Guha's elephant, and the animal breaks through the circle round Khamis. The king of Guha jumps down, mounts a horse and attacks Khamis, who cuts off the horse's feet. The king of Guha advances towards Khamis on foot; the king of Kamis hastens to assist his brother, but Bustamam and Johar have joined, the viziers have advanced, and the order of battle is broken. The kings are swallowed up in the general fight, which lasts until it grows dark. The kings see that their order of battle is of no avail and decide to try a general attack on the following day.

On the following morning Tewangga does not answer the war drum; Bachtiar thinks he is afraid and urges to storm the town, but the kings of Guha and Kamis prefer to wait, and Tesnahur agrees.

Tewangga has held a council of war with the other three viziers, and a letter is sent to Tesnahur repeating, that Bachtiar is the cause of all trouble and that Tewangga is acting in accordance with Kerba Bahur's orders, and requesting Tesnahur to consider, what custom bids him do in order to preserve his good name.

This letter is handed to Tesnahur in the council of war. Bachtiar observes that his uncle wavers, and tearing the letter to pieces admits that it is written very cunningly, but Tewangga has rebelled first against him, and now against Tesnahur, who stands in Kerba Bahur's place. To Tesnahur's objection that Tewangga could not do otherwise but obey his master Kerbabahur, and that they should see the latter first and depose him if he should refuse to order Tewangga to surrender the town, Bachtiar replies that the old madman could not escape, and that they better finish the work on the spot first. Tesnahur consents, but does not agree to Bachtiar's suggestion to impale the messenger as only answer to Tewangga, and sends Tewangga a message to hand over the town to Bachtiar and to go to Kerba Bahur with him, Tesnahur, who would accept Kerba Bahur's judgment. Thus Tewangga would not commit any offence.

When Tewangga hears the message, he says that Tesnahur apparently is convinced that he is in the right, and still has to learn what is right and what is wrong. Aplus and Taniasin return to the town and report to their masters.

Whilst Tesnahur and his princes would rather have awaited to see whether Tewangga would send a reply, Bachtiar urges that fighting should be renewed at once, and Tewangga answering the war-drum, the armies march to the battlefield.

In the first skirmish a moustached warrior of Kamis is captured, who has breasts like a pregnant woman. This curiosity, who calls himself Janpa, is brought to Tewangga, who sends him back to the king of Kamis to inform him that he has received Tesnahur's message and will obey, and that he has so informed Seri Maharaja Putëri, and if she will not consent, would take her to Kerbabahur.

She had been adopted by Kerba Bahur and had been made his (Tewangga's) queen, whose orders he might not disobey. Without giving Tewangga time to receive her reply, Tesnahur had renewed hostilities, Tewangga would therefore fight, as he could not accept orders from Tesnahur, who is only following Bachtiar, a traitor to Kerba Bahur. Bustamam is greatly pleased with this message and gives the order that everybody is to be cut down who advances and will not withdraw.

Whiist Jampa is delivering Tewangga's message to his king, Bustamam, Johar and Khamis join in checking the advance of the enemy. Four princes of Guha and Kamis are slain, five are captured, and the troops of Guha and Kamis begin to break. The kings urge Bachtiar to help. Through his terrible strength he presses Tewangga's troops back on the right wing, but Khamis attacks him again with the sandal of a dead soldier and gives him a sound thrashing. His face swollen and covered with blood, the little finger of his right hand broken so that he has to drop his sword, Bachtiar has to flee, pursued by Khamis. The king of Guha seeks in vain to interfere, Khamis dodges his mace, and the king gives the signal to cease fighting and return. Khamis pursues Bachtiar to his tent; the king of Guha orders his men to capture him, Khamis throws away the sandal, takes his sword and cuts his way back to Bustamam and Johar.

Tewangga receives the captured princes with great honour, has them bathed and clothed and sends them back to their kings, accompanied by the captured knights, with the message that the kings should take care not to suffer the same fate, as he does not want kings of their rank to lose their good names. The prisoners do not like to go back to Tesnahur, but Tewangga consoles them that theirs has been the common fate of every warrior, and that they may return to him if they like after having delivered their message. This they do and report that the kings of Guha and Kamis now understand what has caused the king of Gujerat and his brothers to withdraw from the war.

The kings, taking Janpa with them, go to Tesnahur and make Janpa repeat Tewangga's message. Tesnahur regrets what he has done and blames Bachtiar. The king of Guha relates how Bachtiar has been thrashed with a sandal and declares that he will withdraw from the war. Bachtiar abuses the kings. He had run away before the sandal because Jakni had taught him not to fight against a foe who used no arms, and if the kings had used such language to him outside the council, he would have knocked out their teeth. Tesnahur asks him not to start a quarrel, as he will be able to find other princes on whom they can rely. The kings of Guha and Kamis angrily leave the council and depart with their armies.

Tesnahur discusses the position with Bachtiar, who would call Jakni. Tesnahur asks Siwati whether he thinks Jakni will come; Siwati is uncertain, but thinks it possible if Bachtiar, whom Jakni seems to like, goes to fetch him. Tesnahur calls a council of

war, but has to offer the tributes of Gujerat, Jĕzam, Guha and Kamis before the king of Siulan undertakes to capture or kill Bustamam and his friends and take the supreme command.

Bustamam and the viziers are glad over the good news they hear from the princes who return to Tewangga. Tewangga warns Bustamam that the king of Siulan and his warriors are very skilful in using the lasso.

On the next morning Tewangga answers the war-drum of Siulan. In the first skirmish Khamis is lassoed and rescued by Bustamam, but so numbed that he has to be carried behind the lines. As soon as he feels well, he returns to Bustamam, and together they play havoc amongst the warriors of Siulan. The king of Siulan enters the battle, seated on his elephant, fighting with arrows and discus. He meets Khamis, who cuts the king's lasso, but steps into the noose which the king's mahout keeps trailing on the ground, falls and is made defenceless by further lassoes.

Jumaat sees Khamis' plight and informs Johar. Both try to cut their way through the troops that surround their king. Bustamam sees their efforts, suspects the reason and tries from his side to reach Khamis. They are however unable to force their way through the masses, until Johar with his men cuts off the reinforcements. Tewangga and Sĕjan Bada advance, Saptu keeping at Tewangga's side. The king of Siulan recognizes Tewangga and throws his discus at him. With a sudden jerk Saptu turns Tewangga's horse; the vizier nearly falls and angrily reproves Saptu, when the discus, consecrated by the blessings of many Brahmans, cuts right through the head of his horse. Tewangga falls, but jumps up again and on foot continues to cut his way through the enemies. The king of Siulan has observed the scene and throws another discus at Sĕjan Bada, whose life Saptu saves in the same manner. Furious fighting concentrates round the king of Siulan, whose elephant becomes restless. The warriors of Siulan now have to fight against two fronts, and Johar, relieved through the attack of Tewangga, reaches the king's elephant and frees Khamis. The king of Siulan gives the sign to cease fighting, but Bustamam, Johar and Khamis take no heed, as fresh forces of Siulan, seeing their king still on the battlefield, continue to arrive. Bustamam rages like a madman. Only when he sees that Khamis is rescued, his fury abates; he meets Tewangga and Sĕjan Bada and requests them to return. The king of Siulan turns his elephant. Bustamam, seeing that Khamis is still in a great fury, cuts off the elephant's trunk and tusk; the animal totters, and Saptu jumps on its back and captures the mahout. Bustamam cleaves the elephant's head, and the animal falls down, throwing the king. The king jumps up, sword in hand. Khamis asks Bustamam to leave the king to him, and Johar and Bustamam attend to the warriors of Siulan who rush to assist their king. Khamis, calling the king of Siulan a thief and sneak who deserves no crown, knocks off his crown, which is picked up by Jumaat. The king turns to him, and

Jumaat knocks him down with a mace. Khamis jumps on the king's back and binds him securely with the lassoes that are lying around. Bustamam and Johar keeping off the princes of Siulan, the king is carried to Tewangga and Sĕjan Bada, who rather embarrassed receive him respectfully. The king replies that these are the doings of accursed boys; otherwise both Tewangga and Sĕjan Bada would have already had their heads cut off by his discus. They should not unbind but kill him. The viziers reply that his fate rests with their master, Bustamam. Saptu, angry at the word accursed, remarks that though accursed they still have brains and are not like the king, who had a crown but no brains to remember who had given him that crown. It is not their custom to kill the "corpses on the battlefield", and the king should remember the fate of the traitor, who, unworthy of a weapon, had been thrashed with a sandal. The king, ashamed, remains silent; the viziers, who have now learned that Saptu has saved their lives, have a carpet brought out for the king and respectfully take their seats opposite him. Being still bound, the king of Siulan finds the situation rather curious.

Khamis continues to rage amongst the fleeing troops of Siulan and pursues them even into the camp of Tesnahur. Bachtiar flees to the rear, excusing himself later that he had intended to call up the other armies.

Darkness grows. Tewangga's drums call more urgently, and Bustamam and Johar succeed at last in persuading Khamis to return with them to the viziers.

At the order of Bustamam, Tewangga unbinds the king of Siulan, bathes and clothes him and takes him to his own tent. Jumaat puts his crown at his feet, but the king refuses to put it on in spite of Sĕjan Bada's consolations. When the meal is served, he will not suffer Johar to pour water over his hands. Bustamam thereupon takes the water and pours it over the king's hands, and they share their meal together. Tewangga sets free all prisoners from Siulan, who pay their respects to their king, pleased with the honour that is shown to him. Tewangga sends for the vizier of Siulan, who is still waiting on the battlefield, tells him to collect the vassal-princes and the troops of Siulan and to pitch the royal tent for his master, who would soon return to his country. The king's mahout is also set free, is severely reprimanded that his sneaking, thieving action has caused Khamis to insult his king, but is allowed to remain with his master. On the following morning the king of Siulan is sent with a retinue of his vassal-princes into the town, where Aplus and Taniasin have prepared everything to receive him with due honour. In the hall of audience the kings of Sĕmatrani and Bĕdĕrani welcome him. Taniasin, on his knees before the throne, informs Sĕri Maharaja Putĕri that her father, the king of Siulan, has come to ask forgiveness for having acted without consideration, being deceived by Bachtiar. Sĕri Maharaja Putĕri replies that such things happen every day in the way of

the world, but the king should beware of a greater deception, the harm of which would never cease. The king of Siulan replies that he has learned his lesson and asks again her pardon. Séri Maharaja Putéri cannot help smiling at his failure to grasp the meaning of her words. She presents him with royal clothes, a new crown and a palace of his own. Soon he becomes converted to Islam and refuses to return to his country until the war is ended.

Bachtiar decides to invoke the assistance of Jakni. He leaves with only three knights: it is given out that he has gone to fetch fresh troops. The king of Tēmis is made commander-in-chief.

After two days' rest the king of Temis starts the battle again, and Khamis, fearing that they would have to fight for another ten years, orders a general attack after the first skirmish. The king of Temis faces him, in the fight exposes his armpit, which Khamis touches with the sheath of his sword, and following Khamis' advice decides to cease fighting on the side of the rebels. The king returns to Tesnahur and asks him to give the supreme command to another prince, as he himself is now no more but a "corpse on the battlefield." As soon as Tesnahur has given the sign to cease fighting, the king of Tēmis marches with his troops to Tewangga, is brought into the town, converted to Islam, and remains at Tahta Yemen.

Tesnahur gives the command to the king of Basmit, who suffers heavy losses in the first battles. Bustamam and the viziers suspect that Bachtiar is gone in search of reinforcements, and that therefore the war is carried on in a dilatory way. Bustamam decides to rest for some days. Johar and Khamis meanwhile may just keep back the enemy. They receive the rings which Bustamam had given to the viziers. Fighting is desultory.

Bachtiar complains to Jakni of his bad luck, imploring his help in upholding their faith, adding that the boys, who had stolen the charms Jakni had given him, had challenged him to bring his teacher to the battlefield to have his face slapped with a sandal. Jakni has pity on Bachtiar, and when he discovers through his geomantic books that Bustamam will destroy their religion, promises to send within five days his dragon to devour Bustamam. As Bachtiar asks for immediate assistance, Jakni sends three of his pupils, the Brahmans Jaksun, Jakli and Jakman, with three thousand novices, and also gives him an antidote against the venom of the dragon. Bachtiar arrives with the Brahmans on the battlefield on the day when Bustamam has just returned and is pressing the king of Basmit very hardly. The novices join in the fighting, and under their blows, delivered with stones and logs, Tewangga's troops fall back. Khamis, Johar and Bustamam come to their rescue, and many novices are slain. The Brahmans take a handful of dust, mutter a charm over it, throw it into the air, and an army of wasps and hornets attacks Tewangga's troops. Johar bids Bustamam, who is immune against the insects, to make an end to this heathen magic by destroying him who has caused it. Bustamam cuts his way through to the three Brahmans; Jakman attacks him with a

log, Bustamam snatches it from him and knocks him twice over the head, so that Jaksun has to bring him to Bachtiar's tent. Jaksun attacks Bustamam, who cannot wound him with his sword, but when Jaksun takes off his girdle-cloth, Bustamam wounds him on the hand with his dagger, which causes such pain that Jaksun runs away. Jakli advances; the girdle-cloth of Jaksun has turned into a big snake, which Bustamam hurls into Jakli's face. The Brahman grasps its head, and it turns into a root, which Jakli throws at Bustamam. It misses him, and falling on the ground turns into a big dog, which Bustamam kills with a mace. The blood and brains of the dog turn into scorpions and centipedes, which cover the ground and attack Bustamam.

By the blows on Jakman's head his magic power has been broken; hornets and wasps disappear, and fighting is renewed. Johar asks Bustamam to rather fight the Brahmans than scorpions and centipedes, and Bustamam rushes towards Jakli, dagger in hand. At the sight of the red-hot blade Jakli makes a hole into the ground with his heel and disappears into it. Bustamam thinking he has run away, attacks with his sword the novices until the drums beat to return.

Jakli reappears, goes to Bachtiar's tent and cures Jakman of his headache, but is unable to help Jaksun, as the poison has already entered the body. At his request Jaksun is carried back to Jakni with the message that Jakni should come himself, as the dragon would probably not be of much avail and only Jakni would be able to resist Bustamam's dagger.

The next day the Brahmans again throw dust into the air, which closes the eyes of Tewangga's warriors, but Bustamam, Johar and Khamis, protected by talismans and rings, keep the enemy back. Khamis fights with Jakli, but cannot wound him with his sword, and the drums to return sound before he can reach the Brahman with a mace. The emerald-rings, which Bustamam had given to Johar and Khamis, prove a cure for the sore eyes, and all are healed, but they can only trust to God to protect them against the magic powers of the Brahmans.

The next day Khamis fights with Jakman, who throws his girdle-cloth at him, but he is unable to kill the snake into which the cloth turns. Bustamam renders it harmless with a broken rice-corn he finds on the ground, and Jakman throws a root into the air which falls down as a big sheet of fire. Khamis has to fall back, but Bustamam remains unharmed and knocks down Jakman. Jakli, seeing that his missiles will not hit Bustamam, carries Jakman back, and the fire dies out. General fighting continues until dark.

Jakli and Jakman arrange that on the following day Jakman shall engage Bustamam, and Jakli, proceeding under the ground, will pull Bustamam down and suffocate him. When fighting begins, Jakman attacks Khamis first, and Jakli disappears into the ground. Johar has seen that and warns Bustamam, who thrusts his dagger

into the ground where Jakli has disappeared, and attacks Jakman. When the latter sees the dagger, he turns away, and Bustamam pursues him in vain.

The water issuing from the thrust of Bustamam's dagger flows into the hole where Jakli has disappeared and drowns him. Jakman has heard Jakli calling to Jakni, and awaits Bustamam, who has sheathed his dagger. They fight with logs and mace. Jakman is unable to hit Bustamam, who knocks him down with a mace and kills many of the novices who rush to assist their master until his mace breaks. One of the novices grasps his belt; Bustamam seizes his hands and swings him round, beating back with him the other novices. Jakman just rising, he knocks the body over his head so that blood and dirt fly around. Jakman falls on his face and Bustamam would give him another blow, but is afraid to defile himself. He hurls the corpse amongst the novices and tells Khamis, who wants to bind the Brahman, not touch the unclean kafir. The king of Basmit, who has seen the Brahman fall, orders a general attack, and the novices rescue Jakman, who is powerless as by contact with the unclean all the Jins and Shaitans who guarded him have fled. Night comes and fighting ceases.

Jakman is brought to Bachtiar's tent, is bathed, recovers and cleans himself with incense, but is unable to rise when Tesnahur visits him. A search for Jakli is made; following Jakman's directions the hole wherein he has disappeared is found full of water, and the dead body of Jakli is discovered. Jakman has it placed in a coffin and accompanies it to Jakni, as he alone is now useless. Tesnahur is very downhearted, but Bachtiar consoles him that Jakni is sending his dragon and will no doubt come himself when he hears that one of his favourite pupils has been killed and the two others are disabled.

On the following day there is no fighting; a river has appeared flowing from Bachtiar's tent right across the battlefield. Tewangga and his troops fear new magic but Johar explains that the enemy has followed the traces of Jakli, digging until his body was found, and thus made the river.

Three days later Tesnahur orders Bachtiar to command the troops. His attack is irresistible; Khamis commences the old play with the sandal, but Jumaat thinks that they should make an end of the man who has caused all the trouble. In vain they fight him; Jumaat calls Bustamam, but he, too, is unable to wound Bachtiar. He cuts down his horse, Bachtiar falls and Bustamam stabs him with his dagger. Though the blade does not penetrate the skin, it causes such pain that Bachtiar flees behind his troops.

Jakni has found out by his magic art that two of his pupils have been killed (Jaksun apparently has died on the way), and that one is disabled. He finds out also that Bustamam's dagger is the cause of it, but "calls" in vain for this weapon, the first that has refused to obey his command. He orders his dragon to destroy his enemies and to bring him Bustamam and his friends.

The seven-horned dragon, fed expressly by the pupils with poisonous roots, departs roaring. He meets Jakman on the way; the carriers flee, and the Brahman hides between the buttresses of a big tree.

The dragon arrives in the middle of the big battle; with a tremendous roar he spurts his venom, and all those who are hit by it roll insensible on the ground. Johar, Khamis and Jumaat withdraw, leaving Bustamam, whom they know to be immune against every poison, on the battle field.

In Tesnahur's camp Siwati is fastening the sword, which can kill him, and which a little page-girl carries on her back, more securely. He has just laid the sword on the back of the girl, when an immense shout is heard that the dragon has come and all warriors are lying insensible on the battlefield. Everybody flees, the girl jumps up, Siwati seizes her tresses, and she falls backwards upon him. When she struggles to rise the sword cuts Siwati's side, his howls gush out, and he dies.

Bachtiar calms Tesnahur's fears by curing some of his men with the antidote Jakni had given him, and Tesnahur is becoming more hopeful, when the news of Siwati's death is brought to him. He hastens to the spot and faints by the side of his dead son. When he recovers, he loudly repents of having started this enterprise. Bachtiar, afraid that Tesnahur might leave him, promises to take Siwati to Jakni, who is sure to revive him. Tesnahur is somewhat consoled, and Siwati's body, after the bowels have been put back, is stitched up and laid in a coffin. Tesnahur requests Bachtiar to hurry to Jakni, as the revival of Siwati will greatly encourage the princes who are still with them. Bachtiar replies that the war is nearly over; in a day or two they will enter the town, and a few days later he will be on his way to Jakni.

The viziers, and the two old kings on the walls of the town, gaze terrified on the battlefield, with the millions lying insensible on the ground, and Bustamam alone facing the big dragon. The dragon is afraid of the dagger and overwhelms Bustamam with poison. The boy nearly faints, and the dragon swallows him up to the waist. He bites on the dagger which Bustamam still holds in his hand, the blade penetrates deep into his lip and sticks there, and its poison robs the dragon of nearly all his strength. He is unable to swallow Bustamam any further and crawls away. Johar, Khamis and Jumaat hasten to the rescue, and clinging to the dragon start chopping off his tail, but in his pain the dragon heeds them not and carries them off. Great is the consternation of the viziers, of Saptu and the old kings. They hear of Siwati's death, but have the mortification of seeing their enemies carried from the battlefield and restored to life, while their own men do not recover.

When the dragon arrives at the foot of Jakni's hill, Johar, Khamis and Jumaat, who are still hacking at him, reach at last his vitals. Opening his mouth the dragon dies. Bustamam, still insensible, rolls into a cave and lies there hidden. Johar looks for him, but finds only the dagger, which he wraps up in some leaves.

Khamis cuts up the animal's belly, but in vain, and they think that the dragon has dropped Bustamam on the way without their having noticed it. In deep grief they remain where they are for the night, and as it is very cold, light a fire.

Chëkur and Jërangau in great anxiety fly to Maharaja Thëlahud. He reproaches them for having left their post without order and bids them return. To Dewi Nilawati, who calls him heartless, he explains that God has played with Bustamam, but has also hastened the end of the fight, which without the pain Bustamam had suffered in the mouth of the dragon would have lasted another ten years, as millions are still adhering to the wrong faith, with many pious ascetics among them, of whom Jakni is the most powerful. If Bustamam kills Jakni, none will dare to oppose him further. Only in order to bring things to a speedy end, and that the lives of innumerable human beings may be spared, the dragon had been able to carry Bustamam off, and his poison had been effective. Sëmbakas was now with Bustamam, and there is no need to be afraid. Chëkur and Jërangau return.

Johar had held his hand with Bustamam's ring over a fire, wherein some Agila-wood had been burning. The heat and the smoke had attracted Sëmbakas who finds the boys and with his magic art discovers the spot where Bustamam is lying. With water flowing over a talisman which Sëmbakas has brought with him, Bustamam is restored to life. Sëmbakas fetches fruits for them from Jakni's garden and encourages Bustamam to slay Jakni, whose time apparently has come, as he has lost the sense to discern between right and wrong. Bustamam should take great care, as no weapon in the world can kill Jakni: God may give him a weapon to slay the Brahman. Sëmbakas gives them a talisman which will restore to life the troops still lying insensible on the battlefield, and consents to carry back Jumaat to Tahta Yemen to help the viziers, as Johar and Khamis will not leave Bustamam. Bustamam gives Jumaat some fruits for his parents and Sëri Maharaja Putëri, to which Johar adds a pomegranate for Rakna Mala. Sëmbakas carries Jumaat to Tahta Yemen and leaves him outside the camp, which Jumaat alarms by rushing into the tent of the viziers and embracing his friend Saptu. He is quite exhausted, but gives the viziers the talisman and tells them what to do. At first they do not believe him, as Jakni's mountain is distant six days' journey on horse-back, but he convinces them, and the talisman does its work. Those who revive think that they are still in the midst of the battle, snatch up their arms and start fighting, but the viziers soon stop that. Jumaat is sent into the town and has to repeat his report to Sëri Maharaja Putëri, Siti Sëlamih and the kings.

Bustamam climbs up to Jakni's place of worship. An immense fire is burning in a terraced pit, fed by the pupils with wood thrown down from a high scaffold surrounding the pit. At the foot of the scaffold Bustamam thrusts his dagger into the ground; the water gushing forth turns into steam and advances a few steps

every day, until on the fourth day it reaches the fire-place and extinguishes the fire. Jakni, who was sitting on the top of the flame, drops into the pit. Seeing the fire extinguished and the pit full of water, he blames his pupils for not having brought sufficient fuel, and calls his dragon. The animal not coming, he suspects that Bustamam has killed it and extinguished the fire. In a great fury he bids pupils search for and capture the boys, to be impaled on the top of the mountain as a sacrifice on the lighting of the new fire. Bustamam and his friends are soon discovered and fight with the pupils, killing many of them, but as missiles are thrown at them from every rock and tree, they fall back until they reach an open space, where none of the pupils dare to follow. Some Brahmans approach them telling them that the ground is sacred and offering to conduct them to Jakni, if they will lay down their arms. Johar refuses, as they are still in the war and have only come to ask Jakni for an antidote against the dragon's poison, such as Jakni has given to Bachtiar. The Brahmans consent to take one of them fully armed to Jakni, and Bustamam goes with them. Jakni asks them why they have brought only one of the boys, and bids them fetch the others. The pupils rush at Bustamam, who slays many of them. Jakni, breathing fire and smoke, hurls him back. Bustamam advances again, but neither his sword nor his dagger can hurt Jakni, and another cloud of smoke and fire hurls Bustamam back to the foot of the mountain. He recovers and joins Johar and Khamis in their fight against the pupils. Many are slain, and Jakni comes to their rescue. Seizing Bustamam with his right, Johar and Khamis with his left hand, Jakni hurls them into the air, and they fall down a quarter of a day's journey from the foot of the mountain. In vain Bustamam has tried to wound Jakni with his dagger, the skin of the Brahman is as hard as stone. Jakni thinks that the boys are dead and orders his pupils to fetch Gaharu- , Palembak—and Kasturi-wood for the new fire.

The dew of the night makes Bustamam recover, and on the next morning he returns to the mountain, searches in vain for Johar and Khamis, and like a madman slays every pupil he finds searching for wood. Johar and Khamis, who have fallen down together, likewise recover and returning to the mountain search for Bustamam.

Bustamam is seen slaying one of the pupils by a Brahman. Bustamam discovers him but spares his life, and the Brahman tells him that his teacher, the Brahman Jaklas living on the mountain Mahaguna, has found out that Jakni will die to-day, and has sent him to fetch Jakni's heart, which through his long ascetic life has turned into a bezoar-stone. As no weapon can wound Jakni, his teacher has given him a rice-spoon (*sudip*), which will cleave Jakni's breast. He gives it to Bustamam, who finds it of a shining, black colour. He tells the Brahman, whose name is Jamita, that Jakni is still alive; Jamita should search for his two friends, return with them to this very place and wait there for him.

Bustamam climbs the mountain again. When he approaches Jakni, the Brahman has a foreboding of ill, though he has not yet

seen the rice-spoon, and offers to adopt Bustamam as his son. Bustamam consents if Jakni will follow his faith, renouncing the worship of the sun and the fire. This brings Jakni into a rage again, which increases when neither his pupils nor he can hit Bustamam with their missiles. At last Bustamam says that Jakni's time has come, and shows him the rice-spoon. Jakni trembles and tries to run away, but with three blows Bustamam cuts three of Jakni's ribs, his mouth and his groin. Jakni falls but heals his wounds with a talisman. Bustamam cuts off one of Jakni's hands, putting the talisman into his girdle, but Jakni has a second talisman ready. For a long time they fight in vain, Jakni renewing his promises and Bustamam his demand, until Bustamam succeeds in cutting off Jakni's head. It tries to join the body; Bustamam kicks it away, and before it has time to come again, Bustamam cleaves Jakni's breast, the inside of which is like black coral-stone, whilst the heart is like a jewel. Bustamam cuts the heart out, wraps it up in leaves and puts it into his girdle. The head remains where it is, but Jins and Shaitans in the form of dogs, jackals, cats, tigers, snakes, hornets and wasps issue from Jakni's body and rush upon Bustamam. The amulet which the Khatib al Aalam had given to Siti Sélamih, and which Bustamam wears, protects him, and the unclean spirits flee. Jakni is dead, his pupils take to flight, and Bustamam examines at leisure the place of worship, which is arranged like a garden, with flowers, richly carved fire-altars and dragons spouting water. He examines the fire-place, adorned with male and female idols, and in the pit finds masses of gold and silver, the sacrifices thrown into the fire by pious pilgrims. He also finds a beautiful sword. Returning to Jakni's body, he finds a Brahman searching for Jakni's heart. He throws himself at Bustamam's feet, and Bustamam spares his life. Jakwan, as the Brahman is called, has been the favourite pupil of Jakni and had been bidden by him to take after Jakni's death his heart, which would bring him long life, fulfilment of all his wishes and power over all animals. Bustamam promises him better things if he will follow him, and the Brahman consents, as he has already had a sign that he will gain salvation. With his 700 pupils he follows Bustamam to the foot of the mountain, where Johar and Khamis are waiting for him with Jamita. He shows them the sword, which Khamis recognizes as the one which Bustamam had given him, and which had mysteriously vanished. Afraid that Bustamam would be angry, he had said nothing of it and had taken the sword of a knight killed in the fighting. Bustamam examines the sword and recognizes it also. Johar says that his sword, too, had disappeared, and Jakwan explains how the sword of Khamis has come into the fire-place, and that of Johar had been given to Siwati. Bustamam bids Jamita to tell his teacher that what he desired was now in his possession, and if his teacher would come to Tahta Yemen, Bustamam would give it to him, and something better, too. If he would not come, Bustamam would visit him on Mount Mahaguna. After Johar, Khamis and Jamita have seen Jakni's place of worship, they depart for Tahta Yemen. On

the way they find Jakman bringing the body of Jakni and having heard from Jakwan what has happened, he follows Bustamam.

Since Bustamam had disappeared, Bachtiar had urged Tesnahur to storm the town, but in his grief over the death of Siwati Tesnahur has refused, until Bachtiar threatens to look for help elsewhere. Tesnahur, afraid that Bachtiar will not keep his promise to take Siwati's body to Jakni, calls a council of war, and it is decided to call in the kings of Kémusat and Sétin, who are still blockading Kaladesa, and leave only a small guard there, as nothing can happen to the town as long as they stand between it and Tahta Yemen.

Bachtiar takes the lead with 1000 knights, whom he has made invulnerable; the rest of the army is divided into five troops. In the first skirmishes Tewangga's men are pressed back, Tewangga himself advances, and Bachtiar hastens to meet him. Jumaat and Saptu, each armed with a sandal, face him, Saptu throws a handful of dust into Bachtiar's eyes, and Jumaat thrashes him with the sandal. Blinded, Bachtiar slashes out with his sword. Jumaat wounds Bachtiar's horse, which runs back to the tents, carrying its master through his own troops, cutting down blindly his own men, and tearing to pieces a page whom Tesnahur had sent to call him and who had seized the bridle of his horse. At last he shouts of his people tell him that he is in his own camp, and he is brought to his tent and has his eyes washed, swearing at the accursed boys. Tesnahur gives the signal to stop fighting.

In spite of Bachtiar having been driven from the battlefield, Tewangga has lost on that day 400 knights and 20,000 men, and decides with Sējan Bada to move into the town, where defence is easier. During the night they enter the town, the gates are closed, the moat filled, and everything is prepared for the defence. The viziers report to the kings, praising Jumaat and Saptu, who have prevented a heavier defeat, but all are rather downhearted.

Bachtiar continues the attack and has the town surrounded, The moat prevents Bachtiar's troops from reaching the walls, but during one night Bachtiar, using every available man, has the moat filled up, and when dawn comes, the viziers see their enemies under the walls, and the whole plain filled with reserve forces. With a shower of missiles the defenders try to keep the foe back, and stones, earth, boiling water and oil and molten tin are poured on those who try to tear down the walls. Under Bachtiar's command Tesnahur's princes have such attempts made wherever they think they can see a weak spot, using skilled masons to make a breach, which the defenders fill up again as soon as the attack is beaten off. But all gaps in the ranks of the assailants are speedily filled again. Behind the gates the old kings keep guard, ready to run amok if the enemies should enter. The viziers, though by no means sure that it will be accepted, decide to hoist the white flag, and fighting from their side ceases. With the five kings who remain with him Tesnahur discusses what to do. Tesnahur gives the sign to cease fighting. Bachtiar orders his men to go on, cutting down some of the drum-

mers Tesnahur has sent to make his order known. When Tesnahur has him called, Bachtiar replies to the messenger that the old man should keep quiet and not interfere. Tewangga has hoisted the white flag because he is afraid and implores their pardon; if they accept it, Tewangga will find plenty of subterfuges. He prefers to finish the matter at once. Sword in his hand he urges his men on. The viziers have the white flags pulled down and continue the defence. The old kings prepare for an honourable death and send their children and nobles to the palace of Sēri Maharaja Putēri for the last sacrifice.

When Tesnahur receives Bachtiar's answer, he is not satisfied, but in the hope that the sooner the matter here is finished the earlier Bachtiar will take Siwati's body to Jakni, he requests the kings to help him, and in silence they obey.

Bustamam with his party arrives at the edge of the battlefield. Khamis, climbing a tree, informs them of the situation. Jakwan asks Bustamam to leave it to him and his pupils to drive the assailants off. Bustamam agrees, and Jakwan renders his pupils invulnerable with water poured over a talisman, takes the sword which Khamis had used as substitute for the lost one, and leaves the forest with his pupils. Bachtiar thinks that Jakni is arriving, but sees his error when in spite of his shouting Jakwan and his pupils attack his troops. He tries to stop Jakwan, who replies that Bachtiar is a rebel against the Lord of the World, having killed his brother and mother, being disobedient to his father, and deserving death. Bachtiar orders his men to cut down the jungle-people who are assisting Tewangga, but his men dare not fight the Brahmans. The kings ask Tesnahur what they should do, and Bachtiar, called by his uncle, has to convince them that these are traitors against Jakni, who would only be glad if they were killed. Tesnahur decides that they will accept Bachtiar's word, as he will be responsible to Jakni, and fighting is resumed. The kings fight against the Brahmans. Bachtiar succeeds in having a part of the wall demolished, and the defenders can hardly hold their own. The Brahmans, though slaying countless masses, are unable to come near the wall of the town. The defenders have observed what is happening and take fresh courage, though Bachtiar is already arranging his invulnerables for the last assault.

Bustamam hurries to the battlefield with Jabar and Khamis. They reach Jakwan and his pupils and bid him follow them, but are unable to advance as always fresh reinforcements are sent against them. Khamis finds on the battlefield a sword which he thinks suitable for his purpose, and swinging it with both hands succeeds in cutting his way to Bachtiar, who in a great rage attacks him with his sword. Khamis parries his strokes with the sheath of his sword, and Bachtiar turning back to fight at the breach, Khamis attacks the assailants with such force that they are compelled to give up the assault. The viziers are afraid that the wall has been pulled down and hurry to the spot, but Jumaat and Saptu recognize

Khamis and report to the kings, who will not believe them and forbid them to go outside the walls. Howling and crying they throw themselves on the ground. The viziers arrive, and hearing the news allow them to depart, as they may be right and God has rescued them. Jumaat and Saptu rush out and attack the enemies from the back. The uproar increases, and Bustamam doubles his efforts. Bachtiar sees Jumaat, and thinking that the defence is broken gives order not to let anybody escape from the town and to capture Tewangga, who is to be impaled on the battlefield. Tesnahur hears the order and is glad that the victory is gained. Jumaat finds his way to Bustamam, who is startled when he sees him, but Jumaat calms his fears, the attack is broken, and the viziers are already preparing a sally. Khamis and the troops drive off the assailants, and Tewangga and Sējan Bada, leaving the town in charge of Aplus and Taniasin, join the attack. The enemy falls back, Bachtiar is unable to rally his men, and they join the troops of the five kings. Attacked from two sides, the troops are separated, and the viziers meet Bustamam and the Brahmans. Bustamam tells them to stay under the walls and close the breach, as the enemy is still superior in numbers. He refuses to enter the town, and Khamis renews the attack and does not leave off when the five kings, alarmed at the return of Bustamam and his friends, give the sign to cease fighting. They inform Tesnahur, who sends them all reserves and his own troops of Siukam, reproaching Bachtiar for not keeping the situation in hand. Bachtiar excuses himself that whilst he had been leading the attack at the breach, the kings had let the new foes pass. Tewangga had made a sally, and attacked from two sides he had been compelled to fall back. If Tesnahur will entrust the troops of Siukam to him, he can save the situation. Tesnahur replies that if Bachtiar had obeyed him when Tewangga hoisted the white flag, they would have obtained all they wanted in an honourable way.

Bachtiar orders the troops of Siukam to assist the five kings. When it grows dark, Bustamam will cease fighting, but Khamis will not, and Johar agrees with Khamis, as otherwise the war will last another year or two. The viziers with their troops are sent back to the town, whilst Johar divides the Brahmans into many little troops who are to attack in turn to make the foes kill each other in the dark. The ruse succeeds, though the kings order torches to be brought and try to draw up their troops in a large circle; the frequent attacks bring everything into disorder. The viziers with their troops reach the town, have the moat dug out and refilled, and the walls repaired.

The fighting continues the next day, but in spite of their immense losses the troops of Tesnahur are still too numerous to be dispersed. Bustamam and his friends are exhausted and send through Jumaat a message to Tewangga that they want rest, and that Tewangga should just prevent the enemy from approaching the walls. Tewangga sends out troops, and Bustamam with the

Brahmans withdraws into the forest, to the great joy of Bachtiar, who gives orders for the final assault. On the following morning the viziers see the enemy troops in echelon, filling the plain and reaching deep into the forest. They withdraw their troops behind the walls. The attack begins. The moat forms a fresh obstacle until it is filled up again, and a fight begins on the walls. The noise of the battle reaches Bustamam, who returns with his friends to the battlefield. Johar says that it is a sin against God to destroy so many human beings, and they should try to kill the leader. The others agree, and like a wedge they cut their way through the masses. The viziers at the same time make a sally, and Bachtiar's troops are thrown into confusion. To fall back is impossible, as Bachtiar and the other kings urge them on and do not allow anybody to turn round. Khamis encounters the king of Sēmbalas, is hit by his mace on the thigh and falls. The king urges his elephant to run him through with its tusks, but the animal turns away and tries to trample Khamis to death. Khamis strikes off its trunk, the elephant falls, but the king jumps up and meet Khamis on foot. Khamis cuts him in two. The king of Basmit starts to fight with Khamis but Bustamam intervenes, requesting Khamis to leave the king to him. The king of Basmit says he wants Khamis to atone for his brother's death, but Bustamam makes him see that it is wrong for him to fight on Bachtiar's side, and the king withdraws from the fight, taking with him the king of Sētīn.

Bustamam encounters the king of Kēmusat, kills his elephant, wrests his mace from him, and when the king falls, keeps him down with the mace until Johar has bound him. Bustamam keeps off the princes and knights of Kēmusat, who hasten to the rescue, and the king is brought to Tewangga, who has him put on a carpet and a tent erected over him.

Khamis meets the king of Jusi and challenges him. Johar arrives just in time to prevent a fight, and asking Khamis to find another adversary, he persuades the king to withdraw from the battle.

Bachtiar's troops begin to break under the attack. Khamis shouts to him whether he has not yet had enough, kills his horse and thrashing him with a sandal drives him over the whole battlefield.

The officers who were carrying the body of Jaksun to Jakni, arrive just after the Brahman had been killed by Bustamam, and hearing from the fleeing novices what has happened, return to Bachtiar. They arrive on the day of the battle, and not meeting Bachtiar, report to Tesnahur. Seeing his hope of having Siwati restored to life vanishing, Tesnahur faints. Leaving his tent shortly afterwards, he sees Bachtiar driven over the battlefield by Khamis with his sandal. Tesnahur calls to his princes and knights to help Bachtiar, but nobody moves. Bachtiar sees Tesnahur and runs in his direction. Throwing away the sandal, Khamis draws his sword and shouts that what he does now is wrong, as Bachtiar deserves the sandal or a shoe and no honourable weapon, but

Bachtiar, having caused the death of so many human beings, may not rove on the earth to cause more mischief. He shouts to Bachtiar that the sword which Jakni had stolen and hidden under his fire had now come back to him. Bachtiar, trembling, stops and would call Tesnahur, when Khamis strikes off his head. Seeing Bachtiar dead and Khamis approaching, Tesnahur throws away his arms and his crown and sits down in his tent. Bustamam and Khamis enter, and Bustamam asks him why he has done that; they are compelled to make him prisoner, and if he be a man, Tesnahur will fight. He signs to Khamis, who collects Tesnahur's arms and lays them at the king's feet, but Tesnahur neither moves nor speaks. At Bustamam's order Khamis takes the headkerchief off Tesnahur's head and binds his hands. They leave the tent, Khamis in front, carrying the arms of Tesnahur, the king in the middle, and Bustamam following, carrying Tesnahur's crown and holding the end of the headkerchief. Tesnahur's retinue follows them. They bring him to the viziers, who kiss Tesnahur's hands. bring him to their tent and give him a seat of honour. Bustamam lays the crown at his feet, unbinds him and replaces the headkerchief on his head, Khamis puts down his arms. Bustamam and Khamis sit in front of him with the viziers and do him homage. Bustamam and Khamis leave and join Johar and Jakwan, who are still fighting. Bustamam has the drum of victory beaten, fighting ceases, flags of joy are hoisted on the walls of the town, and the gates are thrown open. Tewangga informs Tesnahur's princes, who are still on the battlefield, that they have nothing to fear and should pay their respects to their master. He sets free the king of Kēmusat and brings him to Tesnahur. The kings of Basmit, Sētin and Jusi come on their own account. The body of Bachtiar is laid in a beautiful coffin.

In the town all preparations have been made, and a palace next to that of Sēri Maharaja Putēri is ready for Tesnahur. On his entrance he is received with the greatest honour. Aplus and Taniasin pay homage to him when he enters the gate and lead him to his palace, where the kings of Bēdērani and Sēmatrani welcome him. Rose-water is sprinkled over his feet, and he is led to the throne. The kings of Bēdērani and Sēmatrani enter and take their places. The coffin with Bachtiar's body is brought in and receives a place of honour, Bustamam, Johar and Khamis bring Siwati's coffin, put it down next to that of Bachtiar, and take their places next to their fathers. Tesnahur, who so far has not spoken a single word, asks the viziers whether this is Bustamam; they reply in the affirmative, and when Tesnahur asks whose son Bustamam is, Sultan Yahya rises and bows to him. The meal is served; Bustamam waits on Tesnahur, who begins to like him and asks him to share his meal. He enquires about Kiwabi; Bustamam replies that he is dead; Sēri Maharaja Putēri had killed him some time ago. Tesnahur is silent, tears trickling down his face. The kings wink at each other when they hear Bustamam's words, and smile, Tesnahur is at a loss to understand, and in his grief refuses

to eat. Tewangga beckons to the king of Siulan to tell Tesnahur that he should not sorrow. Tesnahur puzzled asks Bustamam what crime his son had committed. Bustamam replies that Sēri Maharaja Putēri had hated him but Tesnahur could ask him himself when he met him. Tesnahur is speechless, and the king of Siulan asks him not to heed the words of a naughty village-boy, and to eat first; he would explain the crime later. Raja Shah Malik comes to pay his respects to his father, the king of Siulan laughs and asks Bustamam who it is. Bustamam replies that it is his younger brother, Raja Shah Malik. Tesnahur is startled, and the king of Siulan whispers to him Bustamam and his friends often make fun even of Tewangga and the other viziers. Bustamam asks Raja Shah Malik to eat with them, and when Tesnahur asks him why he has lied to him, Bustamam replies that he had told the truth; he should ask himself whether Sēri Maharaja Putēri had not hated Kiwabi so much that she had killed him; Raja Shah Malik, who now shares their meal with them, is his younger brother. Tesnahur now understands. After the meal the king of Siulan relates the history of Bustamam, and how he has played with Tewangga, Tesnahur laughs and says that then he need not be ashamed that he has been defeated. Tewangga shows him Kerba Bahur's letters; Tesnahur admits that he has been deceived by Bachtiar, and will submit to his brother's judgment.

On the following morning the kings of Bēdērani and Sēmatrani bring Tesnahur to the palace of Sēri Maharaja Putēri, who receives him surrounded by the ladies of her court. Tesnahur is surprised at her beauty and asks whether she is an idol or a human being. Sēri Maharaja Putēri and the princess of Sēmatrani render him homage and Tesnahur kisses Sēri Maharaja Putēri. He asks who the other princess may be; Sēri Maharaja Putēri refers him to Raja Malik, who had brought her hither, adding that she is very glad that the war is over, but that there is still one thing wanting to complete her happiness, and that is to see Tesnahur in full attire. Tesnahur replies that he is still a prisoner, but Sēri Maharaja Putēri says that there are no prisoners in her palace, and Tesnahur accepts the crown which Rakna Mala has ready for him. A report is drawn up to inform Kerba Bahur of the issue of the war, and Tesnahur agrees to Bustamam being married to Sēri Maharaja Putēri before he follows him to Kala Desa. Twenty days will be sufficient, as it will only be the continuation of the festivities interrupted by the war.

Bustamam brings Jakwan to Tesnahur, and the story of the swords and of Jakni's death is narrated to him. Bustamam shows Jakni's heart, observing that all his power has been of no avail to the Brahman, as he had not the true faith. Jakwan agrees and will follow Bustamam's creed. Tesnahur is startled, and when the audience is over, asks Raja Shah Malik to explain the new faith to him. Zabid Safian teaches him, and Tesnahur is converted.

Bustamam is married to Sēri Maharaja Putēri. Amir Alamur had As-Salathin<sup>1</sup> makes Bustamam sit down at the right of Sēri Maharaja Putēri on the bridal bed, and the Zahid says the prayers. Johar builds the bathing-pavilion. After the ceremonial bath all assemble in the hall of audience. Tesnahur with the kings of Bēdērani and Sēmatrani sits to the left of the throne, all others standing facing it. Tewangga makes Johar stand in front of the viziers. When homage is paid three times, Johar asks the audience whether they consent to Bustamam assuming the crown. All agree, and Johar has the covenant (*waad*) confirmed. He asks whether anybody has to bring forward any wishes. The viziers request that their master should not alter the old customs of the country. Johar, facing the throne, repeats the request, Bustamam promises. Bustamam gives a tuft of flowers (*tajok*) to Johar, who puts it on his head and gives his own headkerchief to the chief of kettle-drummers, who winds it round his head and has the kettle-drums sounded. Clad in the full costume of his office, Johar renders homage, saying with bent head; "Daulat, Khalifatullah," and Sultan Yahya and Amir al Amur crown Bustamam and Sēri Maharaja Putēri. Johar proclaims Bustamam to be Sultān Bustamām Khalīfatullāh 'alā'l-ard kull al-akwān wakuwa assultan Bustamām dā'irat al-Khairāni Pādīshāh ibn Sultan Yahya al-Ansāri Khalīfatullah. Johar bids the audience bend their heads, threatening death to all who disobey. With the exception of Tesnahur, the kings of Bēdērani and Sēmatrani and the Zahid, who bend their heads over their arms, all bow to the ground and proclaim: "Daulat Tuanku Khalīfatullah fī Alaalam." Johar then bids the Bentara raise his head, and the Zahid says the prayers. Princes and officials step aside, and Khamis and the knights throw themselves on the ground, and swear allegiance. Tewangga gives the keys of the treasury to Jumaat, who swears allegiance to Bustamam, and so does Saptu, who is made Lord-High-Steward. Sultan Sējaa leads Bustamam and Sēri Maharaja Putēri into the palace, and Tesnahur presides at the great banquet served in the hall of audience.

Tesnahur's princes and subjects also enter the faith of the Zahid. Raja Shah Malik is married to the princess of Sēmatrani.

When the festivities are ended, Taniasin asks Sēri Maharaja Putēri to allow his daughter to return to him. Sēri Maharaja Putēri consents and loads her with rich gifts. Rakna Mala asks the king and queen of Sēmatrani to give her Nīla Wangka, who should take her place with Sēri Maharaja Putēri for a few days, and Nilam and Banun as friends. Knowing her intention, the king and queen, with many innuendoes endow the girls, and Rakna Mala goes with them to Tewangga, where Sejan Bada, Aplus and Taniasin are present, saying that Sēri Maharaja Putēri had sent her to bring them the three girls, one for each of them. Tewangga is surprised that Sējān Bada has been passed over, and the latter changes the colour, thinking that Tewangga has been given all the honour, whilst he is considered a mere onlooker. The others try

<sup>1</sup>From now on this title is used.

to console him that the present for him had been sent perhaps to his house, but Sējan Bada, feeling slighted and ashamed, says that it does not matter, and he wants to return to his master. Tewangga, much puzzled, asks Rakna Mala, who most innocently replies that Bustamam and Sēri Maharaja Putēri had said that the three viziers might share the three girls amongst themselves, and she had heard that Sējan Bada had already received his share<sup>1</sup>. Tewangga understands, and laughing loudly says that the thief and his wife want to stir up their people against each other; first they had incited him against the son of his master, causing him months of sorrow and trouble, and now they want to incite him against Sējan Bada. Turning to the latter he says that Sējan Bada is of no use to them any more; he hates them, because their master loves them, and he hates their master, too, but if he cannot restrain himself, he should summon his men and storm his house. Bustamam and Sēri Maharaja Putēri could then witness their fighting, but now Sējan Bada should get out of his house, as he had become their enemy, and they could not trust him any longer. The others are frightened at these harsh words, and Sējan Bada, utterly confused, requests Aplus to send for the kings of Sēmatriani and Bēdērani. Aplus sends an officer, who meets the kings in Tesnahur's palace, greatly frightened they depart at once, Tesnahur accompanying them to help to settle the quarrel, which could only bring disgrace on Kerbabahur. Tewangga has seen that Aplus has sent the messenger, and asks why Sējan Bada does not leave his house; if he would use force and his own men were not sufficient, he should take Taniasin with him, Aplus would remain on his side. Turning to Taniasin, he bids him reinforce the fence of his house, and if he had not enough men, to call in some more, players and musicians, and to slaughter buffaloes, oxen and sheep to entertain their clan.

Then the others understand and laugh that the house nearly falls in and Sējan Bada has to hold his sides. The kings arrive, and Tewangga explains. They, too, laugh at the mischief Bustamam and Sēri Maharaja Putēri have made again, and the preparations for the fourfold wedding are made. Johar, Khamis, Jumaat and Saptu are carried in sedan-chairs round the town, their friends as sword-dancers in front. They pass the hall of audience, where Bustamam and Sēri Maharaja Putēri present them and the sword-dancers with robes of honour. When the procession reaches the house of Tewangga, he has the doors closed and refuses to admit the scamps. Tesnahur asks who is going to make peace between the parties, and Sultan Sējan and the Zahid negotiate with Tewangga. The latter will consent if the opposite party will promise to be submissive, pay all expenses and obey his wishes. Sējan Bada promises, and Tewangga fixes the cost (*bēlanja*) at 4000 dinars, to be paid cash down. Sējan Bada offers 600, Tewangga insists on 2000, which Sējan Bada says he is unable to pay. He returns to Tes-

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<sup>1</sup>Alluding to Rakna Mala being already betrothed to Johar.

nahur, and the kings offer 1000 dinars, 400 for Johar, 300 for Khamis, 200 for Jumat and 100 for Saptu. Tawangga consents, the money is fetched, but Tawangga examines every piece and gives back the bad ones. When this is settled, Tawangga orders the brother of Nilawangka to open the door, but the youth starts a bargain of his own with Sējan Bada and extorts 100 dinars, payable in advance, to buy a new suit of clothes. At last they are admitted Sultan Sējaa brings the four to the kings to render them homage, and the Zahid marries Nilawangka to Khamis, Nilam to Jumaat and Banun to Saptu. When they are brought to the bridal beds, Johar refuses to sit down next to Rakna Mala until the kings have given him two robes of honour. At the request of Tesnahur the kings of Sēmatrani and Bēdērani pour rose-water and flowers over Johar and Rakna Mala. The Zahid gives Khamis two robes of honour. Tesnahur asks whether these magnificent preparations should be made a custom for the future, and the viziers reply that such is their wish, that the old custom be broken with, and this new one instituted. They request the kings to withdraw, as the ladies would be coming. The kings retire, and the ladies have their own feast, until the bridal curtains are let down.

Kerbabahur, having received the letter which Tawangga and Sējan Bada had written when Bustamam had been carried away by the dragon, and afraid of Jakni's power, has called up the kings of Gujerat and Jēzam to march with their troops to Tahta Yemen and bring Sēri Maharaja Putēri and the viziers to Kaladesa. They obey and meet on the way the messenger with report of the happy issue of the war. They send him on to Kerbabahur and proceed to Tahta Yemen to accompany Bustamam to Kaladesa. They are joined by Jaklas, who has heard from Jamita what has happened to Jakni, and has departed at once with his pupils for Tahta Yemen. They are received by Bustamam in the hall of audience, where the kings of Gujerat and Jēzam render homage to Tesnahur and respectfully greet the kings of Bēdērani and Sēmatrani. Jaklas renders homage to Bustamam, to the great surprise of Tesnahur and the other kings, as they have never seen a Brahman humiliate himself before a prince. Bustamam bids his brother, as he calls Jaklas, raise his head, as not he deserves respect but God, Who had made him as well as the Brahmans; Jaklas should not follow Jakni and the other Brahmans who worshipped fire and the sun, both things which God had but created. If Jaklas would follow the true way, he would find happiness on earth and in eternity. Jaklas replies that a sign had already been given him that he would find the true way if he would go to Bustamam, and the latter asks Aplus to help the Brahman. Bustamam gives him the heart of Jakni, but Jaklas returns it saying that having found already what he desired, he has no more use for it. Tesnahur and the king of Gujerat and his brothers think that Bustamam has really deserved his luck; the king of Jēzam is amazed, and the Zahid tells him the parable of the prince who has no will of his own and only does what his people want, and explains it to him. Jaklas, the king of Jēzam and many

other princes come every evening to hear the teachings of Aplus, and are converted to the new faith. Jaklas asks and obtains Bustamam's permission to return to the jungle in order to teach the new faith to his pupils.

The preparations for the journey to Kaladesa are made; the Zahid and Sultan Sējaa Amir Alamur had as-Salathin return to their countries, Sultan Sējaa to visit Bustamam frequently.

Bustamam tries to have Amir Bedla married, but the latter declines, having a wife and children in Gujerat. Bustamam would adopt one of his children, and Bedla assents.

Accompanied by all the kings, Bustamam and Sēri Maharaja Putēri depart for Kaladesa.

Jaklas returns to Mount Mahaguna. The news of Jakni's death has spread among all Brahmans, and when it becomes known that Jaklas has visited Bustamam, they come to him, and having heard his report about Bustamam, they ask Jaklas to bring them to him to sue for peace and protection. They would bring him pieces of rare woods as presents, but Jaklas suggests that they should fetch the gold and silver which for centuries has accumulated in Jakni's fire-place. An immense procession, loaded with gold and silver, led by Jaklas and 800 Brahmans, departs for Tahta Yemen. They meet Bustamam on the way to Kaladesa and follow him.

When Bustamam reaches Kaladesa, the gates remain closed before the king of Jēzam, who with his troops forms the advance-guard. He turns with his army to the left and waits. The other kings, including Tesnahur, meet with the same fate, and only when Johar, leading the carriage of Bustamam and Sēri Maharaja Putēri, with Tewangga and Sējan Bada following, approaches, the guns are fired, the gate is thrown open, and Kerbabahur's viziers greet Johar. Bustamam enters the town, and behind him Tesnahur and the other kings are allowed to pass. The carriage of Bustamam and Sēri Maharaja Putēri is brought into the palace, and Tewangga carries Bustamam, Sējan Bada Sēri Maharaja Putēri into the hall of audience and put them down in front of the throne. Johar and Rakna Mala take their seats behind them, Raja Shah Malik and the princess of Sēmatrani to their left, and behind them Tesnahur, the viziers and the other princes.

Kerbabahur takes his seat on the throne and all bow to the ground. When he sees Bustamam and Sēri Maharaja Putēri, he is startled and asks Tewangga, whether they are human beings or golden idols. Sitting down between Bustamam and Sēri Maharaja Putēri, he passes his hand over their faces and asks the princess whether she is Sēri Maharaja Putēri? She replies. "I am the rag to dust the sandals of Your Majesty," and Kerbabahur praises Tewangga that he has brought him these beautiful children. He carries the two to the throne, takes them on his knees, runs into his palace to fetch his spectacles, lies down before them to have a better look at them, and so on. He recognizes Johar and Khamis, whom

he has seen formerly; has he not given him a gold-chain for Sēri Maharaja Putēri? Johar answers in the affirmative, and Kerba Bahur adds that he had promised Johar to give him a place at his daughter's court, but is now exempt from his promise. Raja Shah Malik has to present his wife to Kerba Bahur, who is very pleased with her and praises Raja Shah Malik that he has obeyed Tewangga and thereby preserved his life. But he should drive his father from the court, as he is only good for looking after cattle. Sēri Maharaja Putēri intervenes and asks Kerba Bahur not to be angry with the father of her younger brother, but to forget the past. Kerbabahur laughs and tells Tesnahur that he has done well to come with his daughter, as otherwise he would have made him a herdsman. Now he can only forgive him, but Tesnahur shall be subject to Sēri Maharaja Putēri, whom he will have to obey in future. He runs into his jewel-room and returns with two magnificent crowns; that for Sēri Maharaja Putēri being too big, he carries her into his jewel-room, where thousands of crowns are collected, and chooses one that fits. When he carries her back, she takes a net of pearls which she sees hanging over the door, and hangs it over her crown. Kerbabahur asks whence she has got the pearls, and hearing that they are his and just taken by her from his jewel-room, he fetches a box with strings of pearls and spreads them over her like a shawl flowing down from her crown. That is until the present day the fashion of the ladies of Khairani, which the Arabs have imitated, but in an altered form.

Kerbabahur gives to Tewangga the income of ten, and to Sējan Bada that of five subject countries; he cannot make them princes, as they do not belong to the princely caste. Sēri Maharaja Putēri asks him to have the impaled picture of the princess of Samaluki removed; Kerbabahur asks her, whether she has not read the letter; in that country they had reversed the custom of many thousand years and had instituted a woman's government. Sēri Maharaja Putēri replies that being a small country, at the mercy of every stronger prince, their only way to safety was to make it a shame to attack them. Kerbabahur orders the picture and/the letter to be taken away, and Sēri Maharaja Putēri suggests that the princess of Samaluki should be married to Bahrum Shah, her younger brother. Kerbabahur agrees and orders Johar to write a letter to the effect that Kerbabahur acknowledges that Samaluki has been right and recognizes its constitution, that his former wish has been unreasonable, as the king of Samaluki belongs to another race and creed, but having now a son-in-law of the same race and faith, the king should come and have a look at him. If he were satisfied, the king should accept Bustamam's younger brother as son-in-law and thereby find in Kerbabahur an ally in every trouble. At a hint of Bustamam Johar suggests that Tesnahur is sent as ambassador, and Kerbabahur agrees.

Tesnahur is going to take his leave, when the big procession of the Brahmans and their pupils arrives. Compared by the author

to herds of pigs and monkeys.) Kerba Bahur is startled, but Tewangga claims him. The Brahmans take their seats in the hall, Jaklas in front. Kerba Bahur would render him homage. Sēri Maharaja Putēri forbids it and even holds his hands when he insists. Jaklas, seeing Bustamam, pays homage to him, bowing to the ground, and the other Brahmans and pupils follow his example. Speechless Kerbabahur gazes at the masses of Brahmans and pupils, reaching to the gate of the town, all bowing down (like a herd of pigs rooting in the ground.) Jaklas explains what has brought them, and Bustamam promises his protection and asks Aplus to explain the true way to those who do not yet know it. Surprised Kerbabahur asks for an explanation, which Bustamam gives, saying that Ikhlas (as Jaklas is now called) has already found it. At Kerbabahur's further questions, Ikhlas, Raja Shah Malik and the king of Guha, the latter speaking also for the other kings, acknowledge that formerly they have followed the wrong path, but have now found the true one. Kerbabahur observes that he also must be on the wrong way, and asks Bustamam to teach him. Sēri Maharaja Putēri kisses him on the breast and says that they have come to bring him eternal happiness and salvation. Kerbabahur accepts the new faith. Tewangga and Sējan Bada send men already confirmed in the new faith to teach the people. Kerbabahur asks Ikhlas what has become of Jakni, and is surprised to hear that he has been killed by Bustamam, who must show him the Brahman's heart. Kerbabahur carries Bustamam and Sēri Maharaja Putēri into his palace; at a sign from Rakna Mala the three princesses (the queens of Sēmatrani, Bēdērani and Siti Sēlamih?) follow him. Kerbabahur asks who they are; Rakna Mala says that if he carries the head, the feet and the tail will follow unless he tears them off. Kerba Bahur laughs and presents Bustamam and Sēri Maharaja Putēri to his queen, who is so pleased with them that she forgets her grief over the death of Bachtiar. The meal is served to them in the palace, whilst the other guests are feasted in the hall of audience.

On the following morning Sēri Maharaja Putēri supervises the preparation of the morning-meal, having all arrack and tuwak removed with their vessels. Kerbabahur is so delighted with the smell of the food that he seizes a dish and runs with it into the hall of audience, praising the viziers who have chosen for him a daughter so well versed in cookery. He asks the princes and ministers to taste the food, and Sēri Maharaja Putēri sends Rakna Mala to him with seventy maids carrying other dishes. Kerbabahur has them distributed amongst the audience, saying that a few months of such food will restore him to his former strength and plumpness. His own dish he carries back into the palace and takes his meal with his family. Whilst Sēri Maharaja Putēri teaches his queen and her ladies the new faith, Kerbabahur carries Bustamam into the hall of audience and keeps him on his knee, where Bustamam looks like a child of two years compared with the mighty giant.

Kerbabahur sees the pupils of the Brahmans still lying on the ground, and the Bentara explains that they still carry the presents of the Brahmans. Kerbabahur asks for whom the presents are destined, and hearing that they are for Bustamam, says that his son has apparently become the lord of all the world. Johar takes the gold and silver from the pupils, and Kerbabahur wonders at the immense quantities. Ikhlās says that these are no presents, but the property of Bustamam, and explains where the treasure comes from. Bustamam has all the gold and silver divided into four parts, one for the viziers, one for the vassal-princes, and two for Johar and his friends, explaining to the astonished Kerbabahur that this dirt (*daki*) of the earth is of no value.

Sēri Maharaja Putēri sends cakes and sherbet into the hall of audience, and Kerbabahur asks how many times they are going to eat, but is delighted when he has tasted the good things and says no wonder Tewangga and Sējan Bada, having had such a good time, have returned much plumper than they went. The king of Siulan mentions the inexhaustible bundle of Kakaduni; Bustamam shows it to Kerbabahur and makes him taste the food. The king of Siulan mentions the water which Bustamam carries with him, and Johar thrusts the dagger into the ground outside the audience-hall. Kerbabahur gives him a golden cup to fetch some of the water for him to try, but seeing the excitement amongst the people when the water gushes forth, runs thither, drinks some of the water out of his hollow hand, comes back, takes the cup from Johar's hand, and unconcerned about the people round him begins to bathe. As his crown hinders him, he puts it on Johar's head and begins to wallow comfortably in the water gushing forth. His ministers sit down round him, and the kings of Bēdērani and Sēmatrani, left alone in the hall of audience, join him and rub him down. After his bath Kerbabahur runs back, snatches the dagger from Bustamam, who has just time to render it harmless by a charm, shows it to his ministers, rushes back into the palace, and without changing his wet clothes, thrusts the dagger deep into the ground, shouting to his queen to come quickly and have a bath with her ladies. The palace is nearly flooded, and Kerbabahur runs back to Tewangga and asks him what to do. Tewangga promises to have the well stopped and Kerbabahur returns the dagger to Bustamam and goes to change his clothes. He misses his crown, and returning into the hall of audience asks Tewangga what he has done with it. Tewangga replying that he has put it on Johar's head, Kerbabahur says to Johar that he is a lucky man that he may wear the crown, which is a gift of the Lord of the World; in his joy over the bath he had not paid any attention to where he had put it. Thus Johar should keep it, although not of the race of princes, but God had raised him above all princes owing to the blessing that rests on Bustamam. Johar should continue as vizier of Bustamam, but when once he had children of his own, he should give the crown to his son as prince over a big realm. Johar respectfully tenders his thanks and is given a seat amongst the vassal-princes.

The king of Siukam reaches Samaluki and is received with great honour by the female ministers. The queen approves of Kerbabahur's proposal, and a lady of the royal family, with female ministers and officers, accompanies the king of Siukam back to Kaladesa, to find out about the origin of the king of Sēmatrani, his race and so forth. Kerba Bahur is surprised at this female embassy. The letter is read: the queen of Samaluki thanks Kerbabahur for his goodwill and sends a plenipotentiary to look at the prince. If she approves of him, she would ask for his hand, and the queen of Samaluki would come to Kaladesa to marry the prince to her daughter and take him back to her country. Kerbabahur laughs and has Bahrum Shah called, but the ambassadress looks more at Bustamam, and Kerbabahur cannot get on with her, as he does not know what she wants. Bustamam understands and asks Aplus to help her. Sēri Maharaja Putēri appears, wearing her crown, and Kerbabahur explaining that his daughter has been crowned queen of Tahta Yemen, the ambassadress understands that Sēri Maharaja Putēri has been adopted by him. A meal is served in the hall of audience; the ambassadress is uneasy, not knowing whether the food is clean or not, but Aplus disperses her fears with his "Bismillah." He houses her in his own home, gives her all the information she requires and writes down for her the genealogy of Sultan Yahya, which reads as follows:—

Al-hamdu lillāhi rabbi'l-'alamīn, ammā ba'du, i'lam ini silsilah Sultān al-'Arifīn, wahuwa as-sultān Yahya al-Ansārī ibn as-sultān Ahmad ibn as-sultān Ain ad-Dīn ibn as-sultān Sulaimān ibn Bahrūm ibn Ishāk ibn Ja'far Madanī ibn 'Umar al-Madanī ibn Tāhā ibn an-Nāsirīn al-Ansārī-rahima 'llāhu ta'ālā 'alaihi wa 'alā ahlihi ajma'in.

He gives to this the following history: A man of foreign descent, Amir Siusin, was the chief (Kētuhā) of Bandar Amasad. Being attacked by the Persians, and defeated, Siusin asked Sultan Kēbir Shah "of our country" for assistance. Kēbir sent him an army under Ishak, the son of Kēbir's elder brother Jafar of Mēdina. Ishak remained with Siusin, and at the latter's death his uncle Kēbir gave him Bandar Amasad. When 15 years later the king of Sēmatrani died, childless, a vizier of Sēmatrani tried to usurp the reign of Bandar Amasad (Sēmatrani?), and there were disturbances. At that time the merchants of the island of Sandēlas, and Sarit, from the end of the continent of India (*hujung tanah Hindia*) from Lanja and Basorah used to come to Bandar Amasad, but could not proceed to Sēmatrani on account of the hostilities. One of the viziers of Sēmatrani was already negotiating with Ishak to make an end to the disturbances, but Ishak would not act without his uncle's order, until all viziers joined in the request, when he sent his second son, Bahrum, with the merchants and sufficient troops to Sēmatrani. Order was restored, and on the request of the

<sup>1</sup>*Nēgēri Kami* cannot refer to Tēmatrani, the country of Aplus, but must refer to the country of the author.

merchants, Kēbir consenting, Ishak made Bahrum ruler of Sēmatrani to prevent further disturbances. Ishak had sent his first son Shayab to Kēbir with the report of what he had done, and Kēbir kept Shayab in his country and married him there in order to prevent envy and quarrels between the brothers. When Ishak died, his third son, Abdulfatah, inherited his realm.

Bahrum had two sons, Sulaiman and Kasim; at Bahrum's death Sulaiman ascended the throne and made Kasim his co-regent; together they brought Sēmatrani to great welfare. Sulaiman had a son, Ain ad-Din; Kasim two daughters. Ain ad-Din married the eldest daughter of Kasim, the second daughter was married to Abdulwahid, the son of Abdulfatah and grandson of Ishak. Once there were hostilities between Sēmatrani and Bēdērani, and Sultan Thalib Shah, the son of Sultan Kēbir, came and made peace between the two countries. He made Ain ad-Din Sultan of Sēmatrani, and Abdulwahid Amir of Bandar Amasad, under Sultan Ain ad-Din. Abdulfatah had one daughter and two sons, Thamirah and Ahmad Palus. Thamirah's son, Abdulwahid, became later Amir of Bandar Amasad, and Ahmad Palus' son, Husain Palus, was made by Sultan Thalib to reign (as vice-regent?) under Sultan Ain-ad-Din. Since that time the dynasty had not changed<sup>1</sup>.

The ambassadress is satisfied and asks for Bahrum Shah's hand; the queen of Samaluki to come over to Kaladesa and marry him to her daughter, or if she cannot leave the country, to send a suitable embassy to fetch him.

Kerbabahur reads the genealogy of Sultan Yahya and is highly pleased with the noble lineage of his adopted daughter. The letter to Samaluki is written and sealed with Kerbabahur's seal. Kerbabahur asks Bustamam why he has not sealed the letter, and insists on his doing so, as he will have no more to do with these things. Tewangga has a seal engraved for Bustamam with the inscription; Sultan Bustamam ibn Sultan Yahya. Kerbabahur reads it and throws it at Tewangga's feet saying why Tewangga still sticks to the old order of things; on this day he gives up his reign to his son-in-law. All are speechless with surprise; Tewangga has a seal engraved with the incription, "Sultan Bustamām Khalīfatullāh 'alā'ī-ard kull al-akwān wakuwa as-sultān Bustamām dā'irat al-Khairānī Pādīshāh ibn Sultān Yahya al-Ansāri Khalīfatullāh." Everybody, according to the old custom, swears allegiance to Bustamam as sovereign of Khairani, to whom all princes are subject.

Ikhlas and his friends take leave to spread the new faith in the country, and Bustamam gives them rich presents and suitable names.

It is decided to send Bahrum Shah to Samaluki; the kings of Kēmusat, Guha and Jēzam and his uncle Amir Bahud bring him thither and attend his marriage with the princess of Samaluki. Kerba Bahur asks Bustamam why he has sent Bahrum Shah to live under female sway; Bustamam replies that that is all Bahrum Shah is good for, and that it will make him assert himself if he has any wit left.

<sup>1</sup>This history is not very clear in the text.

When Amir Bahud returns with the kings, Bustamam sends him with his son Thahak back to Samaluki, much against Amir Bahud's wish, to look after Bahrum Shah and find a suitable wife for Thahak.

Johar has made the necessary preparations for the return to Tahta Yemen, and Bustamam and Séri Maharaja Putéri depart, accompanied by Kerbabahur to the edge of the forest. When at last they have taken leave, Kerbabahur sits down on a rock and with a heavy heart bids Tewangga and Sėjan Bada take good care of his children. His words are so full of love and anxiety for them, that the viziers, who have great pity for their old master, promise to bring them to Kaladesa whenever his longing for them becomes too great. Kerba Bahur leaves it to the viziers to do with the dead body of Bachtiar what they like, as Bachtiar is his son no more. The viziers bring Kerbabahur back to Kaladesa, and when weeping they take leave of him, he strokes their heads saying that only God can reward them for the service they have rendered him.

Bustamam safely reaches Tahta Yemen, where Sultan Sėjaa had as-Salathin receives the party according to custom.

Tesnahun is in great sorrow; envy torments him, as he does not understand the goodness and righteousness of his elder brother, and that it is only just that Bustamam is made his heir. His moroseness increases daily, and Tewangga and Sėjaa Bada notice it. When one day the viziers discuss the return of Sultan Sėjaa to Sėmatrani, Tewangga asks whether the king of Bėdėrani should not also return to his kingdom, as there is nothing more for him to do in Tahta Yemen. Aplus replies that it is impossible for him to leave his children amongst enemies. Tewangga is startled and opines that there are no enemies left, but Aplus replies that they have done with the smaller enemy; the greater one they will still have to fight with. Tewangga and Sėjan Bada now understand, and they go together to Tesnahur to see whether they cannot comfort him.

Tesnahun is just discussing with Sultan Yahya and Maharaja Bėniasin how he can obtain permission to return to his country, and upon their advice has sent for Johar. When the viziers arrive, he puts the same question to them; they give him the same advice, and Tesnahur agrees that Johar is the only one to whom he can state his wish. Johar, who is just entering, hears the last words and retards his steps in order to gain more time for thinking; Tewangga notices this. Tesnahur asks Johar to help him to obtain permission to bury his dead son in his own country. Johar replies that he had already prepared everything, and that from his side there were no objections. Tesnahur says that there is no need for his master to accompany him, and Johar should only obtain permission for him to depart. Johar replies that Tesnahur had better apply to the old viziers, who have far more experience and always know beforehand what is going to happen; he himself is only a boy, which they make him feel again and again without his being able to prevent it, and his master feels it too, as Tesnahur knows.

He would rather not give any advice in this matter. The viziers know what he is aiming at; Tesnahur replies that he had often heard the viziers praise Johar's sagacity, why was Johar now talking in that way? Johar points out in veiled terms that thanks to the viziers his master is now united by very close ties to Kerbabahur, who had made over to Bustamam his crown and his treasures. Bustamam had rendered him the *sembah* and was still longing to kiss Kerbabahur's feet instead of killing him, which he could easily have done, as he had nobody to fear. That was the work of the viziers, and another one was that they had made Kiwabi his master's brother-in-law. He himself had at first wondered how all that had come to pass, but he now sees that his master and he had only done what the viziers had decided in order to serve their master and conserve their own good names.

The viziers are overjoyed at Johar's delicate words, which dispose of Tesnahur's reasons for envy and embitterment. Tesnahur sees now that this has been the only way to get out of this affair, without dishonour, and his sad face brightens. Taniasin asks Johar whether he would not have advised his master to take everything by force; Johar denies it. Tesnahur praises him and his master for their sagacity and goodness, and prays to God to assist them with His blessing. He himself has erred and only now sees right and wrong. Johar replies that it has been very difficult, as Tewangga had so hidden his thoughts and ideas that he, Johar, himself had thought Tewangga to have been on their side, whilst actually he had only been intent on the salvation of his master, whom he had saved, as it were from suicide by turning things in such a way that the man who was going to destroy himself had now been rendered every honour by his enemy. Tesnahur says Johar should not be angry with Tewangga, who had never intended to work to the prejudice of Bustamam, but to serve him. The honour which Bustamam had rendered to Kerbabahur could only redound to Bustamam's own honour in showing his love and respect of old age. The wealth of this world is useless, as Bustamam had shown by giving away the treasures of the Brahmans. He himself had suspected the viziers of working to the detriment of his elder brother and himself, especially when they had caused Kerbabahur to make over to Bustamam his sovereign power and his treasures, but now he sees the justness of their action. Johar would experience the same feeling if he would weigh the matter and he should honour the old viziers and not be angry with them. Johar should watch over Raja Shah Malik as over his own brother, and all he would ask Johar for himself was to obtain permission for him to look after his troops, who were still camping on the battlefield, and bring them back to his country. After that, he would return, as he would not leave Bustamam, to whom his elder brother had entrusted him, nor his son, who was going to stay in Tahta Yemen.

The dead body of Siwati is to be buried at Tahta Yemen before Tesnahur leaves to look after his troops.

The viziers leave Tesnahur and return to Tewangga's house where they embrace Johar and praise his sagacity.

The dead bodies of Siwati and Bachtiar are buried with due honours, Bustamam himself distributing the alms at the funeral rites, which advances him further in Tesnahur's affection. Preparations are then made for Tesnahur's departure.

Kerbabahur finds Kaladesa very lonely since Bustamam's departure, and leaves suddenly with his queen for Tahta Yemen with a great train. The viziers at Tahta Yemen hear the rumour of it only two days before his arrival and do not believe it, but Johar thinks it possible and advises that the vassal-princes should leave at once to meet Kerbabahur; if the rumour proves false, they could proceed further to bring Tesnahur to Siukam. When Bustamam and Sēri Maharaja Putēri hear of Kerbabahur's coming, they order at once their travelling-coach and depart at full speed without caring for anything else. Johar meets them and jumps upon the spare-horse tied to the coach, but is unable to stop them. Tesnahur and the viziers take the first horses they can lay hold of and follow them, and only with great pain Sultan Sējaa can persuade the kings of Sēmatrani and Bēdērani to stay with him and make the necessary preparations for the visitors.

Bustamam has gone on, and night comes. Nothing is prepared, the viziers are far behind, and train and provisions still further. Bustamam calls Chēkur and Jērangau to light the way with torches; Johar follows as well as he can. They reach Kerbabahur's camp, where the guards, seeing the torches but not the bearers, take them for spirits of the jungle and will not let them enter. Kerbabahur awakes and sends a knight to find out; the knight approaches with his sword drawn, and not believing that Bustamam and Sēri Maharaja Putēri arrive in the middle of the night and alone, orders the jungle-spirits to depart. Bustamam and Johar laugh, Kerbabahur recognizes their voices and orders to let the visitors pass. Bustamam and Sēri Maharaja Putēri hurry to him, and he takes them into his tent. Johar follows and has to explain; Kerbabahur praises him that he did not suffer his master to depart without him, as it is the duty of a faithful vizier, and since that time it has become the custom of the kings of the mainland (*sa-bēlah tanah bēsar*) up to the present day that their viziers follow them wherever they go.

The next morning they proceed on their journey with full music, to enable the other princes to join them. Johar, in order to prevent another passing of a night on the way, hurries to the despair of the viziers who fear that nothing has been prepared for the guests, and who are unable to overtake them. But when they reach Tahta Yemen, Sultan Sējaa has everything prepared, and Kerbabahur is received with due honour. He and his queen are brought into the palace, and Bustamam takes Kerbabahur to the hall of audience, where he is introduced to the other kings and hears the story of Siti Sēlamih. After a meal in the palace Kerbabahur states that

for the first time since Bustamam's departure from Kaladesa he has eaten his fill, as the people in his own palace do not know how to cook.

For two months Kerbabahur stays at Tahta Yemen; when he returns to Kaladesa, Bustamam sends all other kings back to their countries, including Sultan Yahya and Maharaja Bēniasin; only Sultan Sējaa Amir al-Amur hadd as-Salathin is to stay with him at his special request. At the leave-taking Amir Bedla is treated with special distinction, to the great joy of his father, the king of Gujerat. All kings, however, have to accompany Kerbabahur to Kaladesa before they proceed to their own countries. Bustamam and Sēri Maharaja Putēri accompany Kerbabahur for a day's journey before they take their final leave, and return sadly to Tahta Yemen, accompanied by Tewangga and Sējan Bada, to whose care their master has entrusted his children. The kings of Bēdērani and Sēmatrani also return to their countries, Siti Sēlamih to follow her husband, the king of Sēmatrani, but to visit her children every few months.

Chēkur and Jērangau also ask permission to return to Mount Thēlahin. Bustamam and Sēri Maharaja Putēri are loath to let them go; Chēkur takes the betel-scissors from Rakna Mala's hand, and she and Jērangau each cut off one of their fingers, and plant them in a flower pot. A little tree grows from them, and Chēkur says that if Bustamam and Sēri Maharaja Putēri were longing for them, they should smell a leaf of the tree, which would make the longing disappear. If this would not avail, they should powder a leaf and use it as a cosmetic, and Chēkur and Jērangau would arrive at the next sunrise. When Sēri Maharaja Putēri had children, she should use the leaves of the tree for medicine, and both of them would come to help to bring up the children. The fairies then disappear, report to Maharaja Thēlahut and return to their parents.

Bustamam feels sad when all the other kings have left him alone in Tahta Yemen, and rarely appears in the hall of audience. He sends Bahrum Shah reports of what is happening to Samaluki and receives his replies and presents. With the other kings, who frequently visit him, he keeps up a steady intercourse, especially with Kerbabahur.

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## A TRENGGANU VOCABULARY.

by P. A. B. MCKERRON, M.C.S.

The first part of the vocabulary is composed of words jotted down at odd moments during a residence of two and a half years in the State, and consists entirely of words which either cannot be found at all in Wilkinson's Malay Dictionary, or else are used in Trengganu with a different meaning, or shade of meaning from that given in the Dictionary.

The words marked (B) were collected in the Besut District where the last half of my service in the State was spent and where the inhabitants talk almost a pure Kelantan dialect. Although some of these are not strictly speaking Trengganu words, I have decided to leave them in this Vocabulary.

The second part of the vocabulary consists of words commonly used in official correspondence in Trengganu (which by the way is still conducted in Jawi) and knowledge of these would be extremely useful to a Government officer taking up an appointment there for the first time. A very large proportion of them are pure Arabic words, several of which are in use fairly generally, but it will be noticed that many of them have come to have specialised meanings in Trengganu.

### PART I.

|                 |   |
|-----------------|---|
| Achap           | Often.  |
| Banggol         | A low hill (also in Perak R.O.W.) c.f., <i>manggul</i> (Kedah) high land, a hummock.                        |
| Bĕradu (B)      | To stop or cease doing anything.  |
| Bĕris           | A low sandy ridge.  |
| Bĕsek (B)       | The early morning before the dew has dried.   |
| Bĕtab           | Dull, stupid.   |
| Chapek          | Illiterate. (slang) lit. lame. <i>Buta</i> (blind) is often used in the same way for one unable to read.    |
| Chĕlĕkong       | Crooked, not "straight" (slang).  |
| Chok bĕtul      | A draining spade used for cutting round holes for fence posts or house timbers.                             |
| Cholok          | Matches.  |
| Dawas (B)       | Exhausted (of soil), in need of manure.   |
| Dĕpi (=di-tĕpi) | Close to, along side of.  |
| Gayong          | Trengganu style of wrestling.   |
| Gĕmbang         | A floating bath-house. (cf. <i>gambang</i> R.O.W.)  |
| Gĕrai           | A market stall.   |
| Gĕtek           | Also, partly. e.g. <i>aku gĕtek</i> =I also. <i>baroh gĕtek gong gĕtek</i> =partly swamp, partly high land. |

- Gobek api** A cylinder and "piston for making fire. These contrivances are used by the natives of the interior districts for whom matches are still too expensive.
- Gogek-gogek** Shivering with cold cf. *gogok* (Wilk).
- Gong** A low ridge.
- Hampus** Just awash. cf. *hampus* (Wilk) to efface, to wash out.
- Hak** The Trengganu native rarely completes a sentence without using this word. Some of its commonest meanings are best illustrated by examples:  
*Hak kerajaan*—the property of the Government.  
*Hak scdia*—the "status quo," the existing order.  
*Hak merah*—the red one.  
*Hak ini*—this one.
- Jak** A bamboo basket used for packing dried fish for export.
- Jangat (B)** An arrangement of knives set round a circular hole in a barricade erected for a pig drive.
- Jēmérang** Across river. Possibly a variant of *sēbérang*.
- Jėnak (B)** Very many, abundant, numerous. (but never used of persons).
- Jėrėloh** Deep, of a swamp. (*Jėrėloh*: blind: perhaps a blind swamp). (cf. *jėloh* Johore, *jėrėloh* Kedah R.O.W.)
- Kaki tidor** North { Used in description of land
- Kėpala tidor** South { boundaries (See J.R. A.S. Vol. IV Part I Page 133).
- Kapit** To fasten on with slats as woven grass matting to a frame.
- Kėmburan** River silt.
- Kėrongkong** Empty, hollow as of a box. (Wilk. the gullet). cf. *gėronggong*. "Argy-barg." (slang).
- Kokek** Wire (variant of *kawat*).
- Kėrawat** Wire (variant of *kawat*).
- Lada** Chilli. *chabai* is unknown in Trengganu.
- Mėngenting (B)** To lay a claim to. (especially of land).
- Mũk** Solid keel of a boat.
- Padi dol (B)** Rice planted by sowing the seed on wet land. A common method of planting in Besut when nurseries have been destroyed by floods or there is no time to transplant.

|                  |   |
|------------------|---|
| Padi taburan (B) | Rice planted by simply scattering the seed on dry ploughed land.  |
| Padok            | A golf teeing ground.   |
| Panggong (B)     | An irrigation dam.  |
| Pěraryoh         | A paddle.   |
| Rajin            | Expert, skilled at, e.g., <i>saya ta' rajin main bola</i> I am not an expert player. <i>Dia yang rajin buat</i> he is the expert at it.                           |
| Râng             | A bamboo platform on the bank of a tidal river used for drying fish.  |
| Rěnek            | A nickname for a short, stout man. [fire, delicate, Wilk].  |
| Sayup            | Late in the season, especially of padi planting.  |
| Sělahu           | Used invariably in Trengganu with the meaning that <i>langsung</i> has in the South of the Peninsula. <i>Saya pěrgi sělahu</i> I am just going; I am off at once. |
| Semua            | The following example illustrates the Trengganu use of this word. <i>Kuala kita tidak mati sěmua</i> our river-mouth does not stay fixed.                         |
| Senggang         | About, approximately. <i>Senggang běrapa lama 'dah</i> Do you remember about how long ago?  |
| Sengkat          | Up to, up to the limit. e.g., <i>sengkat muat-nya</i> the load limit of a boat.   |
| Sěpěrong         | A Trengganu vernacular variant of <i>těropong</i> , a telescope.  |
| S'tangan         | Malay kerchief head-dress (= <i>sapu tangan</i> ).  |
| Suangan (B)      | A strip of land.  |
| Takek (B)        | To tap a tree for damar. [to notch slightly, Wilk].   |
| Tampang          | <i>Ampat tampang</i> four sided.  |
| Těbhěng (B)      | To try one's hardest.   |
| Tělinga (B)      | The "take off" of an irrigation channel just above a dam.   |
| Tempek           | To post (of a notice or proclamation). Never <i>tampal</i> which is the word commonly used in the Peninsula.  |
| Tian (B)         | A footbridge. Contraction of <i>tilian</i> .  |
| Turut            | To go and get, to rout out (slang). <i>Pěrgi turut rokok</i> go and see if you can get some cigarettes.   |

## PART II.

|                     |   |
|---------------------|---|
| Anggaran            | (1) a proposal.<br>(2) a draft: <i>anggaran estimate</i> draft Estimates.   |
| 'Ain (Ar)           | Property.   |
| Allowance jamuan    | Entertainment allowance.  |
| "    lawatan        | Travelling, transport allowance.  |
| "    pasangan       | Lighting allowance.   |
| Amanah (Ar)         | A deposit, a trust.   |
| Baitul-mal (Ar)     | <i>Pējabat baitul-mal</i> a branch of the Department of Religious affairs which deals with estates of intestates.                               |
| Bērķēnaan           | Concerning, with regard to, also "concerned" e.g., <i>Jajahan yang bērkēnaan</i> the district concerned.  |
| Butir-butir         | details. e.g., <i>butir<sup>2</sup> kēnyataan</i> detailed particulars.   |
| Chadangan           | A provision, a vote in the "Estimates" sense.   |
| Chatar (Eng)        | to charter, to contract. <i>Chatarkan kēreta sewa dua tiga ringgit tiap<sup>2</sup> kali</i> to hire a car by arrangement at \$2 or \$3 a time. |
| Chawangan           | A branch or sub-department.   |
| Chetak              | To print (the word "chap" is very rarely used in this sense in Trengganu). <i>Pējabat Chetak</i> The Govt. Printing Office.                     |
| 'asal (Ar)          | A section in an Enactment c.f. <i>sharat</i> , a clause contained in a section of an Enactment.   |
| Gelura              | The North East Monsoon.   |
| Guaman (Ar)         | A case.   |
| Guaman jēnayat (Ar) | Criminal case.  |
| Guaman mal (Ar)     | Civil Case.   |
| Idar                | to refer a question. <i>Sila idarkan kepada dia</i> please refer this to him.   |
| Ishtahar (Ar)       | A Government proclamation having the force of law, an "Order of Council."   |
| Itifaq (Ar)         | A decision of State Council.  |
| Jawatan             | An appointment.   |
| Juma'ah mēntri      | The Council of Ministers.   |
| Kartor              | Court fees.   |
| Kērja raya          | Public Works. <i>Pējabat Kērja Raya</i> the P.W.D.  |
| Kesamāran           | The common word for misunderstanding, "obscurity (from <i>samar</i> to conceal or disguise (Wilk.)  |

|                      |   |
|----------------------|---|
| Khairat (Ar)         | Charity.  |
| Khanzir (Ar)         | Pig, a euphemism employed when it is necessary to refer to this unclean animal in official correspondence.                              |
| Khusus (Ar)          | A decision, the settlement of some point.   |
| Lazim (Ar)           | Usual, customary.   |
| Lengkongan (Bandar)  | Town or Village limits.   |
| Mahkamah (Ar)        | A Court   |
| „ jĕnayat (Ar)       | A Criminal Court.   |
| „ mal (Ar)           | A Civil Court.  |
| „ khas (Ar)          | A Special Court.  |
| Mansokh (kan) (Ar)   | (to) cancel or repeal.  |
| Mĕntri Bĕsar         | The Prime Minister.   |
| Mĕshkil (Ar)         | Dissatisfied, especially of litigants.  |
| Mĕshuarat kĕrajaan   | The State Council.  |
| Milek (Ar)           | To own property: <i>surat pindah milek</i> a transfer   |
| Mu'wakil (Ar)        | Principal, client.  |
| Nadzir Sekolah       | The Superintendent of Education.  |
| Pĕchah amanah        | Criminal breach of trust.   |
| Pĕguam               | A lawyer  |
| Pĕjabat              | An office, department.  |
| Pĕlatah              | An apprentice, a cadet.   |
| Pĕlayan              | A peon, orderly.  |
| Pĕnyata muatan kapal | A ship's manifest.  |
| Pĕratoran            | Rules, regulations  |
| Pĕsuroh Jaya         | A State Commissioner, A senior District Officer.  |
| Rampaian             | Miscellaneous revenue: <i>hasil rampaian</i> .  |
| Rang                 | A draft of a letter.  |
| Rojo' (Ar)           | (Return, reconciliation after divorce (W) ). to refer to existing written authority, <i>saya rojo' ka-fasal 8 pĕaturan 9 tahun 1345</i> |
| Ronchit              | Miscellaneous, especially of expenditure. <i>Wang ronchit</i> petty cash.   |
| Rondingan            | A discussion, a conference.   |
| Sharat (Ar)          | A condition. <i>Di-sharatkan sapĕrti di-bawah ini</i> subject to the following conditions.  |

|                  |  |
|------------------|--|
| Shōr (Ar)        | Advice, recommendation.  |
| Surat mēshkilan  | A petition, a notice of appeal in the Courts.  |
| Tadbir (Ar)      | superintendence: <i>yang di-bawah tadbir kēpala Pējabat Tanah.</i>   |
| Tauliah (Ar)     | A commission, a letter of appointment signed by H. H. the Sultan.  |
| Tawakuf (Ar)     | To postpone.   |
| Timbalan         | (1) A supporter to a recipient of an honour at an investiture.<br>(2) An "assessor," sitting with a Judge or Magistrate. |
| Uzor (Ar)        | ill, indisposed often conveying a similar nuance to our "not at home."   |
| Wakil (Ar)       | A pleader, a lawyer.   |
| Wasil (kan) (Ar) | To endorse a licence.  |
| Yuran (Ar)       | A contribution or subscription.  |

## A MILANO MUAS.

By E. V. ANDRIENI.

The following is a Milano Muas\* which I had translated and which I have now put into English.

### *Long Kendi*

#### *The Gold House*

Raja Inu Bunga of Reji Kenadan Lanya Reji Bawai ordered his ministers and people to clean and prepare the palace because he has heard that Raja Bunga Mas of Kling is coming to visit him.

Bunga Mas Raja of Kling told his cousin Krabu Mas that he was going to visit Raja Inu Bunga to look for a princess and Krabu Mas was willing to go with him. Bunga Mas put on his iron shoes, trousers and coat (*i.e.* armour) and also his gold crown and his royal sword and took his silk umbrella spotted with gold. When they were dressed they started off walking on the water and after walking one and a half days and whilst they were in the middle of the sea Krabu Mas asked Bunga Mas whether he had brought his flying coat. He answered no but he asked from the middle of the sea his sister Dayang Chermin to take his flying coat from his room and throw it to him. When the flying coat reached him they both used it and reached the country of Raja Inu Bunga very high up. Medima Marak Bunga asked them where they came from and when he heard took them into the palace where they were welcomed by Raja Inu Bunga who seated them on golden chairs before a golden table on which was a gold sireh tray.

After they had taken of this, Raja Inu Bunga asked what was the purpose of the visit. Bunga Mas replied I have something to ask but I am afraid to ask you now but being pressed confessed that he wanted the hand of Princess Satimbang Mas.

Raja Inu Mas said my sister is affianced to Bakaran the King of the Upper Sky but if you are brave and strong you can take my sister. Bunga Mas replied I will do my best and fight Bakaran in order to keep your sister as my own.

When the princess was asked she too was willing to follow Bunga Mas but in order not to cause trouble she followed him to Kling for the marriage. Kling was distant five days and five nights.

Now Raja Bakaran had a dream that his sword was broken from its sarong and asked his mother the meaning of his dream. She replied it is a sign your fiancee has been taken by some one else. He then ordered the wizard to tell him who it was and the wizard said it is the prince of Kling who has taken her together with her silver tower.

\* Folklore: songs of ancient heroes

Then Raja Bakaran ordered his people to get ready and went to war. His warboat flew with him to Kling five days and five nights and called on Bunga Mas to come down in front of his palace but he refused.

Then Raja Bakaran said if you are a man come down and fight if a female give me back the princess.

His cousin ordered Bunga Mas to go down then Bunga Mas with all his swords came down and fought the army of Bakaran for three days and three nights until half of the army of Bakaran were killed and they beat the war drum and Bakaran himself came out of his war boat and pulled out his sword with thunder and lightning at this time.

He then fought with Bunga Mas and at last captured Bunga Mas and chained him to his war boat and in spite of entreaty from Krabu Mas refused to release him. Krabu Mas then sent three princesses Putri Bedakan, Dayang Pudi Awan and Putri Sadi-pan to entreat and he released him on condition that he would get him the Princess Norchaya for his wife, she being already affianced to Bedak Mas the adopted son of Raja Naga. Then Krabu Mas ordered Bakaran to go to Princess Norchaya's place which was a gold house in the upper lands near white clouds Bakaran went there and stayed with her.

Bedak Mas has a dream that his kris was broken and the wizard told him that Bakaran was with the princess in the gold house. Bakaran was furious and sent his cousin Ayer Mas to find out about it. Bakaran told him it was not by his own wish but by the orders of Krabu Mas. When Bedak Mas heard this he called out his people and went against Krabu Mas

This war went on for two years when Bedak Mas called on Raja Naga his adopted father who was the most powerful king of the seas at this time and he sent his dragon army over to Kling to destroy.

Not long after this the sea rose high and flooded the country at the same time rain, lightning and thunder and most of the people were killed including Bunga Mas. At last the country became sea

Bedak Mas returned to his country together with his father's dragon army.

## NOTES ON TAMPANG.

By W. LINEHAN.

(PLATES IX—X)

*Tampang* was the term used for the tin coinage current in old Pahang. Tin was found in large quantities in Malaya from the earliest times and it was natural that a system of currency based on that metal should have been evolved.

The earliest known reference to a tin coinage is that of Chinese chroniclers writing at the beginning of the fifteenth Century<sup>1</sup> who record that "tin is found in the mountains in Malacca and the King has appointed officers to control the mines. People are sent to wash it, and after it has been melted it is cast into small blocks weighing one *kati* eight *tahil* or one *kati* four *tahil* official weight; ten pieces are bound together with rattan and form a small bundle while forty pieces make a large bundle. In all their transactions they use these pieces of tin<sup>2</sup> instead of money." We may suppose that *tampang* originated with these tin blocks. Plates IX and X fig. I show a solid *tampang*. The specimen is of the same weight as the smaller of the blocks described by the Chinese writer and may indeed have been one of these primitive coins. D'Albuquerque suppressed the Malay tin coinage current in Malacca when he conquered it in 1511.

The next mention of a tin coinage is that in the *Pelayeran* of Abdullah Munshi. He visited Pahang about 1837 and wrote "The system of currency in Pahang is, to my mind, inconvenient. Sixteen *tampang* are equivalent to one dollar. A *tampang* cannot be divided for instance into three-quarters, or a half or a quarter. If it is desired to buy anything however trifling a *tampang* must be paid for it. I asked Tengku Suleiman the son of the Bendahara<sup>3</sup> whether the system of currency could not be altered. He laughed and said 'I often wished to change it but man-eating tigers made their appearance and fierce crocodiles were seen in the rivers, and for that reason no change was made: from its very beginnings Pahang has had the same system of currency,' I smiled and said nothing but attached no belief to the alleged portents"

The next reference to *tampang* is in 1889 after the establishment of the British Protectorate in Pahang when the Government on the 26th June 1889<sup>4</sup> proclaimed that *tampang* were legal tender. In the proclamation it was stated that no further *tampang* would

<sup>1</sup> This information is obtained from the chapter on Mining in Dr. Winstedt's *Malaya*.

<sup>2</sup> presumably *tampang*

<sup>3</sup> Probably a nephew or some more distant relative of the Bendahara Bendahara Ali who was then ruling had no son named Suleiman. Malays frequently describe themselves as *anak* (sons) when they are really of a more distant relationship.

<sup>4</sup> Resident's file No 503 of 1889.

be minted. A further proclamation issued on the 28th November 1889<sup>1</sup> stated that *tampang* issued by the Sultan prior to the 1st July 1889 should be accepted as legal tender.

*Tampang* ceased to be legal tender in 1893 by which time the Pahang Treasury held *tampang* of the nominal value of \$1,125.00. The Treasurer in his report mentions that *tampang* were of three sizes the nominal value of the largest being four cents and of the two smaller sizes one cent. An assay of a sample of *tampang* was made about the same time by the Assayer of the Pahang Corporation. According to the assay the coins contained 86.75% of tin with a trace of zinc and iron, and 13.25% of scale (oxide of tin). The Assayer stated that the true value of any given weight of the coins could be put at about 85% of the current price of a corresponding quantity of tin.

From the records at my disposal I have not been able to ascertain what was the ultimate fate of the *tampang* called in by the Treasury and sent to Singapore. Sir William Maxwell then Colonial Secretary recorded his opinion that to Museums, Collectors etc., the coins would in time be worth more than their nominal value and that it would be a pity to destroy them.

It is interesting to note that in a catalogue of Malayan coins issued by Schulmann of Amsterdam a small *tampang* in good condition "square, with square protuberances, with arabesques and date 1281 A. H. = 1864 Pewter Hole on border" is priced at £0-12-6.

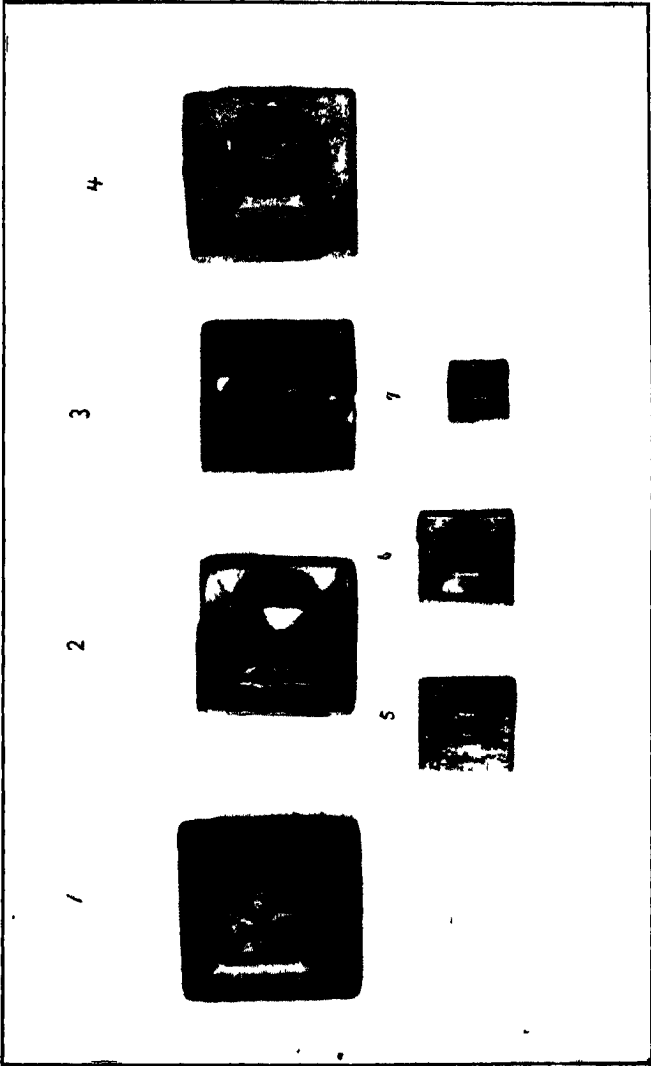
The solid *tampang* (pls. IX and X fig. 1) bears no inscription. As already mentioned it is probably an early form of this coinage.

The *tampang* shown on pl. IX fig. 2 and pl. X fig. 4 bears on the upper side of its base on one side the legend in Jawi *Maluk-Al-Adil* "The Just Lord." A mistake in the mould resulted in the letters being inverted on the specimen. On the opposite side of the base also on the upper side is the date "1235" (1819 A.D.) I have three of these specimens in my possession all from the same mould. This *tampang* differs from later mintings in that (amongst other things) the inscription is on the upper side, that it is very imperfectly hollowed out and that its crown is depressed.

The *tampang* shown on pl. IX fig. 5 and pl. X fig. 7 is inscribed "*Sarafi Pahang Sanat 1264*" "minted in Pahang, date 1264" (1847 A.D.) This, so far as I am aware, is the earliest of the one cent pieces. The specimen would seem to have been struck from a mould now in the possession of the F.M.S. Museums<sup>2</sup> Pl. IX fig. 3 and pl. X fig. 5 show a four cent *tampang* inscribed in Jawi: "*in* (blan) ja Pahang dari tarikh Sanat 127(8?) *pada awa* (1) *bulan Rabi-al-thani*" "this is coinage of Pahang,

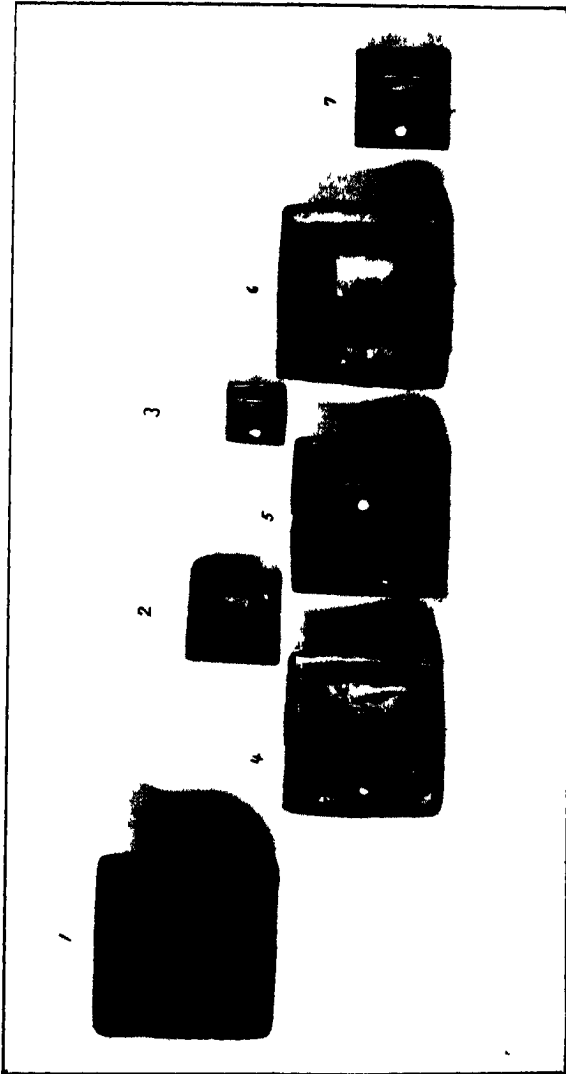
<sup>1</sup>Resident's file 1448 of 1889.

<sup>2</sup>vide "Notes on old Malay Tin Coins and Coin moulds" by Mr. I. H. N. Evans F.M.S. Museums Journal Volume XII part 4.



*Linehan. Tampang (tin coinage) from Pahang.*





*Linehan Tampang (tin conage) from Pahang*



date 1271 (1281?), in the beginning of the month Rabi-al-thani." 1271 (1281?) A.H. corresponds with the year 1854 (1864?) A.D.

The one-cent *tampang* illustrated on Pl. IX fig. 6 and Pl. X 2 bears the inscription "(Sera)fi Pahang Sanat 1264(?)" (figures inverted) "minted in Pahang, date 1264" (1847 A.D.) This is from a mould different from the specimen of the same date described above and is not nearly so well finished.

Fig. 4 Pl. IX and fig. 6 Pl. X show a four-cent *tampang* minted by a Chinese and inscribed "Sung(ei) Belat punya ..  
.....Sanat.....(illegible) Seraffi (?) Pahang" "of  
the river Belat.....date..... .minted in  
(?) Pahang."

I have in my possession several specimens of the smallest type of one cent *tampang* (Pl. IX fig. 7 and Pl. X fig. 3) inscribed "Malik-Al-Adil, tarikh kapada Zul-kaedah Sanat (?)" (date illegible). The half dozen specimens in my possession seem to come from one mould. In all of them amongst other similarities the figures recording the date are blurred.

## THE PENGKALAN KEMPAS "SAINT."

By R. J. WILKINSON, C.M.G.

The monuments at Pēngkalan Kēmpas were the subject of a complete number of the Journal of the Federated Malay States Museums—Vol. IX, pt. 3, of 1921. In closing his article on the epitaph Mr. C. Boden Kloss wrote:—

These notes are written merely "to start the hare" and introduce the plates which it is hoped may meet the eye of some one capable of deciphering the inscriptions. Mr. Kloss's hare was run to earth in October, 1927, by Dr. P. V. van Stein Callenfels who deciphered the inscriptions (op. cit. XII, pt. 4, of 1927), but started a new hare by leaving it to others "to get some more information about the saintly rascal who is buried under it."

Attention was first drawn in print to this inscription by me; but credit for its discovery really belongs to the F.M.S. Museums Department from whom I had learnt of it. It would seem, however, that Shaikh Ahmad's reputation has suffered from the publicity given him; and it is due to him that he should be defended from the charge of being a "saintly rascal." He may have been a martyr.

The epitaph gives us only the official version of what happened. It tells us that Shaikh Ahmad came down river—from Sungai Ujong (or Sening Ujong as it was then called)—with a number of associates and followers "for some treacherous purpose" (*běrbuat daya*). All of them came to "a miserable end." This was in A.D. 1467 "when the family of Tun Barah Galang governed the country."

From this inscription we may fairly infer certain things. "The family of Tun Barah Galang" must have ceased to govern the country when the stone was put up. The Shaikh and his followers were not in overt rebellion; they were planning evil or suspected of it. The country was Sungai Ujong, not Malacca, we know from the Annals that it was governed at that time as a fief by the *běndahara's* household. "Tun Barah Galang" would be a *běndahara*. He may have been the then *běndahara*, "Tun Perak of Klang." He may have been any *běndahara*; *pra-klang* is the Indo-China word for "lord of the Treasury." But, historically, it must have been some *běndahara*. And it is true, as the inscription also suggests, that the family of Tun Perak of Klang ceased to govern Sungai Ujong after this incident.

Tun Barah Galang is obviously the "Batin Mergalang" in Father Borie's account of the Mantras in "Essays relating to Indo-China," second series, vol. i, p. 289. Much that is fabulous is there related about him. But he is associated in the legend with Malacca and was the protector of the Mantra—as a *běndahara* overlord would naturally be. And the title *tun* given him in the inscription is also that of the *bendahara's* house.

We now come to a curious passage in the Malay Annals about an incident—almost certainly this incident—that occurred in the middle portion of Sultan Mansur's reign or about 1467 A.D.

" The Sultan bestowed Sening Ujong as an undivided fief upon the Dato' Sri Nara Diraja. Up to that time the Dato' had only shared it with the *běndahara*. It had been administered by a *pěnghulu*, Tun Tukul, who was guilty of some minor offence and was put to death by Mansur Shah. As a result of this the Sening Ujong people would not come out of their country any more."

Obviously this is not the whole truth.

Why was the *běndahara*—the most powerful noble in Malacca—punished for Tun Tukul's " minor offence " by the confiscation of a valuable fief? And why did the Proto-Malays take to the jungle as a result of what was done? May we not conjecture that the primitive Proto-Malays of the Sungai Ujong of 1467 A.D. had grievances—probably well-founded—against the local administration; that Shaikh Ahmad was their spokesman; and that they came down river to make their complaints. They were treated as rioters and rebels and came to a miserable end. But the action of the authorities was not pleasing to Mansur Shah. He put to death the local officer in charge, Tun Tukul; and he deprived the feudal Chief, Tun Perak, of all his authority in Sungai Ujong. Still, the unfortunate *rayat* had been terrified by the fate of their leaders, and could not be induced to resume any trade.

Reference has been made to two more persons; Tun Tukul and the Dato' Sri Nara Diraja. Tun Tukul is still remembered in Sungai Ujong tradition (see my Sungai Ujong article in the Journal of the S.B., R.A.S., 83, 1921, p. 124), and Shaikh Ahmad is referred to on the same page. But all about them is myth. The Dato' Sri Nara Diraja had been *běndahara* and had retired in favour of Tun Perak of Klang. That will explain the two Chiefs sharing the revenues of the fief; it may have been part of the amicable arrangement made at the retirement.

## A JELEBU CUSTOMARY SAYING.

By R. O. WINSTEDT.

“A wide association with colours,” says Perry in “The Children of the Sun” (p. 325), “is characteristic of the moieties of the dual organization, and the superior side of the community is invariably connected with the lighter colour. . . . The colour of Upper Egypt was white, while that of Lower Egypt was red; in India the Bhil divisions are white and black; some Nair clans are divided into white and black divisions; in Malanesia the dual divisions are connected with light and dark colours.” Whatever one may think of this “dual organization” of the diffusionist school, in Malay kingdoms the royal colour is white or yellow, the colour of the non-royal Bendaharas black. The rulers of Pahang were the Bendaharas of the Sultans of Johore until the British sanctioned their elevation to a Sultanate. So the original Pahang flag was black (JRASSB. No. 75, pp. 3, 4). The flag of the Bendahara of Perak is black, and the modern Perak tricolour has white for the Sultan, yellow for the Raja Muda (or Crown Prince) and black for the Bendahara.

In the customary sayings of Rembau, a Negri Sembilan colony from Minangkabau, (apparently two kinds of) crows from the hills symbolize (apparently two) aboriginal tribes and a white egret typifies a settler from over the sea:—“the black crow and the ant-like crow came from the hills on four feet, the white egret came from oversea on flapping wings.” (JRASSB. No. 56, P.2). Like the metaphors of their other customary sayings, this evidently came from Minangkabau and was adapted to local history. In the sayings of Jelebu, another Minangkabau colony, there are the lines:—

Crows were white and black were egrets  
When to earth a prince fell standing

(*ib.* pp 8, 9)

Again in the laws of Moko-Moko it is laid down that when the Raja “calls a crow (*dendang*) white, it is white, and when he calls white black, it is black.” (*Miscellanies* II, Sumatran Mission Press, Bencoolen, *Undang-Undang of Moco-Moco* p. 6). May one venture to see in these sayings a reference to Hindu princes breaking down matrilineal rules based on totemic clans. Certainly by the matriarchal law of Minangkabau if a (white) prince married a (black) commoner (such as the daughter of a Bendahara), the children would be (black) commoners of their mother’s clan, but by the law of the Hindu princes they were (white and) royal and of their father’s house. The Jelebu saying would then mean: “Those we now call commoners were royal and those we now call royal were commoners, when our first foreign ruler arrived.” One thing certain is that these *adat* sayings are never verbiage but always have a precise meaning—whether in the present instance the meaning has been solved or not. Anthropologists may yet define the two species of aboriginal crow.

## TOKIN.

By R. O. WINSTEDT.

“Johore has among the insignia of its rulers a peculiar iron rod three feet long, decorated with a brass ring and called a *tokin*” (Johore by J. E. Nathan and R. O. Winstedt, 1920).

I have never heard the word elsewhere in Malaya but its history is written by Dr. J. Imbelloni, an Argentine professor, in *Father Schmidt's Festschrift*, Vienna 1928, pp. 324-335. In various forms *to'i*, *toki* it occurs in Polynesia, Melanesia, Micronesia, Chile, Patagonia and other parts of South America. Everywhere the word has the same shades of meaning:—(a) stone weapon, stone axe, stone implement, (b) symbol of dignity and power, (c) the hereditary or invested chief who exercises power, (d) a ritual object employed mostly at declarations of war and peace. In Chile the form *tokin*—“to rule, command.” The Professor suggests the word in some of its forms may be connected with the Red Indian “tomahawk” and invites attention to the phrases “take up the hatchet” “bury the hatchet.”

In Johol one may expect an aboriginal origin for the word but I have not found it:—in Perak the word descriptive of the sword or creese given to commoner chiefs on installation is the Sakai word *baur*—‘staff.’ Anyhow here is a Malayo-Polynesian word whose history extends now from the continent of Asia to South America; a word that is part of the evidence for Oceanic influence on South America in days before Christopher Columbus.

## HABIS, BUKAN.

By R. O. WINSTEDT.

In the lexicographical notes to his recent masterly paper on 'Les Inscriptions Malaises de Crivijaya,' M. Coedès discusses a word *paravis* that occurs in three of the old Malay inscriptions, and in so doing draws attention to a meaning of the word *habis*, to which Malay lexicographers (myself included) have hardly given sufficient attention.

Dr. Bosch and M. Coedès independently reached the conclusion that *paravis*—'altogether, all.' Prof. van Ronkel suggests a connection between *paravis* and the modern Malay *perawis* 'factors, constituents,' and M. Coedès adds that *p̄erawis* may be derived from *habis* "not in its actual acceptation of 'end, ended' but in that of the Cham word *abih* which means not only 'ended, to cease,' but also, 'all, altogether,'" and he points out that in Indo-Chinese languages like Khmer and Siamese the same word denotes achievement and totality.

Wilkinson's Dictionary and my own give 'entirely' as one of the meanings of *habis* and Wilkinson gives two examples where *habis* clearly means 'entirely, all,' viz: *Badan pun habis-lah luka* 'all his body was hurt' and *Habis-lah pohon-pohon nyior mereka itu sakalian-nya di-tebang-nya* 'all the coconut-palms of those folk, the whole lot of them, were felled.'

Other literary examples are:—

*Di-makan-nya oleh Badang muntah hantu itu habis semua-nya* ("The Malay Annals")—"Badang ate the ghost's vomit, all of it in its entirety."

*Segala senjata Maharaja Boma pun habis-lah di-terbangkan oleh angin taulan itu (Hikayat Sang Sambah)* 'all the weapons of Maharaja Boma were the whole lot of them carried off by that storm.'

Colloquial examples are:—

*Orang-orang rumah itu habis belaka pergi* 'the folk in that house all of them, the whole lot, went.'

*Mengapa kau-berikan habis-habis? Kita apa 'nak makan* 'why did you give all of it? what are we to eat?'

It will be noted how often in these contexts *habis* is associated with words denoting all, altogether, *segala*, *semua*, *belaka*.

M. Coedès in a note on another archaic word *vukan* in these inscriptions translates it 'other'—Cham *bukan* and quotes the analysis of the Malay negative *bukan* from my 'Malay Grammar' p. 135 to show how the nuance 'other' may be detected in its modern Malay meaning.

I have to thank Che Zainal-abidin of the Sultan Idris College for most of the above examples of the use of *habis*.

## NOTE ON KELANTAN REJANG.

By ANKER RENTSE.

### *Perjalanan Rejang.*

Told by Nik Man, Kota Bharu, Kelantan. Nik Man is a tukang lelakong wayang kulit (guru) in Tengku Temenggong's Kampong at Kota Bharu.

*Satu hari bulan rejang kuda.* Pada hari itu barang pekerjaan baik, jika berlayar baik.

*Dua hari bulan rejang kijang.* Pada hari itu pekerjaan apa-apa baik.

*Tiga hari bulan rejang harimau.* Jika beranak pada itu hari, derhaka kepada ibu bapa. Jika sakit, lambat semboh.

*Ampat hari bulan rejang kucing.* Pada hari itu jika beranak, terlalu baik, mudah menchari rezeki. Jika pergi berburu di-hutan, hendak boleh perburuan. Jika berkahwin hari itu, terlalu baik.

*Lima hari bulan rejang sipa.* Jika beranak pada hari itu, tiada baik, derhaka-lah pada Allah dan pada ibu bapa. Pada hari itu barang' kerjaan tidak baik.

*Anam hari bulan rejang kerbau.* Pada hari itu, jika barang pekerjaan baik. Jika bertanam pun, baik. Jika menurun benih pun, baik. Jika beranak pada hari itu pun, baik, kaseh kepada ibu bapa.

*Tujuh hari bulan rejang tikus.* Jika harta hilang pada hari itu boleh baik.

*Delapan hari bulan rejang lembu.* Jika beranak pada hari itu baik mudah rezki. Jika harta hilang, dapat balek harta itu

*Sembilan hari bulan rejang anjing.* Jika beranak hari itu tidak baik itu anak-nya. Jika berbuat barang pekerjaan apa-apa pun, tidak baik.

*Sapuluh hari bulan rejang nagá.* Pada hari itu pekerjaan baik. Jika kahwin pun, baik. Jika beranak pun, baik. Jika menurun benih pun, baik juga.

*Sabelas hari bulan rejang kambing.* Jika pada hari itu, pertengahan; baik pun tidak, jahat pun tidak.

*Dua-belas hari bulan rejang mayang.* Jika beranak pada hari itu, chantek rupa-nya. Jika berkahwin pun, baik. Jika hendak berjalan jauh pun, baik juga.

*Tiga-belas hari bulan rejang gajah.* Jika bertanam pada hari itu, tidak baik, daun di-makan hulat. Jika sakit, payah hilang.

*Ampat-belas hari bulan rejang singa.* Pada hari itu barang pekerjaan baik dan berkahwin baik dan beranak baik lagi mudah rezki.

*Lima-belas hari bulan rejang ikan.* Pada hari itu terlalu baik. Jika berkahwin, baik. Jika beranak pun, baik. Jika berdagang, banyak laba. Jika bertanam, terlalu baik.

- Anam-belas hari bulan rejang babi.* Jika beranak pada hari itu, tidak baik budi, dan barang pekerjaan tidak baik.
- Tujuh-belas hari bulan rejang enggang.* Pada hari itu baik barang pekerjaan apa-apa.
- Delapan-belas hari bulan rejang lipan.* Pada hari itu kurang baik. Jika berjalan, tidak baik. Jika bertanam, tidak baik. Jika berbuat rumah hari itu, menjadi baik, tidak apa.
- Sembilan-belas hari bulan rejang batang.* Pada hari itu berkahwin baik. Jika berjalan tidak baik. Jika bekerja berjual beli tidak baik.
- Duapuluh hari bulan rejang hantu.* Jika beranak pada hari itu, baik lagi kaya. Jika pekerjaan lain, tidak baik.
- Dua-puluh satu hari bulan rejang gagak.* Pada hari itu barang pekerjaan tidak baik. Jika bertanam pun tidak baik.
- Dua-puluh dua hari bulan rejang daun.* Pada hari ini baik. Jika berkahwin baik, jika beranak baik.
- Dua-puluh tiga hari bulan rejang lang laut.* Pada hari itu baik dan berkahwin baik dan beranak baik dan berlayar baik.
- Dua-puluh empat hari bulan rejang padi.* Pada hari itu jika beranak tidak baik. Jika berkahwin baik. Jika harta hilang boleh balek.
- Dua-puluh lima hari bulan rejang pasap (jahat).* Pada hari itu jangan berbuat pekerjaan apa-apa. Jika beranak pada hari itu, terlalu jahat, lagi penchuri itu anak.
- Dua-puluh anam hari bulan rejang brunai.* Pada hari itu jika bertanam tidak baik dan berjalan kamana-mana tidak baik.
- Dua-puluh tujuh hari bulan rejang bayang.* Pada hari itu jika beranak baik. Jika bertanam baik. Jika berlayar baik, jika berkahwin baik.
- Dua-puluh delapan hari bulan rejang pati.* Pada hari itu barang pekerjaan apa-apa baik pertengahan sahaja.
- Dua-puluh sembilan hari bulan rejang hulat.* Pada hari itu beranak baik akan tetapi ada penyakit sedikit pada budak itu. Jika berkahwin terlalu baik serta selamat-nya.
- Tiga-puluh hari bulan rejang panah Ranjuna.* Pada hari itu jika berjalan jauh tidak baik. Jika berlayar tidak baik. Jika bertanam baik. Jika beranak tidak baik pada hari itu. Jika sakit pada hari itu lambat sembuh ada-nya.

Nik Man wrote the above from an old book written by his grandfather, Nik Wan Hamad, who used to be a sort of secretary (according to Nik Man's statement) for the late Sultan Muhammad IV of Kelantan.

## TWO FOLKTALES OF KELANTAN.

By ANKER RENTSE.

In 1926 there was a big flood in Kelantan which caused a considerable damage to the whole country, and the "orang tua" declared, that to their knowledge such a disaster had never happened to the country before except for the "angin besar" about fifty years ago.

In this connection it may be of interest to call attention to W. Skeat's: *Fables and Folktales of an Eastern Forest* (Cambridge University Press, 1901), pag. 62, which reads as follows.—

### **A Malayan Deluge.**

In the beginning the country of Kelantan contained eighteen hundred souls. But one day a great Feast was made for a Circumcision, and all manner of beasts were pitted to fight against each other. There were fights between elephants and fight between buffaloes and fights between bullocks and fights between goats, and at last there were fights between dogs and cats.

And when the fights took place between dogs and cats a great flood came down from the mountains, and overwhelmed the people that dwelt in the plains. And they were all drowned in that flood, save only some two or three menials who had been sent up into the hills to collect firewood.

Then the sun, moon and stars were extinguished, and there was a great darkness. And when light returned, there was no land but a great sea, and all the habitations of man had been overwhelmed.

Another version of the same tale was told me one evening in Kota Bharu by Tengku Khalid's Bedari, Che Ahamad. Here the fights between dogs and cats did not, however, cause a flood, but some other catastrophe probably an earthquake. Che Ahamad's story runs as follows:—

### **Gunong Noring.**

Some hundred years ago the Gunong Noring mountain was not to be found in Kelantan but far away in Perak. At that time it happened that a chief invited all the inhabitants of Kelantan to join in a great feast on account of the circumcision of his son. The whole population of Kelantan with the exception of one accepted the invitation. The one who remained at home was a pregnant woman expecting her confinement. At the festival place people amused themselves by fighting matches between animals. Bulls fought bulls and cocks fought cocks and elephants fought elephants and so on. But suddenly someone started fights between dogs and cats at which Tuan Allah got very angry against the people, he lifted the big Gunong Noring in Perak and threw it into Kelantan where it killed all the people at the festival without exception. After this there remained only the pregnant woman in the whole country and she gave birth to a child.

If one goes up into the jungle to a place called Tadoh near Gunong Noring, one will find that all the coconut palms are still bent forward by the pressure of Gunong Noring. On the top of the mountain used to be a "berhala," a horseman on his mounted horse, looking West towards the sunset. If anybody passed in front of him the effect of his poisonous breath was so powerful that they vomited. To avoid this the medicinemen made a "main peteri" seance which lasted seven days and seven nights. A pink buffalo was killed and offered to the spirits, who in return assisted in calling the horseman away from the mountain top. He disappeared into the mountain, where he still remains; but on the top of Gunong Noring one can see the white marble rock, he rested on.

## KELANTAN NAMES FOR BULLOCKS ACCORDING TO THEIR COLOUR.

By ANKER RENTSE

*Fasal ini menyatakan warna lembu.*

1. Jika ada lembu itu warna kuning, tandok kuning dan mata kuning dan hidong kuning dan kuku kuning dan ekor kuning, *kerubeng mas* nama-nya.

2. Jika ada lembu warna merah dan tandok merah dan mata merah dan kuku merah dan ekor merah, maka lembu itu *kijang* nama-nya

3. Jika ada lembu warna merah muda dan tandok merah muda dan mata merah muda dan hidong merah muda dan kuku merah muda dan ekor merah muda, maka lembu itu *kijang muda* nama-nya.

4. Jika ada lembu warna tuboh merah dan tandok merah dan mata merah dan di-atas muka-nya putih sampaikan hidong dan ekor pun putih, maka lembu itu *kerubeng lang* nama-nya.

5. Jika ada lembu itu tuboh-nya merah dan tandok merah dan hidong-nya hitam dan ekor pun hitam, maka lembu itu *kerubeng kundang* nama-nya.

6. Jika ada lembu itu tuboh putih dan tandok putih dan tandok putih dan mata putih dan hidong putih dan kuku putih dan lidah putih dan ekor putih, maka lembu itu *kerubeng buwis* = *bueh* nama-nya.

7. Jika ada lembu itu warna tuboh putih dan ekor hitam, maka lembu itu *kerubeng* nama-nya.

8. Jika ada lembu itu sa-tengah-nya merah di-hadapan-nya hitam dan kaki keempat-nya putih dan lidah-nya putih dan hidong putih dan punggung-nya hitam, maka lembu itu *lasat* nama-nya.

9. Jika ada lembu itu tuboh-nya hitam dan likongan mata-nya putih dan di-atas muchong hidong putih, maka lembu itu *jebat* nama-nya.

10. Jika ada lembu itu di-tengah-tengah merah dan hadapan hitam dan punggung hitam, maka lembu itu *buah tal* nama-nya.

11. Jika ada lembu itu tuboh hitam dan di-atas tulang belakang merah dan papan punggung pun merah, maka lembu itu *laka darah* nama-nya.

12. Jika ada lembu itu tuboh hitam muda dan dada-nya merah dan dalam telinga-nya merah, maka lembu itu *laka buah* nama-nya.

13. Jika ada lembu itu tuboh merah muda dan di-atas belakang-nya kuning, maka lembu itu *laka timbang* nama-nya.

14. Jika ada lembu itu tuboh-nya hitam dan di perut-nya merah muda dan atas belakang merah muda juga dan di-dalam telinga merah muda dan papan punggung merah muda, maka lembu itu *laka batu* nama-nya.

15. Jika ada lembu tuboh merah berchampur hitam kesemuanya, maka lembu itu *tudu sela* nama-nya.

16. Jika ada lembu itu kulit-nya hitam dan bulu-nya kelabu, maka lembu itu *hulat bulu* nama-nya.

17. Jika ada lembu itu kulit-nya hitam dan bulu hitam berchampur merah, maka lembu itu *kerubeng besi* nama-nya.

18. Jika ada lembu itu kulit merah berchampur kuning dan bulu-nya hitam berchampur merah, maka lembu itu *kerubeng belachang* nama-nya.

19. Jika ada lembu itu kulit hitam dan bulu-nya kelabu dan bulu tengkot-nya hitam sadikit, maka lembu itu *kabol* nama-nya.

20. Jika ada lembu itu warna-nya hitam bertampon-tampon puteh, maka lembu itu *aral* nama-nya.

21. Jika ada lembu itu kulit hitam bulu hitam kesemua dan ayer kinching hitam, maka lembu itu *kumbang* nama-nya.

22. Jika ada lembu itu kulit hitam bulu-nya kuning muda dan tandok-nya hitam dan kuku hitam dan mata hitam, maka lembu itu *kumbang besi* nama-nya.

23. Jika ada lembu itu kulit merah bulu kuning muda dan tandok merah dan mata merah dan kuku merah, maka lembu itu *lasat besi* nama-nya.

24. Jika ada lembu itu kulit merah bertahi lalat dan tandok merah dan mata merah dan kuku merah. maka lembu itu *kerubeng karat* nama-nya.

25. Jika ada lembu warna apa-apa sa-kali pun, jika ada dibawah perut puteh hingga sampai ka-batu pelir, maka lembu itu *kerubeng upes* nama-nya

26. Jika ada lembu bangsa lasat, mata hendak sempit dan tandok pepeh dan gigi hitam satu putong atau dua putong dan di-langit dalam mulut-nya tapong hitam sadikit, maka lembu itu-lah *lasat bertuah* nama-nya.

27. Jikalau ada lembu itu kulit hitam bulu pun hitam kesemua, maka dudok jauh kita nampak hitam berminyak lembu itu, maka nama-nya lembu itu *jebat kelawar*.

28. Jika ada lembu warna hitam kesemua akan tetapi atas kepala berhubung puteh, maka lembu itu *jebat hubang* (uban) nama-nya.

29. Jika ada lembu semua tuboh-nya hitam akan tetapi kesemua tuboh ada berhubung puteh sadikit-sadikit, maka lembu itu *jebat menjarum* nama-nya.

30. Jika ada lembu itu tengkok-nya hitam dan dahi kuning dan punggung hitam dan di-tengah hitam berchampur merah, maka lembu itu *buah tal lelaba lutong* nama-nya.

31. Jika ada lembu tengkok hitam dan punggung hitam dan di-tengah merah berchampur hitam dan di-atas belakang merah sampai ka-punggong panjang saperti ular lidi, maka lembu itu *limau manis* nama-nya.

32. Jika ada lembu itu di-hadapan hitam dan punggung hitam dan di-tengah tuboh-nya kuning berchampur hitam dan kulit di-chelah-chelah batu pelir-nya merah dan dada merah dan bibir mulut-nya merah, maka lembu itu *laka beruan* nama-nya.

33. Jika ada lembu itu kulit-nya merah dan bulu kelabu kuning dan ada bertampong merah dan bertampong kuning dan bertampong hitam sadikit-sadikit, maka lembu itu *laka tilang* nama-nya.

34. Jika ada lembu warna macham-macham sa-kali pun, jika ada puteh besar tapak tangan dudok di-kelaparan-nya, maka lembu itu sangat-sangat bertuah-nya. Maka lembu itu *tampon bertuah* nama-nya.

The above is an extract of notes written down in Kelantanese (Jawi) years ago by the grandfather of Nik Man, teacher, Kampong Tengku Temenggong, Kota Baharu. Some of the words I have been unable to trace in dictionaries available here and the spelling might be wrong.

R. J. Wilkinson's "Papers on Malay Subjects," Life and Customs, Part II, pag. 71, (Kuala Lumpur, 1909), gives an account from Negri Sembilan of water-buffaloes somewhat similar to the above.

Reference has also been made to "Kelantan Bull-Fighting" by C. C. Brown (J.M.B.R.A.S.) VI, 1928, p. 74.

## MALAY CHARMS, KELANTAN.

Collected by ANKER RENTSE.

1. *Ilmu pñjauh Harimau*, charm for keeping away tigers; communicated by To' Bedari, a medicine-man (*hala*), a Pangan of the Jeher (?) tribe in the jungle of Sungai Sokor. He is much in touch with Malays, who occasionally use him as a *Bomor*.

|  |   |
|--|---|
| Hai Berma Sakti,<br>Raja dari bumi!<br>Mu bawa undor kucing,<br>Jangan beri rosak binasa kapada<br>tuboh aku<br>Sidi guru, sidi lepas!<br>Hai Ali gagah! Ali kuasa!<br>Sidi guru! Sidi lerkat!<br>Mu tundok rendah,<br>Berkaseh sayang dengan aku,<br>Rindu daripada aku,<br>Berkaseh sayang kapada aku!<br>Sidi guru, sidi tertegoh (?) ! | Ho! mighty Brahma,<br>Lord of the earth,<br>Take away thy cat!<br>Harm not nor destroy my body!<br>May my teacher be potent to free<br>me.<br>Ho! mighty and powerful Ali!<br>Bow low and love me<br>Have love and affection for me!<br>May my teacher be potent. |
|--|---|

2. *Ilmu berjalan di-hutan*, charm for jungle journeys; from To' Bèdari.

|   |  |
|---|--|
| Hai jin hutan, jembalang hutan,<br>Jangan beri rosak binasa kapada<br>badan aku!<br>Sidi guru, sidi lepas!<br>Wah daripada badan aku!<br>Aku nak lepas sakalian badan<br>aku!<br>Hai mak lembek, mak lanjut.<br>Hilir baning penghulu raja dari<br>bumi,<br>Nak me(m)lepas daripada<br>nyawa aku. | Genies of the forest,<br>Gnomes of the forest!<br>Harm not nor hurt my body!<br>May my teacher be potent to free<br>me (from evil)!<br>Away from my body!<br>I would free all my body.<br>Mother with the long limp breasts<br>Royal chieftainness of the earth to<br>the north,<br>I pray thee let my life go free. |
|---|--|

NOTE.- *Hilir baning* means: North in Kelantan Dialect. Another informant says that *Hilir besawan* means North and *Hulu baning* means South.

3. *Ilmu pengaseh*, a love charm from To' Bedari.

|   |  |
|---|--|
| Hai Baya(?ng) Muhammad,<br>Mu mari mu kaseh sayang kapada<br>seri muka aku.<br>Mu mari bawa roh semangat<br>kapada aku, | Shadow of the Prophet!<br>Come and cherish the glory of my<br>countenance.<br>Come and bring me the spirit of<br>life. |
|---|--|

|   |  |
|---|--|
| Mari bersama-sama terdenganku                 | Come and be with me,                                   |
| Mu tundok rendah kapada bawah tapak kaki aku, | Bow low beneath the soles of my feet.                  |
| Burong bujak (?) terkaseh di-muka aku,        | - - - -  |
| Angin berhenti seri muka aku,                 | May the winds halt before the glory of my countenance. |
| Sidi guru, sidi berkat.                       | May my teacher be potent and blessed.                  |

4. *Ilmu pëngaseh*, a love charm from Che Poh, Kuala Nal, Ulu Kelantan.

A san to' di' dol!

Get hold of the girl's ringfinger on the right hand, squeeze it and perform the charm.

5. *Ilmu makan sireh*, a charm for betel-chewing, from Dollah, Batu 29, Jalan Kuala Krai, Kelantan.

|                                |   |
|--------------------------------|---|
| Si-kuning, pinang pun kuning,  | Golden one and golden areca-nut!                              |
| Pinang sedekah di-rimok (?)    | - - - -   |
| Mulut manis, mamah pun kuning! | Sweet of mouth, with golden quid!                             |
| Hati mana ta' gila?            | What heart would not be mad for you?                          |
| Sidi guru, sidi-lah aku,       | May I and my teacher be potent                                |
| Kata berkat la-ilaha ila'llah. | By virtue of the blessed words,<br>"There is no god but god." |

If the man meets the girl he is longing for, he whispers this charm and the girl will take notice of him.

The second line is obscure.

6. *Ilmu Wayang Kulit*, a charm for the shadow-play, from Wan Hamad, To' Dalam Wayang Kulit, Pasir Puteh District, Kelantan.

|  |  |
|--|--|
| As-salam alaikum!                      | Peace be upon you.                                 |
| Aku nak kerah jaga 'bal empat malaikat | I would muster the captains of the four archangels |
| Jibrail, Mikail, Azrail, Azrafil,      | Gabrael, Michael, Azrail, Izrafil;                 |
| Omar, Usman, Ali, Abubakar,            | Omar, Usman, Ali and Abubakar.                     |
| Jaga menjadi pagar sawah,              | Guard and be the fence of my fields,               |
| Jaga menjadi sasak serandak,           | Guard and be my-wattled protec-                    |
| Jaga menjadi kebun lekok,              | tion   |
| Jaga di-kiri, jaga di-kanan,           | Guard and be my sunk garden (?)                    |
|  | Guard me on right and left                         |
|  | Guard me afore and behind,                         |

Jaga di-belakang, jaga dapan,  
Jaga di-atas, jaga di-bawah.      Guard me above and below.

This charm is performed by To' Dalam before the play starts, in order to avoid evil influences.— 'bal=*hulubalang*.

7. *Ilmu pengaseh*, a love-charm from Dollah, Batu 29, Jalan Kuala Krai, Kelantan.

|                         |                                 |
|-------------------------|---------------------------------|
| Boh Boh! bunga teratai, | A lotus lily!                   |
| Bunga raya dalam talam, | A hibiscus-flower on a tray.    |
| Pakai kain tepi serbai  | Though I wear a tattered skirt  |
| Naik chahaya muka aku.  | Light shines on my countenance. |

When the man meets the girl he likes, this charm will help him, even if he wears a dirty old skirt to look like a prince.

8. *Ilmu pengaseh*, a love-charm from Dollah.

|                                 |                                 |
|---------------------------------|---------------------------------|
| a. As-salam alaikum Nabi Elias. | Greeting to thee, Prophet Elias |
| Aku nak ambil ubat pengaseh,    | I want a love-potion,           |
| Nabi Elias.                     | Prophet Elias!                  |

He cuts his finger and mixes the love medicine with a drop of his blood. The medicine is *ubat chenduai* made by the Semangs.

|                                 |                                  |
|---------------------------------|----------------------------------|
| b. As-salam alaikum Nabi Elias, | Greeting to thee, Prophet Elias' |
| Nak ambil ubat pengaseh,        | I would take a love-potion.      |
| Naik chomoh daripada si-anu.    |                                  |

When he meets the girl he rubs one drop of love medicine secretly on her hands, arms or body, after which she is supposed to fall in love with him.

9. *Ilmu pengaseh*, a love-charm called Ilmu Seri Rama, the charm of Sri Rama, collected from To' Dalam Wan Hamad, a shadow-play performer from Pasir Puteh District.

|                               |                                    |
|-------------------------------|------------------------------------|
| Hai Seri Rama,                | Sri Rama!                          |
| Aku tahu kena(1) asal-mu,     | I know your origin.                |
| Ibu-mu burok (?) Raja Burong, | Your mother was (?) Queen of the   |
| Bapa-mu Nabi Muhammad,        | Birds                              |
| Dengar-dengar pesanan aku,    | Your father the Prophet Muham-     |
| Mu membawa gila s'bara dari   | mad!                               |
| badan si-anu,                 | Hear and hearken to my instruc-    |
|                               | tions.                             |
|                               | Make my love mad for me,           |
|                               | Mad and distracted for love of me. |

Gila s'bara dari aku,  
Mabok bengong dari aku.

Seri Rama before he descended to earth was Vishnu who rode on the Geruda somewhere above (*sténga antara*)

Wan Hamad takes the figure of Seri Rama from his shadow-play, wets his finger by moisture from his throat and places the wet finger on Seri Rama, at the same time that he whispers the charm.

*kena*—*kenal*.

*s'bara* might possibly mean "of the same heat."

*burok* is uncertain: is it the *borak* of Islamic legend?

10. *Ilmu Wayang-kulit*, a shadow-play charm called Ilmu Pak Dogah (=Semar); from To' Dalam Wan Hamad.

|  |   |
|--|---|
| <p>Wujih Semar bom b'smis (?)<br/>                 Wallah nama aku,<br/>                 Semar 'ku nama Semar,<br/>                 Berkat Semar,<br/>                 Turun daripada Inoh,<br/>                 Berkat Inoh,<br/>                 Turun daripada Galus,<br/>                 Berkat Galus,<br/>                 Turun daripada Gajah Madah,<br/>                 Hai Semar,<br/>                 Baharu batu kuning (?)<br/>                 Hai Semar,<br/>                 Baharu batu hitam, (?)<br/>                 Hai t'maroh tan t'maroh.</p> | <p>Semar is the most powerful spirit in the world. He plays his part in the <i>Kelantan Wayang-kulit</i> as the clown Pak Dogah. Inoh and Galus are yellow Jins or Dewas.</p> <p>The charm in its present form is untranslatable.</p> <p>For the word <i>tan</i> see p. 90 of C. C. Brown's "Kelantan Malay."</p> |
|--|---|

11. *Ilmu pengaseh*, a love-charm called Ilmu Hanuman; collected from To' Dalam Wan Hamad.

|  |   |
|--|---|
| <p>Hai Raja Hanuman,<br/>                 Aku tahu kena(1) asal-mu,<br/>                 Ibu-mu Tuan Puteri Siti Dewi,<br/>                 Bapa-mu Raja Seri Rama,<br/>                 Mu membawa sinjoh tarek si-anu kapada diri aku,<br/>                 Gila s'bara, mabok bingong,<br/>                 Dengar-dengar pesanan aku,<br/>                 Jikalau mu ta' dengar,<br/>                 Aku sumpah.</p> | <p>Prince Hanuman!<br/>                 I know your origin.<br/>                 Your mother was Princess Siti Dewi,<br/>                 Your father was Prince Sri Rama.<br/>                 Nudge and fetch my love to me!<br/>                 Make her mad and distracted for me!<br/>                 Hear my order;<br/>                 If you hear it not.<br/>                 I will curse you.</p> |
|--|---|

12. *Ilmu Wayang-Kulit*, a shadow-play charm called Ilmu To' Maha Siku Mata Api, the charm of Red-Eyed Maha Siku, from To' Dalam Wan Hamad.

Oh ohm sih sih,  
 Prat sih, joh lemo kool, lemo  
 kool,  
 Audah, dokmah, dokchah, do-  
 chah, bochah,  
 Sia-nyi - i - i.  
 Oh ohm sih sih.  
 Parboh barbang,  
 Platih platang,  
 Dokmah, dokchah, dochah, bo-  
 chah,  
 Sia-nyi - i - i.

Before a *wayang kulit* perform-  
 ance starts To' Maha Siku Mata  
 Api is placed on the screen to-  
 gether with the banyan tree.  
 To' Maha Siku is the medicine-  
 man, who saved Siti Dewi, when  
 she—as a newborn child—was  
 thrown out on the sea by her  
 father Maharaja Wana. To'  
 Maha Siku brought her up as  
 his own child. The above  
 charm, which sounds like cor-  
 rupt Siamese is performed three  
 times before the play starts.  
 To' Dalam sings it and the band  
 plays on the drums and gongs.

13. *Ilmu Main Petri*, the charm for a séance; from To, Bomor  
 Omar, a medicine-man from the Ulu Kusial District.

Hai Hitam Seri Penaloh,  
 Raja dari bumi,  
 Mu dudok taalok dari telok sini,  
 permatang sini,  
 Jin Dohor bala sa-ribu,  
 Sa-ribu nama, sa-ribu jadi,  
 Menjatoh dari bumi,  
 Hitam dari bumi,  
 Jikalau ada sa-kawan juak-mu,  
 Minta-lah daripada dia boleh  
 balek,  
 Jikalau mu jatoh dari hutan,  
 raja dari hutan.  
 Jikalau mu jatoh kampong,  
 raja dari kampong,  
 Mu jatoh hala dusun, raja dari  
 dusun,  
 Jatoh ka-ayer, raja dari ayer  
 Jatoh ka-padang, raja dari  
 padang,  
 Jatoh ka-laut, raja dari laut,  
 Jikalau mu jatoh sa-tengah an-  
 tara, raja dari sa-tengah  
 antara,  
 Jikalau ada sakalian budak-mu,  
 Minta-lah pulang balek ka-mu,  
 Jikalau mu-jatoh keramat pa'-  
 masjid pa' (?),  
 Minta-lah pulang balek-lah ka-  
 mu.

Black king of the earth,  
 Live my servant among these hills  
 and bays!  
 Genie Dohor who brings a thou-  
 sand ills!  
 You of a thousand names, a thou-  
 sand shapes!  
 You who fell to earth and are  
 black from the earth,  
 If you have a crowd of followers,  
 Entreat them to return.  
 If you come from the forest, you  
 are lord of the forest;  
 If you come to the hamlet, you are  
 lord of the hamlet,  
 If you come to the orchard, you  
 are lord of the orchard;  
 If you fall on the water, you are  
 lord of the water;  
 If you fall in the field, you are  
 lord of the field;  
 If you fall in the sea, you are lord  
 of the sea;  
 If you fall in the heavens, you are  
 lord of the heavens;  
 Ask your followers to return to  
 you.  
 If you fall on a sacred spot \* \*  
 Ask your followers to return to  
 you.

|   |                                     |
|---|-------------------------------------|
| Jikalau mu jatuh sa-tengah an-<br>tara,         | If you fall in the firmament,       |
| Dewa dua-belas,                                 | You are twelve divinities,          |
| Jikalau mu jatuh dari bumi,                     | If you fall to earth, you are Smar. |
| Semar Hitam dari bumi,                          | Harm not nor destroy my body.       |
| Minta-lah daripada-mu,                          | From this night I would become a    |
| Jangan beri rosak binasa kepada<br>tuboh aku,   | medicine-man.                       |
| Daripada malam ini aku hendak<br>menjadi Bomor. |                                     |

This is a request from the medicineman to Semar, the spirit king of the universe, to keep all evil influence away from the place where he performs a charm cure for a sick person.

14. *Ilmu pengaseh*, a love-charm from Ismail bin Yusoh, Sungai Bedal, Kelantan.

|   |  |
|---|--|
| Hai mu Lang Puteh,                                      | Ho, white hawk!                                      |
| Engkau-lah sahabat aku,                                 | Thou art my friend                                   |
| Mari-lah engkau pergi ambil roh<br>semangat si-anu itu, | Come go and fetch the soul and<br>spirit of my love! |
| Jikalau tidor, engkau gerakkan<br>jaga,                 | If she sleeps, wake her!                             |
| Jikalau jaga engkau gerakkan<br>bangun,                 | If she stirs, make her arise;                        |
| Jikalau bangun engkau pagut<br>dengan paroh,            | If she rises, peck her with thy<br>beak,             |
| Kibas dengan sayap,                                     | Brush her with thy wings and tail,                   |
| Sapu dengan ekor,                                       | Seize her in thy claw                                |
| Pegang dengan kaki,                                     | Bring her and make her love and<br>long for me       |
| Engkau bawa mari-lah bersama-<br>sama terdenggan aku,   | With a great passion.                                |
| Kaseh sayang kepada aku,                                | May I and my teacher be potent<br>and avail.         |
| Chinta raya kepada aku,                                 |  |
| Rindu dendam kepada aku,                                |  |
| Sidi guru, sidi-lah aku, sidi<br>berkat,                |  |
| Kaseh-sayang-mu akan aku.                               |  |

15. *Ilmu pengaseh*, a love-charm from Dollah, batu 29, jalan Kuala Krai. He called this charm: "Ilmu yang kasar sadikit-sadikit, barang kali."

|  |   |
|--|---|
| To' Daeng gelombang ka-api,                | ? * * * * *                                     |
| Naik ka-langit jadi kasap,                 | Mount to heaven and become<br>smoke!            |
| Tundok ka-bumi jadi hulubal-<br>ang Allah, | * Stoop to earth and become Allah's<br>captain! |
| Rai(b) aku dalam kandang<br>kandong,       | I vanish in the fold of the<br>Almighty.        |

Sidi guru, sidi-lah aku,  
Kata berkat la-ilaha ila-llah.

May I and my teacher avail  
By virtue of the words "There is  
no god but God."

16. *Ilmu jampi orang-orang sakit senok di-dalam perut*, from Ismail bin Yusoh, sungai Bedal.

Hai anak Jin Seri 'Alam Berma  
Kacha,  
Yang mereksa di-medan halaman  
bumi,  
Engkau-lah penghulu dari bumi,  
Dan raja dari bumi yang  
menanggung sakalian  
Juak-juak-tan Jin dari bumi,  
Engkau dengar-lah pesan-pesan-  
an aku,  
Siapa juga yang menunggukan  
seksa di-atas anak Adam,  
Yang membawa pening rilu,  
panas angkat, miang risa, senok  
sula, muntah chekak,  
Jika puaka penggawa-mu dari  
bumi,

Engkau panggil balek kedari  
mula asal,  
Jangan-lah sampai membawa  
sakit susah  
Aku minta pulang puleh saperti  
sedia kala,  
Engkau dengar-dengar pesanan  
aku dan gemanak aku,  
Jikalau engkau tiada dengar  
pesanan aku dan gemanak  
aku,  
Kelak-kelak dērhaka-lah eng-  
kau,  
Sidi guru, sidi-lah aku, sidi  
berkat.

17. *Ilmu pengasch*, from Nik Man, To' Guru wayang-kulit, Kampong Tungku Temenggong, Kota Bharu.

Hai Dom baka,  
Chinta rasa leha mabok leha  
gila,  
Mabok ka-aku dengan chahaya  
Allah,  
Aku mabok ka-mu dengan cha-  
haya Muhammad,  
Mu tundok kaseh mabok sayang  
ka-aku,  
Saperti ayam dengan padi,  
Saperti asam dengan garam,  
á á mak muk dak jak.

Ho \* \* \* \* \*  
Feel always love and madness for  
me,  
Be mazed with love for me with  
the light of Allah,  
I will be mazed with love for you  
with the light of His Prophet,  
Bend low in love and longing for  
me,  
As a chick loves grain  
As acid mixes with salt.  
\* \* \* \* \*

18. *Ilmu main petri*, a charm for a medicine-man's *séance*; from Dollah, batu 29, jalan Kuala Krai.

Hai Chahaya, malum chahaya,  
Chahaya kuning bersipat  
kuning,  
Chahaya hijau bersipat hijau,

Brightness that wears many  
colours,  
Yellow, green, white and purple.  
I know your origin!

|                                |                                    |
|--------------------------------|------------------------------------|
| Chahaya puteh bersipat puteh,  | It is not I who am clever          |
| Chahaya ungu bersipat ungu,    | It is brightness that discerns the |
| Aku tabu kena(1)asal chahaya,  | good and the true;                 |
| Bukan aku jadi pandai,         | That sees through slander and      |
| Bukan aku jadi bijak,          | secretiveness,                     |
| Chahaya ini pandai makan       | That shows the right road,         |
| (b)oleh,                       | The brightness of Allah and        |
| Chahaya lihat bijak baik,      | Muhammad                           |
| Chahaya jangan tudoh tindeh,   | The brightness of the Prophet of   |
| Chahaya jangan susup sem-      | God                                |
| bunyi,                         | May I and my teacher avail         |
| Chahaya beri jalan yang betul  | By virtue of the words,            |
| benar,                         | "There is no god but God."         |
| Chahaya Allah, chahaya Mu-     |                                    |
| hammad,                        |                                    |
| Chahaya baginda rasul Allah,   |                                    |
| Sidi guru sidi-lah aku,        |                                    |
| Kata berkat la-ilaha ila'llah. |                                    |

19. *Ilmu pengaseh*, a love-charm from Wan Dollah, Pasir Mas.

|                              |                               |
|------------------------------|-------------------------------|
| Hai Rahim!                   | Jikalau mud tá masokkan nyawa |
| Bapa-mu empat-puluh hari,    | anak ada lembeh,              |
| Ayer sa-titip jatuh ka-bini. | Aku sumpah-lah mu,            |
| Mata-mu jadi dahulu,         | Derhaka pada Allah, derhaka   |
| Mu bersipat telaga darah,    | pada Muhammad,                |
| Dè, wadi, mani, manikam,     | Sidi guru sidi berkat         |
| Hai Raja Brahi,              | Kata la-ilaha ila'llah.       |
| Mu masokkan nyawa anak ada   |                               |
| lembeh,                      |                               |

20. *Ilmu gagah*, a charm for strength from To' Guru 'ku Nejah, an old Malay, who came down from the kampongs behind Ulu Kusial to teach some Malays on Kuala Hau. He spoke a terrible dialect for which reason I am afraid there are errors in my copy

|                               |                               |
|-------------------------------|-------------------------------|
| Lanung lanang,                | Asal gunong pulang ka-gunong, |
| Asap, batu, badan,            | Asal padang pulang ka-padang, |
| Sang Kemari, Sang Kemaroh,    | Pulang balek-lah mu,          |
| Tukang Kemari, Tukang Kema-   | Pulang balek Akar Cheheng     |
| roh,                          | nama-mu,                      |
| Wah batu Sang Kemari, Sang    | Sang Kemari, Sang Kemaroh,    |
| Kemaroh,                      | Tukang Kemari, Tukang         |
| Hati P'cheheng, Sang Kemari,  | Kemaroh,                      |
| Sang Kemaroh,                 | Pulang balek-lah mu,          |
| Batak tua raja di-hutan,      | Adek-adek, ayi-ayi,           |
| Raja Ba(n)tara tujuh beradek, | Bunyi ribut salah,            |
| Asal laut pulang ka-laut,     | Ketiga hujan salah,           |

|  |   |
|--|---|
| Berjang t'tegoh pintu langit,<br>Penjuru di-pintu bumi,<br>Aku kesat dengan S-mar,<br>Asal Dewa Malim Unong,<br>Bukan aku punya kesat,<br>Mindok asal punya kesat,<br>Bukan aku punya kesat, di-<br>dalam asal punya kesat,<br>Om paling, mohon paling,<br>Paling kaki, paling kepala, pal-<br>ing hati, paling hawa,<br>Paling tujuh pertala bumi,<br>Paling tujuh pertala langit,<br>Aku nak paling dengan kata<br>Allah, pal.ng kata Muham-<br>mad,<br>Paling baginda rasul Allah,<br>Risit risit sembilan bala,<br>Inshj'llah kata Allah, as-simpan<br>kata Muhammad,<br>As-panung kata raja Brahi,<br>Pu' mok pu' sa-gumbong tinggi<br>ketam bisa nama anak,<br>Seri Gedang nama bapa,<br>Naga Pa' Sih nama anak,<br>Sang Sari nama ibu,<br>Pulang balek-lah mu,<br>Akar Cheheng nama-mu, | Jikalau engkau ta' pulang balek,<br>Aku sumpah dengan derhaka<br>kapada Allah,<br>Paling kaki, paling hati, paling<br>hawa, gunung paling,<br>Dengar kata Allah<br>Aku nak paling<br>Dengar kata Muhammad!<br>Risit risit sembilan bala,<br>Insha'llah kata Allah, a's-simpan<br>kata Muhammad,<br>A's-panung kata Raja Brahi,<br>Sidi guru sid'-lah aku,<br>Sidi berkat dengan kata Allah.<br>Sang Kemari=Hantu hutan.<br>Sang Kemaroh=Hantu ayer.<br>Batak tua raja di-hutan=Hantu<br>Raya.<br>Raja bentara tujuh beradek=<br>Hantu Raya's seven children,<br>rulers of the seven kingdoms<br>(floors) of the earth, one<br>under another.<br>Raja Brahi=the king of love<br>passion.<br>In its present form this interesting<br>charm is hardly translateable. |
|--|---|

21. *Ilmu pengaseh.* To' Guru 'ku Nejah.

|  |   |
|--|---|
| Hai Nak Kuang,<br>Hamok nak Kuang,<br>Mu mari-lah makan jamuan<br>aku,<br>Boleh aku nak beri makan<br>ka-mu,<br>Boleh bagi hajar aku,<br>Hai hantu hutan,<br>Jemalang hutan,<br>Hai Hantu Raya s'pukang raya!<br>Hai Pari! mu saudara aku,<br>Mu pergi-lah ambil si-anu itu, | Bawa kaseh sayang dengan aku,<br>Mu bawa sa-nasi makan, ayer<br>minum, sa-kain pakai, sa-lima<br>mani(?),<br>Jikalau mu ta' mari aku sumpah<br>mu ta' jumpa pintu shurga,<br>Aku tahu usul-asal-mu,<br>Nong Mani nama-mu,<br>Sidi Hawa mani-mu,<br>Adam nama aku,<br>Sidi guru sidi-lah aku,<br>Sidi berkat pada aku. |
|--|---|

22. *Ilmu budak-budak kechil yang menangis sa-lama-lama-nya*, a charm for convulsions, from Ismail bin Yusoh, Sungai Bedal.

|  |                                       |
|--|---------------------------------------|
| Hai salam alaikum,<br>Hai sawan,<br>Aku tahukan asal-mu, | Greetings be to thee,<br>Convulsions! |
|--|---------------------------------------|

|   |   |
|---|---|
| Sawan-sawan saratus sembilan-puluh,                   | I know your origin.   |
| Mu kaluar dari sak uri tembuni ketuban batai,         | one hundred and ninety You came from (?empty) after-birth, caul and placenta. |
| Mu dengar-dengar pesanan aku dan gemanak aku,         | Hear my message and instructions. Bring no weeping or crying,                 |
| Mu jangan membawa beteriak tangis,                    | No fever, headaches or coughs. Whoever hears not my instructions.             |
| Mu jangan bawa panas angkat, pening relu, batok isak, | Is a traitor to the Supreme Teacher (Batara Guru).                            |
| Jika siapa tiada dengar gemanak aku,                  |   |
| Derhaka-lah mu kepada Nenek Ba(n)tara Guru.           |   |

23. *Ilmu pada bicharakan orang-orang demam dengan sebab mengena dari ayer.* from Ismail bin Yusoh, Sungai Bedal.

|  |   |
|--|---|
| As-salam alaikum,  | Greeting to thee,   |
| Hai hantu ayer,  | Spirits of the water,   |
| Jembalang pari ayer,   | Listen to my instruction and order!   |
| Engkau dengar-dengar-lah akan pesanan aku dan (?) gemanak aku,                 | Whosoever sits harming the children of Adam,  |
| Siapa-lah juga yang dudok menunggukan seksa di-atas anak Adam ini,             | Whosoever brings fever, restlessness and headache at this season,   |
| Yang membawa panas angkat, miang risa pening relu masa ini,                    | If they are troops and officers of yours from these waters entreat you recall them, large and small, old and young, |
| Jikalau puak-puak penggawa engkau dari ayer sini,                              | I entreat you restore the sick to health as of yore   |
| Maka aku minta-lah engkau panggil balek belaka semua kechil, besar, tua, muda, | Else ye are traitors to the Supreme Teacher, Shiva.   |
| Aku minta engkau pulang puleh bagai sedia kala,                                |   |
| Jikalau tidak pulang puleh bagai sedia kala,                                   |   |
| Derhaka-lah engkau kepada Nenek Ba(n)tara Berahmana Dewa yang sedia kala.      |   |

24. *Ini-lah di-namakan "Mandal" Suatu bacaan yang boleh kita tengok di-dalam kuku kita apa-apa yang kita minta.* From Kota Bahru.

|                             |   |
|-----------------------------|---|
| As-salam alaikum,           | * Smear soot and coconut oil on the nail of the thumb, hold it up in front of the face, perform the charm, and one will be able |
| Hey! Khadam Raja (?) Madrin |   |
| Derima anak Sayidina Ali,   |   |
| Yang tajalli yang bersifat  |   |

kesarongan Naga Pertala,  
Yang dudok bertapa di-Gunong

Payong tanah Jawa!

Memohonkan kepada Tuhan  
yang sidi sakti,

Minta pohonkan permintaan-  
ku ini daripada engkau,

Turun berjijakkan kapada sifat  
(fulan),

Menunjukkan jalan sakalian  
sifat.

Yang di-kehendakkan minta  
tunjok,

Kapada jalan yang sempurna  
bagi diri (fulan).

Dengan berkat engkau,  
Dan mu'jizat engkau,

Dan selamat engkau,  
Serta dengan dalil-nya,

Yang di-kehendak itu,  
Dengan berkat kepada Tuhan,

Yang menjadikan sakalian alam  
ini.

to see the objects desired in  
the soot on the nail.

Peace be upon Thee,  
Ho! Raja (?) Madrin (?)

Derima, son of our Lord 'Ali,  
Who revealest thyself in the (?)

skin of a magic dragon,  
Who sittest a hermit on Umbrella

Mountain in Java,  
I ask of God the lord of magic,

I ask that this my request to thee  
be granted,

That thou descend and set foot  
on so-and-so,

Showing the way of apparition.  
Show us what we desire,

Set us on the right path.  
By virtue of thy miraculous favour

Grant us thy revelation  
Which we desire.

By the blessing of God  
Creator of all the worlds!

25. Charms used by the Medicineman for the rice harvest.  
Nik Man, Guru, Kampong Tungku Temenggong, Kota Bharu  
7/3/31.

*Ilmu tanam padi.*

As-salamu alaikum,

Ibu-ku bumi,

Aku hendak kirim anak-ku Seri  
Maning

Sampai enam bulan,

Datang ketujuh bulan,

Aku hendak sambut bawa pulang

Kapada istana tujuh tingkat.

Hai Jin Tanah!

Hantu tanah!

Simpang engkau sebelah,

Aku hendak kirim anak-ku Seri  
Maning.

Hai Jembalang,

Aku tahukan asal guru-mu,

Gentar nama guru-mu,

Simpang engkau sa-belah,

Aku hendak kirim anak-ku Seri  
Maning.

Hai Padi,

Aku tahukan asal-mu,

Daripada nur-nur,

Turun pada Muhammad,

Aku jadi pada chahaya,

Hak yang sa-benar-benar,

Laki-laki yang sa-padi,

Jadi padi-ku.

Hai Nabi Elias!

Aku kirim anak-ku, ,

Seri Maning nama-nya,

Jika sakit demam,

Engkau-lah pelihara,

Bila aku ambil,

Aku minta pada Tuhan yang  
menjadikan.

*Ilmu potong padi.* Nik Man.

As-salamu alaikum,

Hai Adam lembut,

Aku tahukan asal-mu,

Seri Maning nama-nya,

|                               |                                   |
|-------------------------------|-----------------------------------|
| Aku hendak sambut anak-ku     | Hai Seri Maning,                  |
| Seri Maning,                  | Nur Maning,                       |
| Bawa pulang pada istana ketu- | Seri beseri,                      |
| joh pingkat.                  | Buah seri,                        |
| Hai Jin Tanah,                | Batang seri,                      |
| Hantu Tanah!                  | Daun seri,                        |
| Simpang engkau sa-belah,      | Bunga seri,                       |
| Aku hendak sambut anak-ku     | Maning nur maning,                |
| Seri Maning.                  | Seri Manikam,                     |
| Hai Jembalang,                | Bukan aku mengambil dia,          |
| Aku tahukan asal guru-mu,     | Talib Arip mengambil dia,         |
| Gentar nama guru-mu,          | Beri jalan di-atas wali ya Allah. |
| Seri Maning nama ibu-mu.      |                                   |

*Ilmu mengambil semangat padi.* Nik Man.

|                      |                              |
|----------------------|------------------------------|
| Gemar semangat,      | Mari-lah engkau,             |
| Anak-ku Seri Maning, | Aku hendak sambut dudok pada |
| Nur Maning,          | istana ketujuh pingkat.      |

*Ilmu mengambil padi oleh sebab kisar beras.*

|                             |                                   |
|-----------------------------|-----------------------------------|
| Hai Adam lembut,            | Aku hendak mengambil anak-        |
| Aku tahukan asal-mu,        | ku Seri Maning,                   |
| Seri Maning nama-mu,        | Hai Adam lembut,                  |
| Nur Maning nama ibu-mu,     | Engkau jangan kechil-kechil hati, |
| Hai Jin Tanah,              | Aku hendak ambil anak-ku Seri     |
| Hantu di-rumah,             | Maning,                           |
| Jembalang tangga,           | Seri Manikam,                     |
| Simpang engkau ka-belakang- | Dengan berkat la-ilahi ila'llah.  |
| ku,                         |                                   |

The above charms have been collected during the last three years in **Kelantan**.

## MATRIARCHY IN THE MALAY PENINSULA.

*By G. A. de C. Moubray.*

*Reviewed by R. O. WINSTEDT.*

A somewhat diffuse but thoughtful work, one of the best by an Englishman on the Malay matriarchy. "What is truth?" asked jesting Pilate" and Mr. Aldous Huxley has at last given the answer: "What I think or feel today but I shall not feel the same tomorrow." So when, to quote Mr. de Moubray, he gives us "a cocktail mixture" of theories on the origin of matriarchy (after the pragmatic recipe of Mr. William James), I find his method very modern and far more stimulating than Victorian dogmatism. I am, however, too cradled in Victorian rationalism to believe in primitive tribes of Blougrams, whose conservative love of matriarchy and safety can beget—if in this context the expression is not absurd—group blindness to the physiological fact of fatherhood! With Mr. de Moubray I should reject the theory that polyandry and so matriarchy sprang up because primitive man, like Mr. Kipling, discovered that "white hands cling to the bridle-rein" and had a Spartan preference for his tribal militia over domestic ties. In the Malaysian region, there are most elaborate tabus for the conduct of Dayak wives, whose husbands are at war. I wish Mr. de Moubray had developed his passing allusion to totemism as the cause of matriarchy. Does it not put the cart before the horse? If patriarchy were in the air, why should not all the little 'weavers' and 'scorpions' be 'weavers' and 'scorpions' as the children of their fathers; and not, as under matriarchy, as children of their mothers? So, too, with Mr. Perry's "descent from the great Mother," based on "feminine figurines of the upper Palaeolithic, the protective Mother goddess of Upper and Lower Egypt, the goddess and nurse of the Egyptian king" and all Professor Elliott Smith's paraphernalia. Unless man is prepared to admit that the female of the species has always been hardier than the male and beat him originally in war as she can today in dancing feats and cabaret life, then surely the Great Mother only attained her greatness and sanctity because some primitive idiot in love—presumably man has always as now been the idealist—put her on a pedestal and deified her. Not until women already ruled the roost, would Great Mothers be more fashionable as forebears than Great Fathers! I confess that today I rather like Dr. Blagden's theory that economic causes (child-bearing, agriculture and house-keeping) led woman to settle down before man the hunter. Here Aristophanes with his Lysistrata seems to me a sounder psychologist and a better guide than Malinowski with his exceptionally imbecile Trobrianders solemnly ascribing pregnancy to the stork! In primitive days the father would be exposed to rather more hazards than the mother, and if the mother perished, so probably did the child. But are we getting

back far enough? Among some tribes marriage is associated with the fruit season, the best food time of the year. Was the sex instinct ever purely animal and periodic? If so, the parental family probably lasted only a few forgetful years, after which the male would seek another mate, and so matrilineal descent would be inevitable. "What is truth," asked jesting Pilate."

Mr. de Moubray has compared Malay matriarchy with that of the Bants of Canara and the Nayars of Malabar. A sound method because, through beliefs may be imported, the social organisation of the family withstands even great religious upheavals. But why not have taken also the Khassi matriarchy, seeing that between the Malay and the Khassi there are linguistic, anthropological and cultural ties? The resemblance of the two matriarchal systems is in fact startling.

Mr. de Moubray insists rightly that the Negri Sembilan custom is elastic and adaptable. Had he possessed a knowledge of Dutch (which is easy to read), the "Adatrecht-bundel" and Willinck's book on the Minangkabau folk would have brought him further evidence. Twelve years ago in this Journal I quoted Willinck against a too rigid interpretation of the 'adat' by the authors of "Rembau." Mr. de Moubray has made a gallant and, so far as I can see, satisfactory effort to collect verbally comparative material in Negri Sembilan, but would it not have been easier to consult the land-case records in Jelevu and Kuala Pilah? (And why does he reproduce a map of old Negri Sembilan, which I at least am certain is wrong? Yesterday and today and tomorrow I believe that the State of Jelai was Inas and Mr Nathan and myself have produced evidence that deserves at any rate passing mention. However Mr de Moubray is not writing on geography.)

I find the chapter on 'Values' wise and charming. Like Mr. de Moubray I am convinced that matriarchy has made the Negri Sembilan Malay the most intelligent independent and prosperous Malay in the country, and I am certain that it will be a very evil day for him (or should I say, her?) if the custom ceases to be what it has been (considering the Khassis) for several thousand years "his mat, when he sleeps, his umbrella when he walks, his boat at sea, his inheritance on shore"—

*Jika tidor, menjadi tilam;*

*Jika berjalan, menjadi payong;*

*Jika di-laut, menjadi perahu,*

*Jika di-tanah, menjadi pusaka.*

## ADATRECHTBUNDELS.

### INDONESIAN CUSTOMARY LAW VOLUMES

EDITED BY THE COMMITTEE FOR ADAT LAW AT LEYDEN

Vols. I—XXXI. 1911—1930. Together ± 13500 pages.

Volume XXX of the series "Adatrechtbundels" has just appeared. It contains a complete table of contents of 44 pp. together with a 425 page list, in two columns, of Indonesian and other Oriental law terms inserted in the first 30 volumes. These figures will give an idea of the diversity of the material on Indonesian law and customs collected, either in the form of notes or taken down in the records of the Government officials, or in decisions of the law courts, in rare books, articles, etc.

Besides those actually connected with the administration of law in Indonesia, and students of comparative law, ethnologists will find new and interesting material in these volumes.

The history of the series is as follows:—

In 1909, Professor C. van Vollenhoven, LL.D., of Leyden University, proposed to the Royal Institute of Philology, Geography and Ethnology of the Dutch East Indies at the Hague that particulars be collected regarding the Customary Law (Adat Law) prevailing in various parts of the Dutch East Indies, and that these be published from time to time. Arrangements were made with the Batavia Society and the co-operation of the Colonial Government was obtained. A Committee for Adat Law immediately started their work under the chairmanship of the Arabian Scholar, Professor C. Snouck Hurgronje, LL.D., with Professor C. van Vollenhoven acting as Hon. Secretary. The first volumes (or "bundles" as they were called) were published in 1911.

The valuable work thus begun soon assumed far greater proportions than had originally been planned. In 1917, the Adat Law Foundation was established with the object of studying customary law (and as far as possible making a collection thereof) in the whole of that part of Asia known as Indonesia. By Indonesia is here understood the Dutch East Indies, the countries of *Formosa* (Indonesian section of the inhabitants), *the Philippines*, the non-Dutch parts of *New Guinea*, *Timor* and *Borneo*, *The Malay Peninsula*, the *Chams* as well as *Madagascar*.

In order to obtain the necessary information from the parts of Indonesia beyond the Dutch East Indies co-operation was sought from other countries interested, which so far has led to satisfactory results, while internationally the sympathy and co-operation was enlisted of the Union Académique Internationale at Brussels.

The "bundles" each of 400-600 pages have followed each other in rapid succession, so that nineteen years after their appointment the committee were able to edit and publish the present 30th volume: the 31st "bundle" appeared in 1929.

(Published by *Martinus Nijhoff: The Hague.*)

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by E. BANKS, B.A. (Curator of the Sarawak Museum).**

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## A POPULAR ACCOUNT OF THE MAMMALS OF BORNEO.

by E. BANKS, B.A.

(Curator of the Sarawak Museum).

(Plates XI-XIX).

To write a popular work on Natural History is to earn the toleration of the more scientifically minded whilst to write for them alone is to be labelled "highbrow" by those who would have appreciated it in a more simple form: to write for both will not satisfy either but there is one point here to which neither should object—namely the illustrations. They are taken of captive animals and though they have not the same appeal as wild life photographs will go some way to familiarize residents in Borneo with the Mammals they are likely to meet.

I should here say that the pictures were taken by Mr. C. Jee Koo, for many years Taxidermist to the Sarawak Museum, the trouble and extreme care he has taken being reflected in the excellence of his results.

The visitor to the East not unnaturally hopes to compare what mammals he may see with those of Europe but obtains little satisfaction in this respect. The Anteater and the Sea Cow are unfamiliar to him and he is not likely to encounter any of the Whales which occasionally turn up, though Porpoises and Dolphins are fairly common.

The Deer, a representative of the Indian Sambhur, is a heavy beast of the woodlands with horns seldom exceeding 20 ins in length; the Barking Deer is superficially like a Roe buck and the Mouse Deer have no European counterpart—they resemble a Rabbit or a Hare in their size, colour and white tail but have short ears and long thin, hooved legs. Wild Pigs abound but unlike the European form are particularly noted for their very bristly faces, from which they get the name "Bearded Pig" the native domestic pig which is not the wild one tamed, is much shorter in the face and leg, often with white "stockings" Water Buffaloes occur in some places, in many cases certainly the descendants of domestic ones run wild; there occurs a small Wild Ox, the "Temadau," a relative of the Javanese "Banting" and Burmese "Tsaine," ever so much smaller of course than the "Seladang" or the Indian "Gaur." The Rhinoceros is perhaps the smallest of its kind, practically never encountered in Sarawak by a European, and the only living Elephants are found in N. Borneo, almost certainly the descendants of a herd let loose, it is said, by the Sultan of Sulu; fossil Elephant teeth have however been recorded in Sarawak. Tapirs in spite of statements to the contrary do not occur in Borneo.

Of Carnivores there are no Tigers or Panthers, the largest cat being a beautiful Clouded Leopard which in Borneo neither troubles Man nor his possessions; quite a number of prettily marked medium size cats occur but on the whole are rather rarely taken. Civet Cats abound, notable for the sharp-pointed face, long tail, unsheathed claws and comparatively small size, which does not make them formidable opponents. A Bear is quite common, rather small and black with a white or yellow marking on the throat. Otters are numerous, not unlike European ones whilst there is a Badger, a Marten and a Stoat each but little resembling their European counterpart and perhaps more rarely encountered. There are no Foxes, Jackals or Wild Dogs in Borneo.

Rabbits and Hares are missing but the usual Porcupine is well to the fore. Squirrels abound both in species and individuals, from some as large as a Rabbit, down to minute little forms no bigger than Mice, including a number which glide from tree to tree. Rats and Mice are common here as everywhere, many of them peculiar to the country.

Insectivores, if one excludes the Tree Shrews as probably lowly Primates, are not characteristic of Borneo, in fact except for a few small and rare Ground-Shrews the only notable Insectivore is the Gymnura or Moon Rat, a beast which has a good deal of affinity with Hedgehogs if one makes allowance for its white, spineless fur and long, scaly tail. The Flying Lemur has drifted into a Sub-Order of its own. Bats are incredibly numerous both in individuals and species, from minute forms up to the huge Flying Foxes spanning some four feet or more.

Of the Primates I have already mentioned the Tree Shrews, perhaps more numerous in species in this country than anywhere else; in fact Primates are so well represented in Borneo that the veteran naturalist A. H. Everett was formerly deputed to seek here for that mythical being, the "Missing Link," in which it was supposed Man and Apes had their common origin. The Slow Loris is the only Lemur found, a small, round, tailless animal with large eyes, the little buff-coloured Tarsier—that strange looking animal with rounded head, enormous eyes and curiously elongated fingers and toes—having been pronounced more of a Monkey than a Lemur. Borneo is rich in Monkeys: besides two Macaques there are five or six Lotongs or Langurs and a large, strange looking, buff-coloured Monkey, the male having a protruberant nose two to three inches long. Of the Apes, the Gibbon is of course common and the Orang Utan, that large red-haired monstrosity so often human in appearance and actions, is quite plentiful in restricted localities.

All Mammals are not distributed evenly throughout Sarawak, some are local, some live in swamps, some on plains, some in secondary growth, some in old jungle and a few on mountain tops so that a consideration of the flora and topography of the country is necessary before a clear understanding can be reached.

To all intents and purposes Sarawak is covered in forest of some sort from end to end, clearings are negligible from a faunistic point of view and we lack even those occasional "lalang" grass covered plains rather characteristic of parts of N. Borneo. Large clearings are made annually by felling and burning the timber but the rice crop is hardly gathered before a secondary growth springs up. There are a few large settlements and a number of small ones with permanent but comparatively inextensive clearings and in widely scattered parts of the country rice planting in open wet fields is carried on to a relatively small scale; it is evident that clearings are so often transitory and always comparatively small that few Mammals, except some Rats, specialize in or become characteristic of such areas.

The deltas of all large rivers and the banks of their lower reaches as far as the tide is effective are covered variously in Mangrove or in "Pedada" trees or in "Nipah" palms, their roots washed by silt and mud quite uninhabited by any Mammals save a few Wild Pigs. In the trees Monkeys swarm, Kras\* and to a less extent Broks,\* Long Nosed Monkeys, grey and black "Lotong" Monkeys and even Gibbons occur, together with occasional colonies of "Flying Foxes;" all these are also found of course in old jungle and elsewhere and though the "Kra" is typical of a Mangrove, Pedada or Nipah Swamp perhaps the Long Nose Monkey is the only one peculiar to this type of Forest. Part of the coast from Igan to Bintulu is low and the ground very swampy, clothed to some extent in Sago Palms interspersed with various other swamp trees; Mammals are not noticeable here though Deer, Pigs and Bears occur and there are always a few Monkeys and Squirrels strayed into this area: the Long Nosed Monkey is absent from this region which one would have thought eminently suitable to it.

The second growth that springs up in clearings, whether made naturally or artificially, is the next type of vegetation; in the former case it is found chiefly near the sea-shore or on the site of a very occasional forest-fire, in the latter case in old "padi" farms. Huge areas of old jungle have been and still are felled by natives for rice-planting so that in comparatively thickly populated areas such as the Saribas and Kapit one may see for days practically nothing but secondary jungle and this is so to a less extent in some other parts of the country. This secondary type of growth varies a good deal but is mostly rather dense, consisting of sappy, pithy, soft-stemmed shrubs, harder wood only appearing later: it is about seven years before the aborigine thinks fit to fell and burn it to provide enough ash to make the ground fruitful again. Secondary growth is perhaps the densest kind of forest and the field of view is usually limited to only a few yards; owing to the slender nature of the branches arboreal forms though often found

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\* Macacus Monkeys.

feeding there do not as a rule live in it: "Kras" are the commonest, with grey and black "Lotong" Monkeys, many small Squirrels but not the very large ones. Ruminants are particularly fond of this region, both for feeding and resting, the Wild Ox, the Sambhur Deer, Mouse Deer and to a less extent the Barking Deer all being attracted by the succulent stems and fresh green leaves.

Of the true forest, old jungle proper, there are many variations, for it may occur from sea-level to high up on the mountains. Swampy forest areas depend on the kind of tree, hardwoods being rather more open but as a rule on mountain and plain there is a comparatively small number of enormous tree trunks, a goodly number of lesser saplings and a great many thin "withies" about the height of one's head and more or less profusely leaved, so that though offering no great obstruction to movement the field of view is comparatively limited. Movement on the ground is still easy but as every tree intermingles with the branches of its neighbour, Squirrels and even Monkeys may move leisurely about without more commotion than would attract the attention of a trained ear; in fact the best time to look for animals is the early morning when most of them feed—the dew or rain is then still heavy on the branches and the slightest movement sends down a shower of drops which could hardly escape the notice of the most unobservant.

The climate of Sarawak is as a whole one of damp heat, the annual rainfall varying from 150—200 inches, mostly falling in the wet season—the "landas"—between September and March, the rest of the year being comparatively fine and dry. A comparison of five years rainfall readings, taken at various lowland Government Stations throughout the country, shows that at all seasons the Baram District and region to the North is rather wetter than the coastal area from Sibü to Bintulu, Kuching and Western Sarawak have the usual dry season but for some reason have a very pronounced wet one and constitute the wettest part of the lowland country in Sarawak.

Much of Sarawak is an extensive plain, sometimes flat and sometimes undulating, remarkable in that scattered about are a number of hills, sometimes Granite, sometimes Limestone, sometimes quite isolated, sometimes more or less continuous for some way, but all within a few hundred ft of 3000 ft. high. The interior of Sarawak bordering on Netherlands India Territory is rather different, nothing but a succession of steep, broken hills some of which culminate in peaks 6 and 7000 ft. high; owing to the hilly nature of these parts one's view from any mountain top is so restricted by the neighbouring hills that (short of using an aeroplane) it is impossible to get a general idea of the lie of this part of the country as a whole and the average map presents a continuous chain of mountains stretching nearly the length of Sarawak, in a N. E. & S. W. direction. Actually there are two or three breaks in the continuity of these mountains, how many

more it is impossible to say, for the hills sometimes give the impression of being interlocking spurs from adjacent mountain masses between which flows a river in its deep gorge, which may or may not eventually break the continuity of the chain.

Starting in the West of Sarawak there are two apparently isolated mountains, Poi and Penrissen, from 4000 ft. to 6000 ft. respectively, probably representing spurs of the neighbouring Bajang Mts. from across the border; to the N. E. separated from Mt. Penrissen by about 50 miles of lowland, rise the Kalinkang Mts. running some 70 miles in this direction and maintaining an average altitude of about 3000 ft. Towards Lohok Antu on the Sarawak side these mountains dip down to sea level and in many places become discontinuous to rise again to the Northward, still very broken, as the Batang Lupar Mts. which still further to the North attain an altitude of about 3000 ft. and appear to run continuously parallel to the Rejang River until they may join up with Mts. Bulan and Tibang, peaks some 7000 ft. high, forming the source of this and many other rivers. This and the country immediately further North is the only important part of Sarawak I have not yet visited but there is no doubt about its hilliness and on proceeding into the interior from Lio Matu on the Baram River the Pa Mambo Range some 6000 ft. high is encountered coming up from the S. W. and running steadily for perhaps over 100 miles to the N. E. to end in Mt. Murud, nearly 8000 ft. high. This range of mountains is pierced once by a steep, vertical and quite impassable gorge in which runs the Baram River (here known as the Pa Klapang) as it emerges from an extensive plateau some 3-4000 ft. high to the Eastward of these mountains. Mt. Murud appears to mark the end of this range for there is a marked gap at its Northern end, but in the neighbourhood of Batu Lawi\* in the Ulu Limbang the mountains again appear in a high unbroken chain steadily running North Eastward into the head waters of the Trusan; at the source of the Trusan River (here the Pa Kelalang) is a fertile valley at an altitude of some 3000 ft. where the local Muruts have made irrigated rice fields, and these mountains I have mentioned clearly cut across this valley to form a watershed between the Pa Kelalang on the Sarawak side and the Pa Bawan on the Netherlands India side, in the valley of which the local Muruts have similar irrigated rice fields. By now one is close to the border of the British North Borneo Company's territory, into which the hills appear to run some way; I have no information about this area beyond its general hilliness and this high range of hills must extend well towards Mt. Kinabalu some 13,500 ft. high and not so very far away.

I have gone into the lie of the country in some little detail for it has had a surprising influence on the Fauna. From near Mt. Kinabalu in N. Borneo there appears to run almost continuously

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\* Mjoberg places Batu Lawi to the S W of Mt Murud.

through most of Sarawak a high range of hills over 3000 ft. passing through the headwaters of the Trusan and Limbang Rivers, crossing the Baram River as the Pa Mambo range, extending further South (recently appropriately named the Nieuwenhuis Mts.) into Mts. Tibang and Bulan. Here I believe there is a split in the mountains, those of the Batang Lupar and Kalinkang Mts. running discontinuously at a lower altitude along the Sarawak-Netherlands India boundary; I have unfortunately not visited this particular neighbourhood but from what maps there are and from general considerations the high mountain range appears to bear more to the South and East into Netherlands Indja Territory as the Schwaner Mts. along the true left bank of the Kapuas River and however continuous they may be it is impossible either by these mountains or by those on the Sarawak border to link up Mts. Poi and Penrissen with the high Northern chain, for either the broad Kapuas River or long stretches of lowlands effectually intervene.

The significance of this topography is apparent when there is found a meagre but most interesting Fauna (consisting of about six species of Squirrels, two of Rats and two of Tree Shrews) which is found only above 3000 ft. on mountains such as Kinabalu, Murud, Dulit, Penrissen, Poi and possibly others; these Mammals—together with many peculiar species of birds—are to be found only on the tops of the mountains mentioned and nowhere at all on the their lower slopes or on the surrounding or intervening lowlands but in spite of this it is still possible to obtain on Mts. Penrissen and Poi some high altitude Mammals and Birds characteristic of the tops of Mts. Dulit, Murud and Kinabalu, even though there are in many places no land bridges 3000 ft. high in between and the species in question are quite unknown below that level. Nor is this high altitude Fauna uniform, for two Mammals—and a few Birds—on Mts. Penrissen and Poi differ racially from those on Mts. Murud, Dulit and Kinabalu whilst two others at least occur unchanged in spite of their isolation; further, about half this fauna is what one might expect—high altitude representatives of more widely distributed lowland races but the rest of this Fauna, including many species of Birds, has no lowland representative whatsoever. This high altitude Fauna which does not go below 3000 ft. is therefore discontinuous in its distribution, partly representative of lowland races and partly peculiar, as it were but the relic of former more widespread perhaps once lowland species which have been pushed up onto often isolated mountain tops by various agencies and now exist unchanged in but a few favoured localities.

A few Mammals never go above sea-level and a few others, like the Pig and the Deer, occur indifferently on mountain tops and down below; but the main Bornean fauna is found commonly throughout the lowlands and on hills or the lower slopes of mountains up to about 3000 ft. and only more rarely above that altitude. An altitude of about 3000 ft. is therefore of much importance in an

understanding of the local faunas for unbroken series of such mountains, together with broad impassable rivers, have limited the distribution of not a few species.

This main Bornean fauna (excluding Bats) consists of from 90 to 100 species of Mammals but they are not uniformly distributed throughout the country; six species differ racially in the North East from their representatives in the South and West, bearing out what is perhaps more apparent in Birds, wherein some 20 out of 200 show such racial differences. The proportion is not large but there is a uniformity of distribution which points to two very definite faunas, one in the North and East, the other to the South and West, the Baram District in Sarawak and perhaps the Bulungan in Netherlands India Territory representing the transitional areas, wherein (or at any rate the Baram District) North Eastern or South Western races may occur unchanged or as intermediates.

It would be at any rate thin to divide the Bornean lowland Fauna into two on account of some half dozen racial differences in Mammals but fortunately the division is nobly supported not only by more numerous racial differences in Birds but also by the distribution of various other Mammals. In N. Borneo alone there are half a dozen good lowland species which never occur in Sarawak at all and there are some ten others which may be found in the Lawas, Limbang, and even as far South as the Baram Districts but never in Central or Western Sarawak; further there are six other Mammals which are common enough in N. Borneo but exceptionally rare in Sarawak or Western Borneo where they have been taken but once or twice. I cannot however recall a single Central or Western Sarawak species which does not occur in N. Borneo, nor is there one which is even common in the West but rare in the North.

More remarkable still the division of the Mammal Fauna into N. & E. and S. & W. sections is mildly paralleled by the original distribution of some Bornean Natives, for the Iban or Sea Dayak occupies much of the South and West, the Murut and Dusun the North and East, the Kayans and "Kenyahs" the intervening Baram District, a transitional area wherein the other races mentioned (notably the Iban) do not occur, except by recent immigration.

There are therefore several divisions of the Mammalian Fauna of Borneo: most Mammals are common throughout the country on plains, in the hills or on mountains up to about 3000 ft. above which they are not so common; besides this common Fauna there are a few Mammals in the North and East racially different from their representatives in the South and West, a few Mammals found commonly the North and East and either very rarely or often not all in the South and West. Lastly there is a very small Fauna only found on Mountain tops above 3000 ft.

Before passing to a detailed account of Bornean Mammals I must record my obligations to the various agencies which have made this possible; I have freely consulted the works of Blanford, Whitehead, Everett, the late Mr. Oldfield Thomas and the late Dr. Charles Hose, and am particularly indebted to the last for the loan of copious M.S. notes made by A. H. Everett, when he contemplated a work on the Mammals of Borneo. I am further indebted to the authorities of the British Museum, Leiden Museum and Raffles Museum for permission and assistance in examining the relevant specimens and am particularly beholden to Mr. F. N. Chasen of the last institution for frequent advice, assistance and encouragement. To the Government of Sarawak and its administrative officers in outstations I owe a debt for facilities offered and assistance freely rendered whilst last but not least I am personally beholden to Mr. C. Jee Koo for his illustrations.

### ORDER I EDENTATA.

(Sloths, Armadillos & Anteaters).

The Edentates comprise a number of usually toothless animals which present such a diversified appearance and distribution that they give the impression of a number of Families lumped together for convenience.

Extreme forms include the present small South American Sloths and their extinct relatives as big a Rhinoceros, together with the Hairy Anteater and the Armadilloes of the same region. In S. Africa there is the large Cape Anteater or Aard Vak, bizarre in appearance, and side by side the Scaly Anteaters found as well in India and Malaya. The scales of the Anteater are not in the least comparable to those of the Armadillo of S. America, in fact most of the superficial resemblances are due to similar feeding habits so that considering the diversity of this Order generally it is not surprising that some enterprising Zoologist has sought to remove these Scaly Anteaters from its midst. Similarly it has been suggested that the African and Oriental forms be separated generically, the former lacking any hairs when adult, having a flat, depressed, shovel shaped head and I believe "ventral ribs" supporting its stomach, analogous to those found in certain Reptiles.

**Manis (Phatages) javanica** Desm. (Plate XI).

THE SCALY ANTEATER; Malay: *Tengiling*; Murut: *Balukun*; Tagal: *Caloni*.

This is a very stoutly built animal up to three feet or more in length covered except on the throat, breast, abdomen and inside of the legs with coarse, yellowish brown scales, serially arranged. The thickset body, broad, powerful tail about half the total length of the animal and the small head with pointed, tapering snout, are prominent features; the tongue is long and thin, the external ear reduced, the eyes small and black, the feet provided with



The Scaly Anteater (*Mamys javanica*)



The Smaller Mouse Deer (*Tragulus kanchil hosei*).



strong claws. The appearance of the animal is peculiar, back high arched, head carried low and close to the ground, claws of the fore feet pointing inwards and upwards, for the animal has to walk on the outer, post-axial border of its "hands" as these claws are too long and curved to permit walking on its palms; the down-curved tail is carried with the tip just clear of the ground.

The scales are the most peculiar feature and are probably to be regarded as a number of hairs cemented together (somewhat as in a Rhinoceros horn) and are not the same as those of Fish and Reptiles, in fact I believe in the embryo the hairs appear before the scale and the ridges marking the component hairs may be seen on each adult scale, the interspaces between these hairs having in the embryonic stage been filled up with epidermal tissue.

There are a number of coarse short hairs on the under-surface and some more protruding beyond the scales on the upper and undersides of the tail, more particularly in the posterior region. The scales on the flanks and hind legs are more pointed than those elsewhere and have a well marked median ridge. The scales on the hind legs have their free ends pointing straight down in the general direction of the long axis of the limb but those of the forelimbs are arranged spirally, pre-axial scales with the free ends pointing backwards and slightly downwards, median ones pointing straight back and post-axial ones pointing backwards and slightly upwards, an arrangement presumably to prevent the free edge of the scale from catching in the soil and offering increased resistance as the animal digs.

It is a most accomplished excavator and elsewhere its burrows may extend as much as eight feet into the ground with a circular dwelling chamber at the end; in Borneo I have never noticed many signs or any marked tendency in captives to go digging, in fact they are most often taken in, and generally make for, trees. The country being forest covered from end to end it is possible that it doesn't visit the ground much more than to feed and is able to pass from tree to tree. It is of course a most expert climber and will shin up the smoothest tree trunk or post by taking a widespread grip with its forelegs and in one motion bringing its hind legs close up to them, progressing rather in the manner of a "looper" Caterpillar; I have seen it when walking upside down suspending itself solely by its forelegs and, when climbing upright, grip the tree trunk with its hind feet and tail only, the forefeet and its body swaying freely as it investigates its surroundings; in this position it is said to be able to hold itself, to tuck in its head and mimic the broken off end of a dead branch, though I have not observed this. The soles of the hind feet are apposable, as in an aberrant Civet Cat (*Arctictis binturong*) and the tail is of the greatest use to it in climbing; in going up it is laid obliquely across the trunk and the sharp points of the scales on its edges no doubt help to prevent the animal from slipping back, whilst in descending

head foremost the tail is even more prominent, curling round any irregularities and acting as a brake. The tail is furthermore prehensile and specimens may be suspended from a branch by the tail only (a distinction also shared by the "Binturong") though after between 5 and 10 minutes the weight of the animal is too much for the tail muscles; on the underside of the tip of the tail there is a small bare patch suspected to be sensory. Whilst therefore the Anteater is provided with the usual facilities for digging it has many specializations towards an arboreal mode of life, which may have been readily adopted by it in such a heavily forested country as this: our Anteater is possibly more arboreal and less fossorial than is thought, particularly as true digging animals like Badgers, Porcupines and some Rats are provided with long, tactile whiskers for feeling their way in the dark, such aids being quite absent in the Anteater.

It makes no noise beyond a snuffling in its nose\* which organ is so much in use that its sense of smell is probably well developed; its sight is poor, at any rate in the day time, and it will bump into objects it should easily have avoided: according to general accounts it will sit up on its tail and hind legs to take a look round but I have never seen it do so. Its sense of hearing is fair and at the sound of footsteps it puts its head between its forelegs, its hind legs on top of that and the whole is wrapped round by the tail into a scaly ball not to be opened by any ordinary strength. Termites are quoted as its usual food but it also takes various kinds of ants; in captivity it was always too restless to take any notice of the different foods offered and I used to have to let mine go in the garden under supervision for an hour or so morning and evening when it would poke its pointed nose in crevices, under flower pots and round the bases of trees to take a number of ants of various kinds. Other observers found them to feed on chopped raw meat, cooked eggs and rice, unboiled milk and milk puddings.

Nothing but the stoutest box or cage will hold a captive "Tengiling," for if there is a plank started or a bulge anywhere he seems to find it and by dint of partially rolling himself into a ball and then expanding, his own strength together with the grip obtained by his scales is sufficient to enlarge the hole for his escape.

A single young one is born at various times (Museum specimens in February, March (twice) August and October) resembling its parents except that it is light yellowish in colour. Various observers have noted that the young is carried clinging obliquely to the upper surface of its mothers tail and suppose that in time of danger the offspring somehow becomes enclosed in the ball when the tail is wrapped round the curled up animal; there are said to be two pectoral mammae.

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\* The Burmans fancy it calls just like a man in the jungle but anyone who answers this call is sure to die.

The animal is a lowland species in Sarawak, not occurring above 3000 ft. if as high. Its dried skin is in some demand among Chinese for export to their country as medicine and may often be seen in outstations bazaars; at times it realizes \$30 to \$40 per pikul, rather less than \$2000 worth being exported in some years. The flesh is said to be good eating, white and like veal, but it is not taken in any numbers for food; the Nagas say it must be killed before it curls up into a ball and touches its genital organs with its tongue, when its meat immediately becomes bitter: this superstition may have its origin in the musky smell of the animal, which is said to be so strong as to deter dogs from attacking it. The best Anteater story is common to Borneo and elsewhere: the "Tengiling" having thoroughly disturbed a Termites nest, lies down with all scales expanded and the wretched ants, having got between the scales to attack the supposed corpse, are trapped by the closing down of these scales and the Ant-eater moves off to the nearest pool; having entered the water the Ant-eater opens his scales and licks up the ants as they float about.

## ORDER II SIRENIA.

(Sea Cows).

As the name implies, this Order has much to do with the Ungulata, of which the Cow is a typical example; the real position of these animals is however obscure, for they appear to have a number of things anatomical in common with Elephants notably the longitudinal rather than vertical succession of the teeth.

The Manatee of W. Africa and S. America and the Dugong of the East are the only living representatives but fossils have been found in California, some parts of Europe and even in Suffolk. Stellars Sea Cow, an animal inhabiting the Behring Sea and some 25 ft. in length, belonged to this Order but has become extinct in historical times owing to the rapacity of blubber hunters.

### **Halicore dugong** Illig.

SEA COW. Malay; *Doyong*;

The Sea Cow is entirely marine, a large usually greyish brown animal up to 9 ft. in length in males, with a blunt whiskered head, thick body, small flippers and no hind limbs, the tail bearing two horizontal "flukes." The skin is hairless except in the region of the mouth, which owing to the bend in its jaw bones, opens downwards enabling this heavy, shortnecked animal to browse for its food on the sea bottom; the upper lip is peculiar in that it is cleft and the slit provided with opposing, stiff, blunt bristles not unlike those of a Porcupine, the whole apparatus, together with some scrubbing brush-like stiff bristles in the lower jaw, enabling it to collect its food, marine plants like *Zostera* or in the Malayan region a Phanerogram known as "Daun Setu" (*Enhalus acaroides*). Its teeth are most remarkable for the molars or grinders are replaced from behind forward as in the Elephant, the youngest teeth being

the posterior ones and the partitions between the various molars slight and porous; as many as five molars may appear, though seldom all at once, and it is even more surprising that whilst these teeth show signs of great wear in coping with gritty matter taken up with food, stomach contents show that the actual leaves are hardly at all bruised by these teeth. Incisor teeth are present, two of which in the upper jaws of males may project a little forward and downward as tusks; they resemble Rodents incisors in being covered front and sides with hard enamel, leaving a chisel shaped edge; their use is uncertain, scarred animals that have been recorded are just as likely to have been wounded in fighting as to have rubbed against coral or rocks on the sea bottom.

Not long ago Dugongs were sufficiently numerous near Tanjong Datu to be worth hunting and were harpooned at night from a boat, in the light of a reflector lamp; they were exceptionally wary and it was recorded that the spear required little or no barb, once the point entered the animal the skin and flesh exerting a grip sufficiently strong to hold the beast. It was said that the length of rope attached to the harpoon should be 40 ft., the length of the animals intestine.

Save for an occasional one in a fish-trap the animals are now no longer molested and Dugongs are I believe plentiful; apparently they rest out in deep water during the day and the broad swathes cut in the sea-grass in shallow water indicate their nightly visits.

The meat is considered second to none for eating, some Malays requiring the animal's throat to be cut, latecomers apparently stoutly asserting that it is a kind of fish.

Wherever the Dugong appears in numbers elsewhere it has been much hunted for profit, a beast of 5 cwt. providing about 10 gallons of an odourless, tasteless oil used as a substitute for cod liver oil; the hide may be used as leather and the meat is said to resemble beef when cooked. The eye is small and may, on capture of the animal, exude a clear mucous resembling tears, which in young animals is much valued as a love potion by Malays.

Sea Cows and Mermaids are synonymous with many people but it is not clear how the idea originated; considering the myth is found in many places far from the haunts of these animals, that the mythical being often lacked a "fish" tail and that the teats of a Dugong are situated under the armpits and not on any raised pectoral swelling resembling the human form, it is hard to see how this story has come about; the appearance in the sea of an ugly, upright, whiskery head about every three to five minutes does not come up to my expectations of a Siren and it seems more likely that Mermaids having already originated, the existing Sirenians were conveniently cited to convince the credulous of the truth of the stories.

As it depends for its food on a rocky, weedy bottom it is not common in all the coast parts of Sarawak, some of which are muddy, where the silt brought down by the rivers prevents marine plant

life; they may occasionally be seen off Tanjong Datu, or Kedurong Pt. and are said to be sometimes taken in the fish traps in the Limbang and Lawas District to the North. Both sight and hearing are said to be very keen and all one usually sees is a whisky head surmounting an upright pair of shoulders rising out of the water at intervals.

They are usually seen singly but the female is said to be very solicitous both of its young and its mate.

### ORDER III CETACEA.

(Whales, Dolphins & Porpoises).

Whales are no less Mammals because they happen to swim in the sea like most Fishes than are Bats who happen to fly in the air with most Birds; numerous anatomical features—of which the suckling of their young is a criterion—prove the Whales to be Mammals but their nearest relatives in this Class are still uncertain. By some it is held that they are anatomically nearest to a hypothetical Pro-Mammalia, something neither Reptilian nor yet quite Mammalian; others going by internal anatomy pick the Edentates—the extinct Sloths and the like—in the free-for-all hunt for cousins to the Cetacea, whilst a more reasonable (superficially) view is to connect them with the Carnivores, the Otter, Seal and Sea Elephant indicating the plasticity of the flesh-eaters towards an aquatic life; a certain amount of fossil material supports this school of thought. Disregarding the Sirenia or Sea Cows—equally cousinless—Whales are most often allied anatomically with the Ungulates, the Deer, Sheep, Oxen tribe and this is supported in an amazing way by blood precipitation tests; Anti-Cetacean serum gives 80% reaction with the Pig, 70% with the Deer but no reaction with Rhinos, Tapirs and Horses nor with the Carnivora.

The Cetacea may be divided into two groups, with and without teeth in an adult state. The latter constitute the "Whale-Bone" Whales, as a matter of fact in an embryo state sporting teeth and even hair; they obtain their food in a characteristic way, for by opening their enormous mouth a large quantity of sea water is enclosed together with a number of minute organisms, the largest being the "Sea Butterflies," flattened, free swimming shell-less Snails: the mouthful of water is then expelled but rows of flexible "balleen" plates, hanging vertically along the edge of the mouth, strain this water causing all extraneous matter to remain behind entangled in the feathery edges and free ends of these plates. These minute particles form the food of the world's largest animals, Whales some 90 ft. long, whose gullet is yet too small for them to accommodate a decent sized Herring.

Of the toothed Whales, the Sperm Whale is the best known on account of its oil, ambergris and general sporting propensities, relying largely for its food on Cuttle Fish, Squids and the like. The Killer Whale is fairly well known, feeding on Fish, Seals and even other Whales, a number of Killers combining to force open the

victims mouth, for even a Whale must drown like any other Mammal if unable to breathe. In this respect all Cetacea must come to the surface at intervals to "blow," that is to expel the used air from their lungs and take in a fresh supply, the "spout" of a Whale being moisture condensed from its breath, together with the sea water in the neighbourhood of its nostrils, being blown up as spray; Porpoises and Dolphins blow so quickly that no spout is noticeable as in the slower Whales.

Lastly come the Porpoises and Dolphins, the latter with a long, projecting, toothed beak, the former with blunt rounded muzzles. Some Dolphins of the genus *Sotalia* are peculiar in that in China and the Amazon they live hundreds of miles up river and possibly never see the sea at all; a similar but estuarine species is found in Borneo.

Dolphins and Porpoises are but little prized by the natives for food or oil.

#### SUB-ORDER ODONTOCETAE.

(Dolphins, Porpoises, Killer & Sperm Whales).

#### **Delphinus malayanus** Less.

THE MALAYAN DOLPHIN.

Not actually recorded from Borneo but doubtless occurring.

#### **Sotalia borneensis** Lydekker.

THE WHITE DOLPHIN.

Several of this peculiar Dolphin have been taken at the mouth of the Sarawak River, fine animals some seven feet long with pure white glossy skins marbled with grey spots on the back, a pattern which may have given rise to the illusion of the Spotted Dolphin (*Steno*, *Delphinus* or even *Sotalia lentiginosus*) in Bornean waters.

This is the only Dolphin apparently recorded from these parts but the Malayan Common Dolphin (*Delphinus malayanus*) no doubt occurs; I believe it is a uniform ashy grey, rather lighter below.

The first specimen was taken by Mr. E. Hose near Tanjong Sipang and they have since been taken a mile or so up the Santubong branch of the Kuching River; they are said by the natives to only come inshore for breeding purposes.

I once (September) observed a shoal of about a dozen near Santubong, the pointed dorsal fin being rather conspicuous, their steel grey warship-like colour and leisurely movements being in striking contrast to the other two species which appear dark and are more lively as a rule.

#### **Orcaella brevirostris** Owen.

THE LARGE INDIAN PORPOISE.

This is a large animal up to about 7 ft. of a dark slaty blue, almost black, colour with a very blunt rounded snout; it is often seen in rivers which it ascends with the tide.

We have the skin and skeleton of one from Buntal, distinguished by the small dorsal fin only an inch or more high but sufficient to differentiate it from other local Porpoises.

**Phocaena (Neomeris) phocoides** Cuv.

THE SMALL INDIAN PORPOISE; Malay: *Lomba lomba*.

This ranges up to 4 or 5 ft. in length and is black in colour; it may occur in flocks, or often quite solitary and is more or less estuarine or littoral.

Though there is no dorsal fin there is a slight ridge towards the upper side of the tail. This is the commonest species and we have five from the mouths of the Sarawak River.

**Orca gladiator** Bonnat.

KILLER WHALE.

A specimen of this Whale was cast ashore at Miri and the skeleton preserved in the Sarawak Museum. The animal occurs at wide intervals in the Indian and Pacific Oceans.

It is said to have a very long upstanding pointed dorsal fin showing when swimming, whilst the formidable teeth and black and white colour serve to distinguish it.

**Physeter macrocephalus** L.

THE SPERM WHALE

The hollow tooth of a Sperm Whale was used as a receptacle and as part of a bunch of charms formerly belonging to a Kayan and now in the Sarawak Museum. The origin of this tooth is of course unknown but no doubt obtained in the course of trade and it is not impossible that Sperm Whales occurred in Bornean waters for they have been known in the Straits of Malacca and of course in Japan.

SUB-ORDER MYSTACOCOETI.

(Right, Finner, Hump Back or Rhorqual Whales).

**Balaenoptera schlegelii** Flower.

FINNER OR RHORQUAL WHALE. Malay: *Ikan Paus*.

This is the Whale most often washed up, though even that is of rare occurrence. A monster 66 ft. long was washed up at Simatan and its skeleton, collected by Mr. Shelford, mounted near the Museum; it is said that six Malays were able to sit within the cavity of its mouth whilst at a later period all the Pigs, Crocodiles and Monitor Lizards for miles around gathered to feed off its stinking flesh. Shelford mentions that it should probably be called *B. musculus* Flower, the appearance of which is not surprising for it is probably conspecific with *B. australia*, such a source of profit in New Zealand waters during former times. Borneo has not been in any way connected with Whaling for though Whalers often passed it on their way to other grounds it was given a wide berth on account of pirates and for other reasons.

This is of course one of the Whale-Bone Whales; the colour is dark grey-blue above, white below, the dorsal fin large and high, the flippers relatively slender and small. From the chin to the middle of the belly are the usual longitudinal furrows, about 50 in number.

#### ORDER IV UNGULATA.

Many diverse looking Mammals are included in this Order but all are characterized by modification of teeth and stomach to their herbivorous habits. Giraffes, Pigs, Antelopes, Sheep, Goats, Elephants, Rhinoceros, Tapirs, Hippopotamus, Cows, Mouse Deer, Camels and Horses all go in this Order, which lends itself to unlimited sub-division though by no means all of the groups are found in the Oriental Region.

#### SUB-ORDER PROBOSCIDEA.

Nowadays everyone knows a certain amount about Elephants but as they have only a very local interest in Borneo it is hardly necessary to go into general details here.

#### **Elephas indicus** Cuv.

ASIATIC ELEPHANT. Malay: *Gajah*.

Bornean elephants are rather a problem, for whilst those of N. Borneo have most probably been introduced, there is in the Museum here part of a fossil molar tooth of an Indian Elephant taken from a crevice in the limestone near Bau in Upper Sarawak; the specimen consists of four and part of a fifth distal sections of the first of the two premolars in the upper jaw and indicates that Elephants existed sometime ago in parts of Borneo where there are at present no other traces of them.\*

No recent information is available about the Elephants of N. Borneo but St. John records them in his well known book as being numerous in the neighbourhood of Cape Usang on the N. E. corner of Borneo, herds of 50 and 100 being mentioned and the tusks running up to 6 ft. in length. Their present distribution is not well defined but they do not come anywhere near Sarawak and have a suspiciously restricted range even in N. Borneo; sections of their tusks are often worn in the Lawas district as bangles and the Dayaks have a poor opinion of the Elephants fighting powers, for it is too clumsy to protect itself from a party of them armed with spears.

The origin of these Elephants is obscure and their first appearance is recorded by Pigafetti, chronicler to Magellan, who on the occasion of a visit to Brunei in 1521 mentions that they were conveyed to the palace on "captive elephants." Hunt visited the Sulu Islands in 1814 and found the elephants there to be neither useful nor ornamental, for whereas they had been formerly used as in Siam for religious purposes, a change in religion had left them

\* Another fossil Elephant's tooth seems to have been sent home in 1864, but details are lacking; Gertrude Jacob "Rajah of Sarawak" Vol. II, p. 361.

unemployed, whence they developed into a nuisance. St. John's story is the most usually accepted one, that the E. India Co. (about 1750) presented the Sultan of Sulu with a herd of Elephants (though I don't know where his information came from); it was a tactless thing to present more elephants when they or their memory were already a burden to the Sulu Islands and it is not unreasonable to suppose that the Sultan diverted them to the nearest mainland with a sigh of relief. Their distribution bears this out, for they are confined to a comparatively small strip of N. Borneo in the neighbourhood of these islands; it has been objected that presuming only a few to have been given and let loose at first there is probably not sufficient time for these slow breeding animals to reach their alleged numbers but short of the ill effects of inbreeding one might imagine Borneo to be overrun with several million Elephants, if Darwin's classic estimate of their birth rate be correct.\*

Borneo has of course been visited by many outside races, such as Javanese and Hindus, the last of whom may have used Elephants and certainly left behind a number of Elephant Gods—Ganesa—mostly in Dutch Borneo but on one occasion at Limbang in Sarawak. Parvathi is said to have accused Siva of infidelity and assaulted her; Ganesa their son, intervening on behalf of his mother, had his head cut off, whereupon Siva upbraided Parvathi, who called upon soldiers to cut off the head of the first animal they met to replace that of Ganesa: an Elephant was the first encountered and Ganesa was miraculously restored to life with its head.

The races of the Elephant are not very clear but the Malayan form has been separated as *E. m. hirsutus* on account of its general hairiness\* and on other characters; similarly the Sumatran one has long been separated as being more slender generally, differing in skeleton and teeth and shape of ear, in longer and thinner trunk, more expanded tip of tail with longer and stronger bristles. How far these races can be upheld remains to be seen but it might be worth while for someone to make a detailed study of the Bornean Elephant to see which of the proposed races it more nearly resembles and in which it presumably has its origin.

#### **Mastodon latidens** Clift.

There was brought to Everett from the jungle near Brunei and forwarded to the Secretary of the Zoological Society a tooth assigned to this extinct species of Elephant; the specimen was the crown of the 3rd and last left upper molar, consisting of 5 transverse ridges and a "talon," the whole measuring 6.3 ins. long and 2.95 ins. wide at first ridge. Similar specimens are known from the Siwalik hills, from Burma and from Perim, but they are all a little larger suggesting that the Bornean tooth may belong to a dwarf race; it merges into other species recorded from Mindanao, Sumatra and Malacca.

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\* A conservative estimate of the offspring of a pair of Elephants attained nineteen million in about 700 years.

\* I am informed that this is only a pathological character.

## SUB-ORDER PERISSODACTYLA.

In spite of the rather fearsome looking name this sub-order is remarkable for containing Ungulate mammals with an uneven number of Toes and includes the Horses, Rhinos and Tapirs.

## Family Equidae.

There are of course no feral horses in Borneo but Ponies of varying degrees of wildness are a prominent feature in some places, though beyond that they occur in many parts of the Archipelago their real origin appears to be uncertain. There are however two main stocks from which domestic horses have sprung, a Northern Mongolian and a Southern Arabian race, the skull of the former showing no trace of the depression corresponding to the pre-orbital tear pits (as found in Deer), the skull of the latter showing some such trace in a varying degree according to its interbreeding: more remarkable still, a slight depression in the skull of the Bornean pony indicates an infusion of Arab blood at some time in its ancestry, a conclusion also supported by the shape of its molar teeth.

## Family Tapiridae.

The appearance of the Tapir is familiar to most people from pictures but whilst found in Malaya and Sumatra it is altogether absent from Borneo; another species is found in S. America and fossils have been found in France and Germany, and even in Suffolk.

In spite of repeated statements to the contrary, there has so far been no authentic record of a Bornean Tapir and though natives sometimes assert their presence their stories have so far never held water; a Sadong Malay described in correct detail to Everett the appearance of a Tapir he had killed in Dutch Borneo but the teeth he produced in evidence were those of a Rhinoceros.

Borneo is too well known for such an animal as a Tapir to have so far escaped notice though popular prejudice, both here and at home, is rather in favour of it; older natural histories usually included Borneo in its range and, stimulated by certain N. Bornean stamps, one fully expects to find them on first arriving in the country.

## Family Rhinocerotidae.

Judging by the number of fossil forms throughout the world this must have been at one time a large and most successful Family; at present there are but two African and three Asiatic surviving species, one of the last occurring in Borneo.

The Indian form is an immense beast, the Javan one smaller, rather hairy and with one or sometimes no horn, the Sumatran and Bornean one being the smallest and most hairy of all, as well as possessing two horns. All three are distinguished from their African cousins by the presence of incisor teeth in the lower jaw and particularly in the "armour plating" effect caused by folds in the skin, one fold in the neck region, a very marked shoulder crease and a smaller one before the hind leg.

Our Rhinoceros resembles more than anything an enormous pig about 4 ft. high and 8 ft. long, usually quite black but sometimes greyish as in the Javan species and with a lot of stiffish hairs standing out, sometimes all over it but forming tufts on the ears and tail; the skin is very thick, as much as half an inch in some parts and with three well marked folds in neck, shoulder and hind quarters. This Rhinoceros always has two horns and occurs in Sumatra, Malaya, Burma, Assam and Siam and is not to be confused with the single horned Javan Rhinoceros of Java, Sumatra and Malaya; in some females of the latter the horn is I believe occasionally absent but the Sumatran Rhinoceros may be at once distinguished from the Javan one by having only one pair of lower incisor teeth instead of two pairs, a point worth bearing in mind as it is still a little uncertain if both do not occur in Borneo.

**Rhinoceros (Ceratorhinus) sumatranus** Raffl.

THE SUMATRAN RHINOCEROS. Malay: *Badak*; Iban: *Schimar*; Murut: *Tembaiungan*; Tagal: *Camansur*; Dusun: *Tampak*.

The Rhinoceros in Borneo is the smallest of all in size and is by no means a prepossessing animal, though as I shall have occasion to mention later it is one of the most popular among the natives. It is usually a solitary, wary and inoffensive beast, though several have at times been recorded together; owing to persecution it has become most retiring and if it suspects men on its trail may leave the neighbourhood for another as much as two or three days distant. It much prefers to run rather than fight though from all accounts can put up a good show when wounded and cornered, curiously enough rushing upon its enemies open mouthed and attempting to bite with its sharp chisel-like incisor teeth rather than using its horn.

It is a browser, feeding on twigs and leaves, knocking down small saplings, making a great noise about its feeding and leaving a broad path of broken trees and trampled undergrowth; it is not particular about what sort of country it inhabits, being found from the tops of mountains down on to the plains though as these are more likely inhabited and cultivated it is much less often found there. They are said to be fond of a muddy bath by the river side and I have seen the tracks where they and many pigs wallowed in the hollows of a mountain ridge.

It is hard to give any exact localities but they occur in the mountainous region in the Lawas interior, various places in the far interior of the Baram and Rejang Rivers, occasionally straying as far down as the Ulus of Mukah and Oya but is not found on the left bank of the Rejang or down into Saribas and Sarawak proper. In fact it is a most unsatisfactory animal to look for, there is no very certain locality but it is sure to be a long way from houses so that it requires some trouble to get in its neighbourhood and it may be several days on short rations if one is to follow the animal up to a finish.

Rhinoceros horn is greatly valued by the Chinese for making medicine and commands an immense price; the longest horn in the Museum measures I think 19 ins. but though they are not usually as long as this a dead Rhinoceros may be converted into as much as \$2—300. In fact since Dayaks and others no longer take heads and there is a certain amount of safety in penetrating the interior, parties of them in the off-season when their padi farms don't require attention move away for a few months and combine pleasure with profit in Rhinoceros hunting. In many parts frequented by the Rhinoceros there are no settled houses or villages but small bands of natives such as Punans and Ukits roam about living on what they shoot, cultivating no crops, making no permanent houses and of course fully aware of the value of a Rhinoceros. Now there can at the moment be no fear of Rhinoceros becoming scarce for as many as 36 trophies were brought into Belaga in two years not so long ago and I have met men who have claimed to have shot over 30 in the course of their life time, but it must be evident that such a slow breeding animal cannot stand destruction for long at this rate so that the matter will one day have to be attended to. The wandering Punan or Ukit, armed with a blow-pipe and inhabiting the same country as the Rhino has surely every right to shoot if he wants to as his forefathers used to do and anyway it would be impossible to control him in this as it is in many other matters; the Dayak out for a holiday and to make some money as well is probably the chief destroyer, for he owns a breech loading twelve bore with buckshot and is thus much better equipped, though a recent Order which I shall refer to later has deprived him of much of this advantage.

Reserves so successfully made in other countries are impossible to enforce here owing to the remoteness of the animal's haunts, the presence of these wandering tribes and it must be admitted to the inconstant nature of the Rhino itself. In India I believe female Rhinoceros are preserved but it would be just as difficult for a native to follow the rule here as it now is for him to keep within the present Order that no Rhino with a horn of less than 4 ins. may be shot; they are preserved altogether in N. Borneo but it would be a more popular move here, no less effective, to suppress the demand for its horn among the Chinese. Fortunately the Rhinoceros has been helped indirectly in another way for it seems to have been evident that breech loading 12 bores were becoming more numerous in the country than was consistent with safety and in future only muzzle loading guns are to be sold,\* the inferiority of the weapon and difficulty of obtaining powder will be in the Rhino's favour, whilst the present cheap American 12 bores cannot be expected to last very long.

There are a few odd points of interest about the animal; it is said to always deposit its excrement in the same spot and natives by patiently watching its "jamban" sometimes shoot a specimen;

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\* This has most unfortunately not come into force.

other natives deny this and aver that having deposited its excrement in a stream it turns round and eats the stupefied fish that come to the surface. The male organ is most peculiar as it has an indication of the cross-bar or "palang," as artificially inserted by such tribes as the Kayans, Kenyahs and some Dayaks. Rhinoceros are said to snore loudly when asleep and thus sometimes betray themselves to hunters.

Fossil teeth have been recorded from Sarawak from a depth of as much as 60 ft. at Paku in Upper Sarawak, where the animal is of course now unknown alive; it is amusing to recall that the teeth were assigned to *R. sondaicus* and the bones associated with them to the present species, *R. sumatrensis*.

#### SUB-ORDER ARTIODACTYLA.

(The Even Toed Ungulates).

This is at present the most successful Ungulate group and is distributed all over the world, including all the Cattle, Antelopes, Deer, Pigs and remaining Ruminants.

#### Group I

#### Family Suidae.

The Pigs (with the Hippopotamus who hardly concerns us here) are distinguished from the rest of the Artiodactyla by the cusps of their molar teeth, which retain a more or less primitive, conical or pyramidal shape (known as "Bunodont") whilst the cusps of the molars of Sheep, Deer and Oxen are modified into crescentic ridges (known as "Selenodont").

Pigs reach their maximum development in Africa and the East though of course extending into Europe, most of them remarkable for one or more warty protruberances on the face. The origin of domestic Pigs has never been settled though it is more than probable that some "wild" Pigs are strays, which may perhaps account for some of the unexpected "species" that turn up in Borneo and elsewhere.

#### *Sus barbatus barbatus* Mull.

THE BEARDED PIG. Malay: *Babi Utan*; Dayak: *Jani*; Tagal: *Ulak*; Murut: *Basing* (?); Dusun: *Bakass*; *Ugok* (Domestic); Barawan: *Bikuoi tanah*; Bintulu & Kalabit: *Bakah*; Miri: *San*; Kayan: *Babui*.

The Bearded Pig is found in Sumatra, rarely in the Malay Peninsula and some islands but is very common in Borneo where so far it is the only species really known, though some others have been doubtfully recorded. The British Museum has an undoubted skull of the Javan Wart Hog (*S. verrucosus*), taken by Wallace in the Upper Sadong, but it is possible that Wallace mixed this and others of his specimens as regards localities and the animal has never been taken again; I believe the same skull, which is of course ever so much shorter in the snout than any *barbatus* skull, was later attributed to the Bornean form of *S. celebensis*, a varied

career for a skull which may well have not come from Borneo at all. Another mythical Bornean Pig is *S. longirostris* Nehring, resting on a single specimen killed by Grabowsky near the Kuala Kapuas, very large, dark haired and with two wart like skin-folds on the face, supposed to at once differentiate it from other pigs taken at the same time; it has however been since relegated to an ordinary Bearded Pig. *Sus gargantua* is another supposed Pig; the skull some three inches longer than any known *barbatus* skull but there is a good deal of mystery about the animal itself, especially as the only other known specimen is but doubtfully recorded from Java.

Anyone shooting a number of Pigs in different stages of growth might easily think there were several kinds. Very old boars are quite chalky white, even to the tuft of hairs on the movable pair of warts situated on the upper surface of the snout over the tushes; slightly younger specimens are more yellowish and have a darker patch of bristles on the snout by which they may be recognized at a distance. Half grown specimens in which the testes have not descended (they are not very prominent in adults, just a slight swelling with a groove) are like the sows and are quite unlike the adult boars; young boars are usually a dark grey with a whorl of hairs on the snout where the warts are going to appear, this whorl being whitish strongly contrasting with the rather dark black of the muzzle. Sows are a rather lighter grey with a pink nose, black muzzle and a whitish whorl over the short tushes, where the wart does not of course grow to any size; there are a number of whitish hairs on the cheeks and usually a well marked patch on the crown, the long bristles\* down the ridged back varying from dark to light yellowish compared with the grey flanks, the whole suggesting to a varying extent a white crown spot and dorsal stripe. The stockings and tail are a darker brown; the iris is white but much duller in young animals.

Sucking pigs appear to be dark brown with three narrow longitudinal yellow ochre stripes along the flanks and traces of fourth and fifth stripes near the elbow joint; striped house piglets are rare in Borneo—in fact I've only seen but one and that had much broader, lighter, whitish yellow stripes not particularly like the wild ones. Both striped and plain ones occur together in domestic litters and it is said in wild ones also. The young are usually born about January and may be seen up to July.

Pigs are subjected to irregular migrations, seeming to follow the fruit when in season so that one year a particular spot may swarm with them but not be troubled again for many years after. The actual individuals are not met in more than twos and threes until it comes to swimming across rivers when there may be anything from 30-300; the aborigines wait all day in favoured spots on the river for "babi sebrang," as they can be caught in the water

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\* These constitute the Pig's "bristles" of commerce.

and held until a blow on the nose with a stick finishes them off. They swim well but low in the water, just the snout and crown showing and though they don't sink when hit, ones bullets seem to ricochet off the water and one might as well wait for them to come to land. In the evenings upriver it is a common sight to see them loafing about on shingle banks before crossing and as a rule they choose a shallowish place where the noise of the running water as a matter of fact enables one to get fairly close to them in a boat; downriver they are said to cross more frequently just after it has rained, though I don't know how much truth there is in this.

Droves of Pigs are a nuisance, in fact are vermin, destroying crops, rooting up roads, in remote parts taking little notice of shots and are said to have been killed with a "parang." Now that heads are no longer taken, Pigs are the main object of a hunt, by no means a tame one for wounded boars may charge home, grunting and chocking their tusks and I knew one man who was upset and killed in such an encounter, accidents to arms and legs being not unusual. They are of course much hunted with dogs which are most clever in circling round the beast at bay and engaging its attention until someone comes up but it is a strenuous and not always successful pastime; except on river banks pigs are most often seen in coastal areas of an early morning as they move up from the sea shore to rest on the mountain sides during the heat of the day: in the jungle itself the aborigine is an adept at hearing pigs some way off, when a cautious approach and a short wait generally gives an opportunity for a shot. Most often one hears two or three farm-yard like grunts which put one on the "qui vive" but are really I believe notes of alarm, for one seldom sees the beast on these occasions. The clicking of their tusks may sometimes be heard as they are feeding. Sows with young may be found feeding at all times for they must have a hard job to keep their family of seven or eight going; they range through any kind of jungle from the beach to mountain tops at 7000 ft. on Mt. Murud, rooting in the ground, tearing open rotten logs, picking up fruit, gnawing roots and consuming any carrion handy, the last a trait taken advantage of by the Dayak: a bit of offal is hung in the jungle until it is "ripe" and the hunter keeps an eye on it of an evening until a pig succumbs to the attraction. They are also very fond of a mud bath in hot weather and seen to use the same place daily which lays them open to a visit from a Dayak. Their greatest enemies are crocodiles and perhaps even more so the Punans, nomad hunters who keep the Pigs on the move by hanging about the rear of a migration, at such times killing immense numbers and eating themselves into a stupor, from which they emerge for a further orgy or hastily to kill another one if the last is finished. The most successful trap was the "blatik," a sharp bambo spike released by the pig into his own flank as he walks

along the path but that is now barred owing to so many human accidents; the "jaring," or row of nooses, is sometimes used and a not unknown ruse is to leave a gap in the fence round the padi fields—a pit with sharp spikes is sunk just beyond this gap and Pigs often impale themselves in their eagerness.

Except in the open on river banks Pigs are most often encountered in thick jungle and detect the hunter before he is aware of them; the Pig however is a good citizen and warns his neighbours either by a grunt, by "chocking" his tusches or striking them against a tree, producing a definite but often un-pig-like noise: every Pig is then on the alert and the hunter needs to remain quite still even up to two or three minutes for a clear shot, his slightest movement sending the whole lot scurrying away.

The wild pig is not infrequently tamed by the Punans but the domestic house pig is a different species, probably obtained by trade from non-Islamic coastal peoples; wild and house Pigs fight on meeting and wild boars sometimes make a good thing by snapping up a tame litter of young ones. A pig's nest in old jungle or "jerami" consists of a bundle of leaves on which it is said to sleep but it is on the whole a spot to avoid on account of the numerous ticks left behind.

Boars on the whole are heavier than sows though they may both attain maximum weight; some sows in fact may get thin and mangy, even assuming the much longer lower tusches characteristic of the boar; the tusches are longer in the boar, our longest (lower jaw) measuring  $8\frac{1}{2}$  ins. along the outside curve whereas those of *Sus cristatus* of India may go up to  $10\frac{1}{2}$  ins. or more.

For the benefit of sportsmen I may mention that the Javan Wart Hog (*Sus verrucosus*) has two pairs of warts on its face, one projecting below the eyes and the other above the tusches; it is I believe uniformly coloured in all stages of its growth. *Sus vittatus* also of Java has a collar formed by a white streak running from the face to the sides of the neck, its young having the usual longitudinal body stripes and it would be of immense interest to know if both striped and unstriped piglets do really occur wild in Borneo.

#### Group II Ruminantia.

##### Tragulina.

This comprises the Mouse Deer of West Africa and the Oriental Region, hornless and most aberrant little animals in appearance and anatomy. The stomach has only three compartments instead of four as in Deer and they have four toes as in Pigs (only two of which of course reach the ground) but the metacarpals—the shank bones—are fused as in Deer, so that in many characters they are intermediate between these and Pigs.

For the rest they chew the cud like other Ruminants and the males are remarkable for their curved, protruding canine teeth pointing downwards from the upper jaw. Their present distribution is peculiar but further complicated by the existence of fossil forms found in France.

**Tragulus kanchil hosei** Bonh. (Plate XI).

THE SMALL MOUSE-DEER. Malay: *Pelandok*; Iban: *P. tampin*; Sennah: *P. Pipin*; Dusun: *Belabagan*.

This is the smaller of the two mouse Deer found in Borneo and is about the size of a Rabbit, a warm buffish brown with a darker sometimes almost black back, black nape stripe, the underside white with some buffish markings; on the white throat is a dark brown V shaped marking, the point forward and the two arms sometimes separated there. The face is rather pointed, the ears short, the feet very elongated and furnished each with two small hooves; the tail short and white underneath.

In appearance this and the next species are rather similar, head held rather low, back arched, stern rounded and the little tail not just held down but actually tucked away under the belly when the animal runs along, in fact in ordinary circumstances the white of the underside of the tail is only seen when the animal is relieving itself. They usually sit down stern first, may even assume a truly rabbit-like form and remain sitting on their haunches; they usually squat just like a rabbit, head drawn well in but fore feet tucked under the body as well, it being always a matter of surprise how both Sambhur and Mouse Deer regain their feet and dash off at less than a moments notice from a lying down position, with their long, and one would think breakable legs helplessly tucked away under the body. When walking a Plandok's legs almost seem to twinkle so quickly does step succeed step, the whole an example of most exquisite daintiness; the forefeet are bent forward rather markedly at the knee and one foreleg may stiffen and paw the ground when in doubt just as do the Sambhur Deer. They have no particular turn of speed out in the open but in jungle they show a most uncanny faculty of clearing fallen logs in their stride, dodging right or left round small trees, squeezing between fallen branches all without hesitating or checking speed for a moment, a faculty which takes them out of sight in no time and right away from ordinary dogs which would catch them in a few minutes out in the open.

Pelandok are usually found solitary, occasionally in pairs and in inhabited districts are so quite, unobtrusive and wholly nocturnal that they live quite unsuspected, visiting with impunity gardens of houses in the middle of Kuching; they are not very often seen at any time and surprisingly little is known of them. Two things contribute to the undoing of the Pelandok these days, firstly the use of Reflector lamps, for one has only to steal along the river bank in a boat during the earlier hours of the night to see quite a number of Mouse Deer and other animals down for a drink. The other factor is the Dayak snares or "Panjok:" a line of brushwood a couple of feet high extends through the jungle for a hundred yards or so with a gap complete with snare set about every 10 yards; now the Pelandok can jump as high as two or three feet or even climb

a sloping branch but on meeting this line of brushwood it promptly seeks an opening and is caught by the foot. Such Mouse Deer are seldom much use to keep alive as the foot is usually a braded, twisted or even broken; care is needed in taking them out of the snare alive for the males, with a downward and sideways movement of the head, can inflict a bad wound with their sharp canine teeth. Though such a dainty looking animal they are not particularly good to eat, the meat being coarse; they are not difficult to keep in captivity if uninjured and soon become tame, making the most dainty pets. They seem to eat most fruits and readily take bananas though their favourite food is the fruits and particularly the flowers of "Bua simpo;" they also root around in the grass on the lawns and find something they are fond of in the ground. They swim well and drink frequently, seem to feel the heat a good deal and sit panting with the mouth open or even lie on their side instead of squatting; they "chew the cud" just like other Ruminants and appear to have temporary pouches in the cheeks which bulge out when they are feeding on anything large like bananas. They make very little noise, in fact it is only if one bends down close that one can sometimes hear a very faint whistling, bubbling noise going on, almost like a Canary but ever so faint. They are said to communicate with each other by tapping on the ground, I believe with their hind legs, and are sometimes decoyed by someone making a similar sound with a leaf on a stick.

To the Malays the Pelandok takes the place of our Brer Rabbit and at times Reynard the Fox; the stories of his cunning, mostly successful if not always creditable, belong more properly to Peninsular Malays and as they have merely been copied over here, this is perhaps hardly the place to repeat them.

As far as I know the Pelandok only has one young at a time usually about December or January,\* the fawn being unspotted at birth and rather brightly marked.

Two forms are said to occur, *hosei* in Baram and to the North, *longipes* in the Kuching area and to the S. W., where they are supposed to have longer hind legs but measurements of our specimens do not so far confirm this.

**Tragulus javanicus borneanus** Miller.

THE LARGE MOUSE-DEER. Malay: *Pelandok napu*; Iban: *Kamaya Panas*.

This is the larger of the two Bornean Mouse-Deer and is about the size of a small Hare and not unlike it in colour; the back is a light buff colour, sometimes more rufous, sometimes more blackish with a darker patch on the top of the head and nape of the neck. The flanks are usually greyish and the underside more or less white; on the underside of the white throat is a dark brown "V" shaped patch with the point forward, the whole rather irregular in shape, the white inside the V sometimes separating the

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\* One foetus about 2" long in July.

two arms at their normal point of junction. An almost but not quite constant feature differentiating it from the other species is the suggestion of a second V in front of the first, there being no trace of such a V in its smaller relative; the white of the throat encroaches on the buff of the neck on both sides to give the appearance of an incipient V shaped marking.

As far as I know there is little difference in their habits though the two may be shot together on the same night, as I have seen in the Pelagus Rapids; for some reason this larger form has never been taken round Kuching, though as it occurs in the Sadong district it has no doubt occurred in the neighbouring Sarawak River and not been recorded.\*

Something like the Barking Deer, the Large Pelandok prefers hills, high or low, to swamps which perhaps accounts for its absence in many parts such as around Kuching. Seen wild it is the usual dilatory Mouse Deer, walking along "muttering" to itself without being particularly wary; in captivity even after a long time it never became as tame as the other species. A female pursued by dogs took to the sea and was captured; this was on the first of September and having lived amicably with the smaller species a young one was born just before Xmas, like its mother only darker, which gives about 4 months at least as the period of gestation. Both old and young thrive without any difficulty.

It is this form I believe which is numbered among the Dayak Omen animals and they set considerable store on its behaviour as an augury, a Pelandok running across the path or calling from right or left may be sufficient to hold up an expedition; Kayans will not eat either species, which are therefore the more common in that part of the country.

#### C. Pecora.

A marked feature of the Pecora is the possession of paired horns and their nature is much the same in spite of diverse external appearances. There is in the Bovidae (Oxen, Antelopes etc.) a hollow, bony, core sheathed in a hard cornified layer; the last represents a modified epidermis or skin, the former a special bone, the "Os Cornu," which in the young can still be distinguished as separate from the frontal bone. In the Giraffe this "Os Cornu" is covered with the ordinary hairy skin, in the male Okapi the tip just breaks through, whilst in the Deer this bone is covered by a thick and very vascular skin—the "velvet"—which is periodically shed and leaves the spectacle of bony mesoblastic tissue exposed to the air and happily for its owner no longer sensitive. With the exception of Rhinoceros horn (which is but a number of stiff hairs cemented together) all horns consist of a special bony core, the covering of which when present, varies from ordinary hairy skin to a temporary blood vascular integument or to a permanent hard cornified layer.

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\* Since taken on T. Datu.

The Pecora are mostly of a fair size and offer the chief prey of carnivorous animals; for these reasons they have been required to obtain a comparatively large amount of green food in as short a time as consistent with safety and have developed a complicated, four chambered stomach, by means of which they are able to regurgitate the raw food they have swallowed and further masticate it at their leisure—the familiar operation of “chewing the cud.”

#### Family Cervidae.

Represented in Borneo by the Sambhur and the Barking Deer the most salient feature of the Family is the possession of bony uncovered horns on the lines just described. Horns are of course absent in the females and are very variable among the males, no two being quite alike, startling disfigurements occurring as accidents. It is I believe customary to estimate to some extent the age of Red Deer by the number of tines, a point being added for each years growth at any rate up to the animals prime: the Bornean Sambhur normally has but a brow tine and a fork to the beam though I am neither clear as to the intermediate stages nor certain of the time taken to mature, captives being deceptive in this respect.

Barking Deer for some reason often get their horns mixed up either by accident or not infrequently correlated with an internal injury or growth.

*Muntiacus muntjac rubidus* \* Lyon.

BARKING DEER; Malay & Iban: *Kijang*; Kayan & Punan: *Telaoh*;

The Bornean Barking Deer is the reddest one there is and has been supposed to occur in two shades, one a bright chestnut with the hind legs even more so and the other (*pletharicus*) a more uniform light russet colour, often with a trace of a darker stripe down the back; besides skull differences the latter is said to have shorter pedicels and horns and no burr or curl to their tips but these characters are as variable here as elsewhere; chestnut and russet forms have in many places been taken together so that colour and horn differences must be regarded as variations due to age or season.

Barking Deer are very common on mountains and even on quite small hills, seldom if ever having much to do with plains; in some districts their harsh bark—more like the roar of the Bear than the bark of a dog—may be heard at any time of the day, uttered alike by male and female, sometimes even two and three consecutive barks. Many Dayaks and all Kayans and Kenyabs will not eat *Kijang*, though they will kill it for someone else, whilst many Malay and some Dayak dogs even will not hunt or bark at them, having been thus trained for many years; they are sometimes decoyed by the noise made by blowing into a thin bamboo split lengthways for about 6—8 ins.

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\* *pletharicus* as a name has priority, *rubidus* suitability.

Perhaps on account of their immunity Kijang are one of the few notable diurnal animals, being also of course on the move at nights; though visiting cultivation for feeding purposes they are essentially animals of the old jungle and it is not uncommon to find where they have brushed aside the leaves with their forefeet in search of food, leaving a small bare patch on the floor of the jungle. Similarly they clear a larger space under some overhanging leaves on a hillside where they lie up and whilst by no means gregarious it is usual to find them in pairs. To see in the jungle they resemble a very large foxy red "Plandok" or Mouse Deer, the head carried low, back arched, stern very rounded, usual white scut and comparatively rather short hooved legs. The males have small horns mounted on curious bony pedicels which reach as ridges right down the face to the eyes and give the animal a peculiar appearance; the horns are sometimes used in defence but the long canine teeth hanging from the upper jaw of the male are useful, for they are sharp-pointed, curved and bladed, in one case at least having been capable of severely injuring a man's forearm. These teeth are further peculiar in that as they have nothing to rub against they do not have persistently growing roots to replace what is worn away, as do the teeth and tusks of many other animals.

Kijang on the whole take life very easily and move about most leisurely though when pressed they can be very swift and are expert jumpers; they also swim well and are not at all afraid to take to the sea. They have but one young at a time, usually about December or January; the pretty little fawn has two rows of sometimes almost continuous white spots down the back and two or more irregular rows on each flank. Adults are said to pair in January or February, bucks shedding their horns about May and renewing them in August though it is doubtful if the shedding is annual.

The Barking Deer is an omen animal among the Kayans, who prefer to hear it call on the right as they proceed.

Until the necessity arose of finding out about Kijang I knew very little of their habits and then endeavoured to catch one alive in a "jaring," the long row of overlapping snares which Malays suspended in the jungle and against which they endeavoured to drive the Barking Deer. Whilst the nature of the "ariş" or thick rotan from which the snares were suspended was of little importance the snares themselves were about 18 ins. in diameter and set with their bottom about 6—8 ins. off the ground, each snare being made of two twisted strands of thin "rotan jangut." The ends were firmly fastened, the rest of the "jaring" only lightly suspended and easily carried away as soon as a noose closed round the Kijang's neck, for the animal struggled violently and broke out if the rotans did not otherwise give way; for this reason it was most necessary that the "jaring" should pass behind any trees or saplings which would otherwise prevent its easy removal. The total length of

the "jaring" was about 100 yards and 10 men driving for an hour or two proved quite sufficient, dogs that would hunt Kijang being by no means essential. A few men stationed themselves some 10 yards or more in front of the "jaring" and by shouting at the Kijang after it had passed them tried to startle the animal straight into the nooses; Kijang when startled put their head down and stern up so that the animal often passed underneath the snares; cut brushwood appropriately laid prevented this and the snares had to be set lower when driving up hill and higher when driving down hill to stop the animal.

#### *Rusa unicolor equinus* Cuv.

THE SAMBURI. Malay: *Rusa*; Various people: *Paiou*; Murut, Tagal & Dusun: *Tembang*.

The Bornean Deer is a big umber brown beast, sometimes almost blackish, ears very large, tail very bushy and antlers quite simple, just a brow tine, no bez or trez but a fork at the end of the beam; there are possibly two species distinguished by the size of these antlers though as one can with care select a series of antlers intermediate in size between the two extremes the two species are not well founded. Usually over most of Sarawak antlers measure 20 ins. or more and about 5 or 6 ins. in circumference just above the brow tine but there occur in the Baram River perfect horns old and worn which scarcely measure 12 ins. to 15 ins. in length and some 3 or 4 ins. in circumference; as noted many tribes there will not have a deer horn in the house but some houses have nothing but these small horns, none of the large sort at all. I have remarked it is just possible to pick out certain aged specimens intermediate in length and thickness and the whole question is very likely complicated by the introduction of the Javan Deer, specially imported into parts of Dutch Borneo for sporting purposes; this Javanese animal (*C. hippelaphus*) is mainly distinguished by the thinness of its horns and one sees pairs of antlers which one might freely attribute to this species if one did not take into account the variability between the two extremes mentioned above. It happens that Hose distinguished a deer from Mt. Dulit as *C. brookei*, stating that the spotted fawn had a deep black chest and tail, the sides and rump a brilliant rufous, a form which Bartlett also recorded from Kuching; it is hardly possible to separate *C. brookei* on the character just recounted but the name might well be applied to the small antlered species if ever considered sufficiently distinct.

Horns are very variable in shape and often have supernumerary tines, of which I have seen as many as eight in all on one beam; these extra tines vary in length and position, a sort of palmated antler being sometimes recorded. "Paiou lan" and "P. ango" are sometimes distinguished as large and small varieties by the natives. "Rusa ubi" and "belud" being used in some parts, the latter applying particularly to the short horned species.

23 ins. is the longest Bornean horn, \* recorded by Roland Ward whereas they may reach 35 ins. in Ceylon and as much as 50 ins. in India; they only attain about 7 ins. in circumference, which is less than their neighbours. As noted the antlers have a brow tine, no bez or trez and just a simple fork at the end of the beam † differing in this respect from the European Red Deer (*Cervus elephas*), as well as in colour, structure, absence of light coloured rump patch, long ears and tail and any marked seasonal difference; the Sambhur is not therefore an Eastern representative of the Red Deer, whose place is in India probably taken by the Asiatic Wapiti (*C. cashmiriensis*). It is further most likely that the Sambhur, as in India, does not shed its horns regularly every year, for many pairs of antlers exhibit an amount of wear not easily acquired in a comparatively short time and occasional individuals who have become prominent in some way have been noted with the same horns for considerably over that period. Whilst on the subject of antlers I may mention that no two are exactly alike and many curious aberrations occur more or less valued by the natives as charms; the Kalabits go one better and keep captive deer in low roofed cages to obtain the prized malformations.

Deer are common all over Sarawak though remarkably wary in cultivated districts, where their depredations on young rubber or padi make them little short of vermin; the Kayan country to the North is remarkable, for this tribe will not eat the meat and deer are consequently so numerous that I have heard of as many as twelve being shot in a night. In the Sadong River certain Land Dayaks have a similar "tabu" and deer may occur there in droves of a dozen or more, for there are a number of temporary lakes which in the hot season dry up to leave a level plain of grass on which the Deer love to feed. Deer are usually solitary or in twos or threes and may be hunted with dogs but the more usual practice these days is to go out with a reflector lamp during the night and loose off with buckshot at every pair of eyes that show up; in remote districts deer will come up to examine the lamp but others are much more wary. The jungle being continuous one never shoots at a distance of more than about 25 yards but it is astonishing how Deer will carry on after being badly hit; a Malay of mine once fired at a Deer's head showing round a bush and, having laid his gun aside, was about to cut the fallen animal's throat when the Deer disappeared round the next bush almost as if nothing had happened and was never recovered. It is an inoffensive animal as a rule, though does will defend themselves with their fore-hooves when bayed by dogs and bucks will occasionally use their horns

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† There is a 25 inch pair in the Lundu Fort but details are lacking

\* Bornean Sambhur are said to differ from Indian ones in that the upper tine never attains the same length as the tip of the main beam but antlers are so variable it would be unwise to place any reliance on this character though it is in the main true.

the dark chocolate brown hairs being irregular, a number of white hairs occurring amongst the brown. Perineum and abdomen dirty white. A pure white patch unconnected with the white of the hind legs appears on the hind quarters, sharply defined anteriorly, not oval in shape but changing direction at an obtuse angled turn; posteriorly and ventrally it shades off into dirty white or chocolate brown, nowhere reaching the root of the tail.† A thin black dorsal stripe is noticeable on the chocolate brown of the rump in front of the white patch. The root of the tail is covered with short brown hairs, becoming longer, coarser and blacker down the tail ending in a tuft just below the hocks, hooves black, ears dark grey, dirty white inside with some long yellowish-white hairs; nose dark greenish; colour of the iris not noted for the eye glazes in less than a minute. Between horns hairless, skin encrusted and dark grey; horns black, dark greyish at base; length measured on outside of curve 16.3 ins. circumference at base 10.4 ins., between tips 5.4 ins.; all these measurements taken on the dry skull some weeks after death.

The animal in question was a full grown bull; the skull had a strong, bony, transverse ridge between the horns, a feature lacking in the cow.

The cow was nowhere as black as the bull except for a dorsal stripe starting about half way down the back and getting thinner posteriorly, not extending onto the tail. The general colour in the region of the withers and underparts (except the abdomen) was dull blackish, chocolate just above the white stockings as in the male; the posterior part lighter, distinctly brownish on the hind-quarters, part of the abdomen, the base and proximal third of the tail being yellowish brown or ochre only about the distal third of the tail black, the whole much more hairy than that of the bull; a white patch astern but not so dead white nor so sharply delineated. Head with short dull brown hairs longer and yellowish brown between the horns. The muzzle in this case dark greyish black, iris light sandy yellow with black flecks, the iris glazing and becoming indistinguishable within a minute or so of death.

The cow weighed 600 lbs without entrails, the horns only 10 ins. long, circumference at base 6.5 ins., distance between tips 3.9 ins.

Unlike the Rhinoceros the "Temadau" has no particular value and its meat, at some seasons perhaps, has a most unpleasant taste (like a Rabbit that hasn't been drawn) very slightly evident at all other times, facts which combined with its ferocity when wounded and the light weapons of the natives make it anything but an object for pursuit, wherefore but little is known of its life history. It is mainly dependent on the aborigines, doing a good deal of damage to their "padi" and when that is cleared, feeding on the secondary

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† Javan and possibly Malayan ones may lack this patch

growth that springs up, living mainly in the larger growth of some older clearing; unless molested it is therefore little of an old jungle animal and if the natives desert one part of their country it is fairly certain that the "Temadau" will move on in time, as has happened in the Ulu Mukah. This predilection for secondary growth, which the Dayaks call "Temuda," and the Malays "Jerami" or "Blucher," may perhaps account for its name in the former instance.

During the heat of the day they lie up either in thick secondary growth or beside a stream on a wooded hillside, descending about five o'clock in the evening to feed either on the "padi" or the first years "Temuda," of which they are particularly fond. Herds usually number 8 or 10, very occasionally as many as forty or fifty, sometimes only pairs or a solitary one. The bull described descended one evening into a clearing, announcing its coming by calling twice, a short and very nasal "moo" not so deep as a domestic cow; he passed by in the "Temuda" about 10 yards away, all one could see being an immense cloud of flies and occasionally the tip of his tail as he brushed them off. Eventually he put his head round a bush and a .44 Winchester bullet took him near the base of one horn, knocking him off his feet; a Skapan Penghulu, by name Tama Guru, rushed in with a large spear and stabbed the beast on the ground and again as it got up, when it made off tall in air without making a sound, T. G. following hot foot and supplying plenty of the latter commodity. I shot it again through the lungs as it went by and it carried on about 50 yards to a small rise, stopped to have a look round, did a few prances and vanished over the rise, from whence came confused "mooings" followed by a very definite yell from the Penghulu as he found the corpse; to his courage and whole hearted efforts was the securing of the beast due and his remarks on my failure to accompany him in pursuit of the wounded animal don't bear repetition.

I afterwards followed the tracks back up the hillside, up a small stream, past a much trodden resting place under some rocks to a place where he had frequently rubbed against the muddy banks of the stream, disturbing a full grown cow, no doubt his mate: Deer and Pigs abounded in the clearing and neighbouring jungle but there were no tracks in the immediate vicinity of the lair. "Temadau" are much troubled by flies, more obviously so than are Deer, and this may account in part for their bad temper at times; both the Bull and Cow shot had rubbed the underside of the neck against low branches, the skin being bare and corrugated but in no way resembling the bare and often sore patch found on the underside of the neck in Deer.

Shortly afterwards in another district a herd of 8 were found living in some secondary growth and a pack of dogs was used to bay them; beyond a preliminary "moo" the herd made no sound but three times the dogs held them, on each occasion the herd breaking away before we got to them through the thick growth. Even-

tually they divided up in ones and twos, a cow with a full size calf becoming so angered with the dogs that she attacked them, and followed them back to their owners who were standing in an awkward place, enclosed in small bushes and shrubs and tall "Lalang" grass, with narrow runaways between the thickets; the cow was so intent on the dogs that she never noticed the men until she went down under a shower of buckshot, some spears and even a blowpipe dart, all fired at a few yards range. The calf was allowed to escape; it had no horns but was bright reddish brown, brighter than a Barking Deer, the reddish markings of the cow being no doubt the remnants of such a pelage.

Even the Dayaks could not say when the young were born.

The Wild Ox does not occur South of the Balleh in Sarawak as far as is known though being a good swimmer, rivers are no obstacles to it. It is found in the headwaters of most rivers to the North of this and is at first neither wary nor fierce, when encountered undisturbed in sparsely inhabited country; it does not as a rule descend to the sea shore, always a more thickly populated region, but is said to do so in the Niah district where it has some reputation for ferocity and is said to have occasionally killed natives. Near Merapok in the Lawas district are included some of the "Lalang" covered plains more characteristic of N. Borneo, the hollows of which are filled with a secondary growth sometimes used by the "Temadau" to lie up in during the day and from whence it issues forth at dusk, to the dismay of anyone who happens to meet it.

They must move about a bit but are found in the Ulu Trusan, sometimes in the Limbang, at various places in the Baram, above Tubau in the Ulu Bintulu, at Belaga and down to the head of the Pelagus Rapids but not at present into the neighbouring Mukah and Oya Rivers.

Not very much has been written of *Bos sondaicus* but it is found in Borneo and Java; its occurrence in Sumatra was once suspected but is now definitely denied and it has recently been shown to inhabit the Northern end of the Malay Peninsula. In Siam, Burma and Assam it is well known as the "Tsaine" which is a bigger more variable animal than ours; the bulls are seldom black but may be Khaki coloured, blue grey, copper beech or even with white spots, forms not found here—the cows are more like ours, light chestnut. The horns sometimes have a wide spread (not found here) recalling those of the Buffalo (*Bos bubalus*) but all sorts are found. The "Tsaine" may go up mountains to 2000 ft. or more but is usually a lowland animal, mixing to a certain extent with Seladang (*Bos gaurus*), the herds separating on being alarmed; Seladang are of course not found in Borneo and are elsewhere distinguished by lacking the white rump patch. "Tsaine" occasionally attack unprovoked and often fight each other; solitary bulls move fast when feeding and may lie down in the middle of the morning to watch their back tracks, which causes them to be regarded by

some as the most dangerous of Asiatic game to hunt.\* Solitary bulls are generally regarded as outcasts but it is more likely they rejoin the herd at intervals and go off with one cow. Calves, possibly twins occasionally, are said to take about 10 months gestation, pairing taking place about June or July and the Births about March or April.

The "Tsaine" stands just over 6 ft. at the shoulder and its record horns from Upper Burma measure  $33\frac{1}{2}$  ins. along the outside curve;  $21\frac{1}{2}$  ins. is the longest I know of from Borneo and the Gaur or Seladang is a much longer horned animal up, to 40 ins. or more.

On the islands of Bali and Madura this otherwise fierce animal is kept tame, looking something like the wild form and is imported into Singapore for beef; the Kalabits of Central Borneo and others obtain these cattle from Dutch Borneo and keep herds of them round their houses, often at an elevation of over 3000 ft. The cows very much resemble Guernseys, yellow ochre with a dark brown line starting about half way down the back and reaching to the tail; they are lighter than the wild Bornean cows, the rump patch is almost absent or very ill defined, as are the white stockings: the calves are just like the mother, yellow ochre with a dark brown line down the back and Bornean calves appear to be much the same from all accounts. Kalabit bulls are often almost black with a buff coloured face and no white rump patch but they frequently have a fair sized hump indicating a cross with Indian cattle at one time. The horns are short, straight and don't curl in the bull but are more slender, slightly curled at the tip and spread sideways in the cow which therefore differs markedly from the wild Bornean cow which has thick straight upstanding almost goatlike horns.

### **Bos bubalus** Linn.

WATER BUFFALO; Malay: *Kerbau*.

The wild ones differ in no way from the tame ones, big, slate grey beasts with thickset, barrel-shaped bodies and ungainly legs; the ears and tip of the tail are well tufted and the general appearance indicates their origin at once.

The Buffalo is found wild in various places in Sarawak notably at Baram Point and at Tanjong Sirik, though it has occurred at other localities such as the Ulu Mukah; like the "Temadau" it prefers the secondary growth that springs up in abandoned clearings. Water Buffaloes are fairly tame in this country but whether the feral ones are domestic ones run wild or the latter originally tame editions of the former (many have since been

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\*In Sarawak the "Temadau" is not particularly dangerous and even a cow with its calf or a wounded bull will nearly always prefer to run so that in the ordinary way they are a distinctly peaceful animal, if wounded and further molested they do definitely become aggressive constituting a very real danger but unless one goes looking for trouble the Temadau is not in the least likely to molest one.

imported) is not certain; from the restricted localities and the occasional domestic ones which take to the wild it is more likely that there were no indigenous buffaloes in Borneo. It is I believe uncertain if the Malayan ones are truly indigenous or just tame ones taken to the wild.

The horns are smaller in the female but I believe they are dimorphic elsewhere, some having the ordinary curved horns and some particularly wide spreading ones with a curl just at the tip.

A small and comparatively dark specimen from Baram Mouth is mounted in the British Museum as *B. b. hasei* but there seems to be no doubt that those at present to be found at Kuala Baram differ in no way from the tame ones from which they have descended. The Kalabits in the Ulu Baram keep large numbers of domesticated Water Buffaloes, some houses, such as Dalam Bah, must have nearly a hundred—which they obtain from Dutch Borneo and use for sacrificial purposes when someone dies; the Buffalo is essentially an animal of the secondary growth and it often happens that when the Kalabits move their house some distance to a patch of jungle, the Kerbau stay behind in the secondary growth of the old padi farms and eventually become quite wild. They differ in no way from the domestic ones but, as they are rather numerous, exert considerable influence on the country, keeping up open spaces and paths, cropping the grass and browsing on the leaves of the secondary growth which doesn't have so much chance to grow up and eventually develops into a park-like type of country not unlike the Buffalo "padangs" to be seen round many outstations. In some places they have produced a curious effect like a railway track with the sleepers taken up, for by walking along a path and each one putting his feet in the same place as his predecessor they have produced a most regular ridge and hollow arrangement across the paths they frequent.

#### ORDER V RODENTIA.

##### Gnawing Mammals.

Squirrels, Rats and Mice, Porcupines, Beavers, Rabbits and Hares.

The Rodents are distinguished at once by the two pairs of enormous front teeth, probably most developed in Beavers who are able to fell trees with them. Borneo is full of Squirrels, as may be seen in the accompanying table which however omits the Flying Squirrels since they may easily be recognized; Rats and Mice are also very numerous but so variable and uncertain that their identification is by no means easy: three Porcupines exist but of course no Beavers or Rabbits.

Some Squirrels run about in the branches, some on the ground, others glide from trunk to trunk, the size of the animal varying almost from as large as a Rabbit down to minute Mouse-like forms. Some Rats are also particularly large but the Spiny Rats are perhaps the most peculiar for many of the hairs have for some reason become

stiff and sharp-pointed very like the short flattened quills of one of the Porcupines (*Trichys hirsuta*), towards which they may represent a stage in development.

Actually Squirrels are the most interesting Rodents; the largest is a very bushy tailed animal with tufts of hair on its ears, a beast peculiar to Borneo, whilst the common Giant Squirrel (*Ratufa*) is nearly as large as a Rabbit. There are several medium size Squirrels, Prevost's Squirrel being the most notable, for it is divisible into half a dozen races and no two specimens are absolutely the same in colour; smaller Squirrels are numerous, the common little Coco-nut Squirrel together with a number of short tailed ground living forms. Finally one comes to the Pygmy Squirrels, amusing perky little animals no bigger than a Mouse but presenting all the Squirrel characteristics; somewhat different are the tiny Flying Squirrels also with medium and full size representatives.

Mr. Oldfield Thomas has made an interesting point in regard to the Pygmy Squirrels of the Sub-family Nannosciurinae; W. Africa and Malaysia present a few Mammalian resemblances and there occurs in the former a little Squirrel (*Myiosciurus*) apparently belonging to this Sub-family so characteristic of the latter region. America is full of Squirrels of the Sub-family Sciurinae, some of which such as *Microsciurus*, resemble the Pygmy Squirrels in appearance though belonging to the other Sub-family; in Guiana there appears to be a little Squirrel *Myiosciurus* actually belonging to the Sub-family Nannosciurinae rather than the prevalent Sciurinae, so that the true Pygmy Squirrels would appear to be found in Malaysia, W. Africa and Guiana.

This sub-family is unknown in the Malay Peninsula, but has representatives in Sumatra and the Philippines and in the Sulu Archipelago.

*Hystrix mulleri* Jentink.

PORCUPINE. Iban: *Landak dudul*; Kayan: *Kalong*; Tagal: *Kramok*; Murut: *Tautong*, *Lisis*, Dusun: *Garit*; Bajau: *Utun*; Selakau Dayak: *Penanam*, Sennah Dayak: *Bedah*.

The fore part of the animal is covered with stiff, slightly grooved, blackish bristles, the rear half with long thick quills white in the young and slightly yellow in the adults; in all cases with a black band about  $\frac{1}{2}$  in. long on each quill, rather nearer the extremity than the base. The tail is very short and has a rattle consisting of a number of short quills each converted into a hollow cylinder on the end of a stalk, the noise made by rattling these together serving as a warning; some of these cylinders have the pointed tips broken off irrespective of the age of the animal. The nuchal crest is white tipped, short haired, not long as in the European species; here and there all over the body are long, thin, supple, hair-like bristles about twice as long as the quills. The whiskers are very long, black in the young, some of them white in the adult, reaching back a long way behind the ear.

The feet are very short, plantigrade, armed with short stout claws in the young, the toes very wide spread on the forefeet; they can of course dig well and, if it were not for the quills, the hump behind the shoulders would be quite conspicuous, as in the Anteater. They live under fallen trees and between rocks as a rule but no doubt help to excavate their own earths. The head is very blunt, the incisor teeth large and capable of giving a sharp nip or gnawing a way out of most places; they eat almost anything, even poisonous "tuba" roots, holding their food if small (such as monkey nuts) between the soles of their feet but if larger between their feet and the ground, food though often carried in the mouth being always held down to be eaten. They seem to be poor climbers, at least I have never seen them make any attempt to do so.

Loose quills are often found lying about in the jungle and one is often told Porcupines are capable of projecting their quills at will against an enemy, a physically impossible feat, whatever natives may say; as a rule "Porky" runs away at first in a swift jerky gait, suddenly stops and runs backwards or sideways into its pursuer, the sudden change of direction being most disconcerting. They can sometimes be hunted with dogs who soon learn to go for the unprotected head, for the Porcupine cannot roll itself into a ball like a Hedgehog and is soon killed; though they look so clumsy they have a most surprising turn of speed which would usually carry them safely to their burrows were it not that they very easily get confused when pursued. In other countries they are eaten by Tigers and Leopards but take little notice of each other's quills—there is also a story, for which there is some justification, that once the quills stick well into an enemy they go on working into the body and may some days after cause the recipients death. They are noisy animals particularly at night, the alarm being a series of chuckles with an occasional grunt and a couple of stamps of the hind feet on the ground; they also squeal when hurt. Water is often drunk and they swim well, rather low with just the head out of water. The rattle on the end of the tail is a great feature and is in constant use as a warning; the tail can be cocked up straight in the air at right angles to the body. Though sociable and gregarious, too many cannot live together, a pair that I had spending their time nibbling all the bristles off the front and hind legs of a third without breaking the pink skin; the skin is as thin and delicate as tissue paper, making them very hard to prepare and set up.

They live for a long time in captivity, get quite tame and knowing. "pedada" leaves and the bark of the branches being a great delicacy. Most of the day they lie up, only coming out about 5 o'clock in the evening; mine would also eat almost any refuse, but would not eat a dead "Flying Fox" though they consumed a Flying Lemur (*Galeopterus*).

A captive female had noticeably shorter and more stubby quills on its rump than its mate for I found he used to nibble off the

points of the quills, apparently to facilitate coition. The teats in the female are situated far forward on the chest, noticeably on the side of the body rather than underneath.

**Trichys lipura.** (Plate XII).

THE BRUSH-TAILED PORCUPINE. Iban: *Ankis*; Sennah Dayak: *Mingis*; Dusun: *Lisis*; Kayan: *Buka*.

This extraordinary animal looks like a large rat, for though it is really a porcupine the whole body is uniformly covered with small, stiff, brownish quills, resembling in shape, size and structure those found on the fore quarters of the other porcupine; the long tail is covered with scales except for a terminal tuft of bristles about 3 ins. long. Like its congeners, it is a subterranean animal and there are a number of long, fine, tactile bristles mixed up with the ordinary defensive ones on the body.

Many of the Spiny Rats recall this Porcupine for in the same way the hairs of their coat have stiffened into bristles resembling those of this Porcupine in particular.

I saw one running about in the jungle in daylight, rippling along with a peculiar snake-like effect owing to its scaliness and disappearing with great speed on being disturbed. It is a noisy animal in captivity, not so prone to stamp its feet as the ordinary Porcupine but letting off a series of louder, fiercer grunts, knashing its teeth and taking the offensive with a considerable bite. The tufted tail is a curious feature for it makes no noise though often shaken; tail-less specimens are sometimes found, even a tail-less mother with a normal young one, indicating that the tail is apt to get lost accidentally. The tail is massive and offers the most convenient hold to catch and pick up the animal, which is then quite unable to part with its tail like any House Lizard. Although the bristles on the tip have no apparent use the animal is most solicitous of them and proceeds with the tail slightly up—curved so that the extremity is well off the ground.

**Hystrix crassipinnis** Gunth.

PORCUPINE. Kadayan: *Landak jirimban*; Iban: *L. Jurieng*; Land Dayak: *Bedak*; Dusun: *Garit*; Bajar: *Utun*; Selakau: *Penatam*.

Exactly resembles *muelleri* in size and shape, and as far as is known in habits and distribution, but instead of being black and white it is a greyish brown, dun colour all over, even the large quills are yellowish where they are white in the other species.

We have only three specimens, one of which is juvenile and resembles the adult; it seems on the whole to be rarer than the former kind and it is so far unknown what relation it bears to this though possibly belonging to a different genus. The Long and the Short tailed Porcupines may be found in the same burrows but the occurrence of the present species is so unusual that it is not so far known if it inhabits the same bury as its more common relative.

## Family SCURIDAE.

## Squirrels.

- A Tail as long as body
- a Size medium, Total length  $1\frac{1}{2}$   
to 2 feet
- a<sup>1</sup> Underside white      *Sciurus hippurus pryeri*
- a<sup>2</sup> Underside red
- b<sup>1</sup> No lateral or sub-  
lateral stripe      *Sciurus hippurus grayi and  
hippurelius*
- b<sup>2</sup> White lateral stripe  
only
- c<sup>1</sup> Back black      *Sciurus prevostii borneoensis*
- c<sup>2</sup> Back grey      " " *caroli*
- b White lateral &  
black sublateral  
stripe
- c<sup>1</sup> Back fawn      *Sciurus notatus*
- " prevostii *baluensis*
- " " *atricapillus*
- " " *griseicauda*
- " " *pluto*
- c<sup>4</sup> Back black
- B Tail nearly as long as body
- a Size large, Total length over  
2 feet
- a<sup>1</sup> Ears tufted, tail  
bushy      Krampu      *Rhithrosciurus macrotis*
- a<sup>2</sup> Ears and tail  
plain      Engrabak      *Ratufa ephippium*
- b Size medium, Total length  
about one foot
- a<sup>1</sup> General colour rufous      *Sciurus jentinki*
- a<sup>2</sup> General colour  
speckled
- b<sup>1</sup> Underside  
yellowish      *Sciurus lowii*
- b<sup>2</sup> Underside  
grey      " *tenuis and brookei*
- c Size very small, Total length  
6 inches
- a<sup>1</sup> No lateral or sublateral  
stripes
- b<sup>1</sup> Ears tufted      *Nannosciurus whiteheadi*
- b<sup>2</sup> Ears not tufted
- c<sup>1</sup> Colour uniform      *Nannosciurus exilis*
- c<sup>2</sup> Black and yel-  
low patch  
behind ears      " *melanotis*

|  |                                       |
|--|---------------------------------------|
| a <sup>2</sup> Lateral and sublateral stripes            | Glyphotes simus                       |
| C Tail markedly shorter than body                        |                                       |
| a Total length about one foot                            |                                       |
| a <sup>1</sup> Colour uniform                            | Funambulus laticaudatus &<br>everetti |
| b <sup>1</sup> Back reddish with 3<br>black stripes      | ,, insignis                           |
| b <sup>2</sup> Back blackish with 4<br>yellowish stripes | ,, hosei                              |

**Rhithrosciurus macrotis** Gray.

THE TUFTED GROUND-SQUIRREL. Iban: *Krampu*; Land Dayak: *Pas (be) dawm*; Tagal: *Tuaban*; Kadayan. *Basing baiong*; Kayan. *Penyamoh*.

There is no mistaking this large squirrel, the broad, bushy, almost fox like tail and the tufts of long black hairs on its ears at once distinguishing it. The general colour is dull brown with a grizzled back, the underparts white with a well marked black lateral line down the flanks. The hind quarters and root of the tail underneath are bright chestnut red; the bases of the hairs of the bushy tail are dull brown or black, the tips grey in the young and yellowish in adults giving a grizzled appearance. The thumb is very short and small, provided with a nail.

This graceful animal has often been taken in Upper Sarawak, rather less often elsewhere, for in the former locality it is not uncommon to see its tail used as an ornament of the sheath of a "parang". It is at times an aboreal animal but is often seen on the ground, as stated by Dr. Abbott. It runs very swiftly, a specimen I saw carrying its tail straight out behind it, the undulation of this organ obscuring the rest of it as it ran straight away. It is more usually recorded as holding its tail bent over its back. It is usually found in pairs and if one is shot the other is sure to be seen in that vicinity within a few days. A rather immature specimen had a strong, musky, Stoat-like smell absent in other specimens.

Another specimen was observed feeding on some fruits that had fallen to the ground; it made off through the jungle on being disturbed, its bushy tail carried straight out behind giving an impression of an animal at least the size of a large Lotong monkey (*Pygathrix cristatus*), the Squirrel eventually vanishing among the crevices of some rocks. In some parts they are said to damage gardens and to be not at all shy, adopting a threatening attitude by sitting upright, so to speak enveloped in their bushy tail, the long black-tufted ears sticking out on each side.

Only a few mammals are peculiar to Borneo and this is one of them, being absolutely without any relations elsewhere.

**Ratufa ephippium** Muller.

THE GIANT SQUIRREL. Iban: *Engkrubak*; Tagal: *Tonta*; Kayan: *Begak*; Kenyah: *Mangka*; Kalabit: *Sagi*.

1931]. *Royal Asiatic Society*.

A very large and conspicuous squirrel, nearly three feet long with a long, dark, bushy tail; no two specimens are quite alike and it is not a simple matter to give descriptions that will fit the various forms.

In Western Sarawak is a form with a pale yellowish snout, black head and broad but indistinct black dorsal stripe, thighs and feet white or slightly buffish and a long, dark brown, hairy tail, flattened, compressed and sometimes ticked to form annulations; the fore parts of the flanks are much lighter when compared with the back. Frequently specimens are very light and whitish, others more rufous with a reduction of the black on the back approaching the next two forms to be described, whilst rarely typical forms may be recorded from outside localities.

The next form (*cothurnata*) is from the Saribas District and is much browner and more rufous, particularly on the fore parts of the flank, the black dorsal area being reduced in extent and intensity; this form again overlaps with the next and is not too well marked by the characters suggested. In the Baram area is a more or less uniformly coloured form rufous or ticked on the back with no dark area differentiated on the back; certain rather more ticked and rufous specimens from Mt. Dulit were thought to be peculiar but there is no reason for separating them as distinct. From Kinabalu and N. Borneo is a form (*sandakanensis*) in which the rufous markings have almost disappeared except just on the tip of the snout for the back is broadly black, thighs, forefeet and flanks grizzled dark grey and the very feathery tail is black with a number of buffish annulations; in the Merapok Mts. of Lawas this form occurs with a certain amount of buff on thighs and flanks indicating a leaning towards *baramensis*.

This is a common squirrel and being about as large as a Rabbit its passage through the tree tops is liable to attract the attention of the least observant, the obliging animal as a rule showing no particular fear of its pursuers; in fact in captivity it appears as a quiet, indolent and altogether amiable animal, mixing peacefully with the quarrelsome "prevostii" squirrels and sleeping in a heap together with three "Oucangs:" as a matter of fact this was deceptive for it resented handling, became most aggressive, attacked before ever it was touched, inflicted a severe bite and after a lot of chuckling gave vent to a clear string of loud rather bird like whistles either in fear or defiance; a wounded one attacked the man, who tried to pick it up and inflicted a deep wound in his skin, particularly with its lower incisor. I have seen it climbing up the bare, branchless, trunk of a tree but it is most often found among the smaller leafy branches, on which it often but by no means always sits crosswise, the long tail hanging down as a balancing organ. In captivity it will often come on to the ground and even burrow under a pile of leaves and grasses but it hardly ever descends in a wild state; the usual things are eaten, pisangs, various shoots and leaves.

The nest is a huge affair high up and far out along a branch, recalling that of a Magpie at home; a number of large sticks are very loosely set in the fork of a tree and the inside lined with some fine brownish fibres, the entrance opening downward. The whole is so loosely made that it falls to pieces when brought home and the same applies to the nest of *Sciurus prevostii*, which moreover does not differ in appearance, construction or locality.

It is a lowland animal, seldom going above 3000 ft. and is absent from the Kalabit country, Ulu Baram, being apparently shut off by the Pamambo Range some 5000 ft. high.

Abbott records a hawk (*Spilornis cheela bacha*) stooping at one in a tree and I imagine these squirrels and their companions must figure as one of the main items in the fare of *Felis nebulosa*, the Clouded Leopard, and the several other Felines which are mainly arboreal in these parts.

**Sciurus prevostii** Desm. (Plate XII).

**PREVOST'S SQUIRREL.** This is rather a common squirrel in the jungle, very active and very noisy but keeping mostly to the trees though I have seen them on the ground; captivity seems to upset their normal habits and they readily take to the ground, even sleeping there. They soon get fairly tame but are intolerant to anything else resembling a squirrel, even of their own species, and they get up many bite and run fights among themselves without doing much damage in spite of the distinctly sharp bite they can give; opposite sexes are for some reason particularly quarrelsome at times. They tolerate Oucangs, tortoises and even the larger Ratufa Squirrel and the Mouse Deer but are even more antagonistic to a Tree Shrew than to each other, the most down trodden of them always helping to chivvy the Tupaia, who made no sort of a fight against them. They never curl the tail over the back like the English Squirrel but hold it out unbent behind and somewhat inclined upwards; the tail is very much of the flue-brush variety, hairs sticking out at right angles from the long axis of the tail and not feathery and flattened as in the large *Ratufa*.

Food is usually eaten sitting along and not across a branch and whether ascending or descending or even on the ground the fore feet are much splayed, so that the digits are at an angle to the direction it is proceeding and obtain a widespread grip on each side; the "thumb" has a nail instead of a claw which is prominent both in climbing and holding its food when eating. It progresses on the ground by a series of hops but runs easily on branches and it is much more usual for its forefeet to be splayed out sideways, sometimes quite at right angles to the body, rather recalling the position assumed in the flying relatives; ascending or descending a tree the forefeet are extended horizontally, the hind feet are vertical and the whole is cross shaped, the motive power supplied by doubling up the hind legs and position maintained by pressing the widespread forelegs and the body against the trunk.

When eating, the food is held between the palms of the two "hands" and pieces chipped off by the lower pair of incisor teeth working against the upper pair, much of the food being wasted by dropping; when "squatting" during feeding it is of interest to note that their "sit upons" do not rest on the surface of the branch but touch the back of the leg whilst the Tree Shrews actually sit with the ischial region definitely touching the branch or the ground on which they happen to be.\*

This squirrel makes a huge Magpie-like nest usually high up in a tree, a nest as large and quite indistinguishable from the bigger *Ratufa* squirrel; the nest consists of a thick outer layer of fairly big sticks gnawed off by themselves and the inside is lined with much shredded bark and a few grass-like bents, the entrance being usually low down on one side of the bundle. Females are usually in milk during the first three months of the year but I do not know how many young they have, the young are recorded by my collector as being carried in the mouth by the scruff of the neck like a cat with a kitten. Pairs in captivity often assumed what appeared to be a copulatory attitude but the hinder one merely combed the hairs of the other with his long lower incisor teeth.

I have not described at length the many races of this squirrel but their distinguishing features may be seen in the "Key" to the various species of *Sciuridae*.

### ***Sciurus tenuis parvus* Miller**

THE SLENDER SQUIRREL. Another medium size Squirrel more truly arboreal than many. In colour ticked fawn, some light and some dark with a light grey, almost white, underside, the tail with many buff or greyish hairs, there are no lateral stripes and the bright colour on the forelimbs and thighs distinguish it from *brookei*.

This appears to be a common lowland Squirrel though little is known of its habits except that it ascends the lower slopes of mountains to some extent.

### ***Sciurus jentinki* Thos.**

JENTINK'S SQUIRREL. Judging by the Sarawak Museum specimens of this Squirrel (7 from Kinabalu and 1 from Murud) it has not a good claim to rank as the high altitude race of *Sc. tenuis*: *jentinki* is perhaps smaller, there is a rufous or orange-washed area on the back, the underside varies from greyish to ochraceous and the forelimbs and thighs are not markedly brighter than the rest of the body. The most distinctive feature is a light cream coloured ring round the eye and edge of the ear; in fresh skins these rings are pure white and the underside is whitish tinged with an almost salmon pink.

Undoubtedly this is a high altitude Squirrel and is stated to have been taken on Mt. Dulit and Mt. Murud; two from Mt.

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\* This is usual but not invariable.



The Brush-tailed Porcupine (*Trichys lepta*)



Prevo's Squirrel (*Sciurus prevosti caroli*)



Murud Kechil, Ulu Akah, I am inclined to think are only *Sc. tenuis parvus*; True *jentinki* does not look to me anything like *tenuis* and the eye and ear markings are distinctive.

**Sciurus lowii lowii** Thos.

**LOW'S SQUIRREL.** This Squirrel, like *Funambulus laticaudatus*, appears to have been very common even round Kuching forty years ago but the fact remains that five years recent collecting has not produced a specimen and I cannot say much regarding its appearance or habits. Nearly all our specimens have shortened or broken tails, a natural feature unless obviously damaged but giving the whole animal a suggestion of the shape of the Ground Squirrels of the genus *Funambulus*.

The general colour is a very dark brown, heavily ticked, lighter on the flanks, the tail barred; the underside is usually light cream coloured, almost whitish. To look at it is very like *F. laticaudatus* but the underside and flanks particularly lack the yellowish buff suffusion of this ground Squirrel.

Mr. F. N. Chasen writes that this is extremely common in most parts of N. Borneo where *tenuis* could nowhere be obtained

**Sciurus brookei** Thos.

**BROOKE'S SQUIRREL.** A medium size, fawn coloured Squirrel with a clear French grey underside and no lateral stripes; as it is not a common Squirrel its altitudinal distribution is uncertain but as more specimens are obtained this may prove to be a mountain form of *Sc. tenuis*,\* even though the two probably overlap in the transitional area

It is found among the trees usually above 3000 ft. and has been most frequently taken on Mt. Dulit but also on the Baram River and in East Borneo. My collectors staying at Long Akah in the Baram, only some 350 ft. high, procured a specimen which was quite likely obtained by a native on the adjoining mountains but gave a false impression of the lowland status of this Squirrel.

**Sciurus adamsi** Kloss.

**ADAM'S SQUIRREL.** This is a medium size squirrel very like *S vittatus dulitensis* but smaller and distinguished by the white patches behind the ears.

Two were originally taken by Dr. J. C. Moulton in the Baram River and subsequently named after Mr. C. D Adams, District Officer in Baram at the time; it has since been taken at low altitudes on Kinabalu and elsewhere in N. Borneo.

**[Sciurus beebei** Allen.

This squirrel appears to have been an ordinary *notatus* from the 10th mile, Kuching, but distinguished by having a median ventral black stripe; it has I am told been withdrawn by its creator as a foreign Squirrel with the wrong locality.]

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\* Mr. Chasen has since written that *brookei* is possibly not a Malaysian beast but an outlying member of a species with forms in Celebes, *adamsi* by a long stretch may be another outlying Celebean form.

**Sciurus notatus dilutus** Miller.

**THE PLANTAIN SQUIRREL.** Though this and the next squirrel vary a good deal they are both medium sized, usually a light Rabbit colour, the back ticked and the tail ringed; there is a rather broad, black sublateral and a pale buffish lateral stripe, neither of them sharply defined at their edges; the colour of the underparts distinguishes the two forms, those of *dulitensis* from the Baram and Mt. Dulit being bright chestnut red and those of *dilutus* sort of dirty greyish-red. *Dilutus* is said to be more characteristic of E. Borneo but both there and in Sarawak (Kuching, Saribas) there exist a number of specimens with ochraceous tawny underparts which should perhaps be referred to *dulitensis*.

We have one cream coloured specimen from Balingian, slightly red below and with but a faint lateral stripe and an even fainter sublateral. The young are very bright, the phalanges black, lateral and sublateral stripes well marked and the underside a clear chestnut. In a collection of 28 specimens in the British Museum, all from the Saribas, 3 have the underparts almost grey, 15 deep reddish and 10 are intermediate.

The "Tupai pinang" or "Tupai kelapa" does an enormous amount of harm to rubber trees and coco-nut palms, nibbling the young shoots of the former and attacking the "umbut" or growing point of the latter as well as boring holes in young nuts; they are most prolific breeders and have 3 or 4 young at a time in some hole in a hollow tree. In captivity they fought among themselves but didn't molest the Tree Shrews or larger Squirrels; the tail is peculiar in this species, rather sparsely covered with hairs sticking out in all planes at right angles to the long axis of this member and giving a sort of flue-brush appearance.

**Sciurus notatus dulltensis** Bonhote.

**THE PLANTAIN SQUIRREL.** As I have remarked above this squirrel resembles *dilutus* except for its bright red underside. It is found chiefly in the Baram district and on Mt. Dulit and even on Kinabalu. Except in the smaller size it much resembles one form of *Sciurus prevostii* (*baluensis*).

**Sciurus nigrovittatus orestes** Thos.

**THE GREY-BELLIED SQUIRREL.** This is the Bornean representative (never found in the lowlands) of a species found in Java, Sumatra and the Malay Peninsula. The back is a uniform, rather warm, rabbit colour, the tail darker, the lateral and broad sublateral shading indistinctly off into a dark grey underside. There is a white patch behind the ears.

Mountains such as Kinabalu and Dulit from 3—5000 ft. are its home.

Elsewhere *nigrovittatus* and *notatus* (*vittatus*) forms occur side by side and the former cannot be considered the mountain form of the latter.

**Sciurus (Tomeutes) hippurus hippurellus** Lyon.

**THE HORSE-TAILED SQUIRREL.** This is a medium size Squirrel prettily marked in a delicate way; the back, flanks, fore and hind legs and even the base of the tail ticked much the same colour as a Rabbit, the crown, nose and sides of the neck grey, the tail black, some of the hairs at the tip being rather rufous. There are no lateral or sublateral stripes and the underside is red or chestnut.

It is a common lowland species but not found at any height on mountains in Sarawak proper: the Kapuas and Pontianak area are about its limits as it does not cross the Rejang River and is replaced in N. Sarawak by another race.

It is usually seen in pairs and is quiet and inoffensive as a rule, not making the usual chattering noise of most Squirrels; in captivity it was the easiest of all to tame and lived a most peaceful life, being far less aggressive than its relatives.

**Sciurus (Tomeutes) hippurus grayi** Bonh.

**THE HORSE-TAILED SQUIRREL.** Kayan: *Petitti*; Kenyah: *Pelabun*.

This pretty Squirrel has the crown, nose, sides of the neck, fore and hind legs a dark grey but the back ticked a bright rufous, much darker and redder than in the S. Sarawak race; the underside is of course red and there are no lateral stripes.

Though common in the Baram area its range is rather restricted elsewhere for it is unable to cross the high mountains of the interior; the district between the true right bank of the Rejang and the Sea is however occupied by it as far South as Mukah and the two races intermingle somewhere on the left bank of the Rejang River in the neighbourhood of Kapit and the head-waters of the Batang Lupar.

**Sciurus (Tomeutes) hippurus pryeri** Thos.

**THE HORSE-TAILED SQUIRREL.** This race has the grey head and cheeks of the other races but the back, fore and hind feet are more or less clear rufous without the tickings and the tail is well grizzled with grey; the underside is pure white instead of chestnut.

It inhabits the Northern part of N. Borneo and does not appear to occur in or near Sarawak.

**Glyphotes simus** Thos.

**THOMAS' PYGMY SQUIRREL.** In appearance this squirrel is very like a small *Sc. notatus* for which one of our specimens was mistaken; the very large incisor teeth above and below in so small an animal is distinctive, otherwise it is just a small drab coloured squirrel with drab ventral surface, dull white lateral and irregular black sublateral stripes.

We have one from the Merapok Mts. and another from Kina-balau, from whence the Raffles Museum has lately obtained another.

The skull of this animal is remarkable when compared with that of *Nannosciurus spp.* which is roughly the same size, for the former has comparatively much longer and thicker incisor teeth above and below than the latter.

**Nannosciurus whiteheadi** Thos.

WHITEHEAD'S PYGMY SQUIRREL. Dusun: *Pantin*.

This most peculiar little Squirrel is confined to Borneo and presents an extraordinary appearance; though only about six inches long it is the complete Squirrel with a bushy tail, generally grizzled dark brownish in colour with dark grey underparts but the tips of the actual ears are black and there is a tuft of greyish white hairs an inch long on the extremity of each ear.

This species is only found on mountain tops above 3000 ft. and would appear to be commonest on Kinabalu though found also on the Merapok Mts., Murud, Dulit and even Mt. Penrissen.

As far as I know there is nothing peculiar about its habits though from accounts it appears to be more arboreal than some of the other species.

**Nannosciurus exilis exilis** Muller.

PYGMY SQUIRREL. Iban: *Pukang*; Kayan: *Oho*.

This little Squirrel is uniformly coloured rufous on the head and back, lighter on the flanks, the underparts pale but suffused with rufous.

Everywhere on the lowlands one meets with this little Squirrel, a most cheery and inquisitive little animal, now and then letting out a long drawn squeak, one of the commonest jungle noises in the morning and evening. It is largely terrestrial, running about on fallen tree trunks, occasionally climbing trees, stopping every now and then to look around and flirt its tail. It is not at all shy and comes up to inspect ones feet if one sits quiet enough but for some reason it never goes into the traps set for it and seems to enjoy perversely playing about the wire cages without thinking of entering therein

Some Dayaks set a certain amount of value on this Squirrel alleging it to bore with its male organ minute holes in bamboo, such a bamboo being highly prized by the finder, particularly if as they sometimes assert the male organ remains fast in the hole. The holes so exhibited are I believe actually made by a boring Beetle in an old bamboo.

The Kayans will not kill this little animal—small reason why anyone should—and have woven a marvellous story about it. Apparently the Gods were once very angry at the waste of fruit by the various animals and had them "on the mat" in turn, proving to the Brok, the Deer, the Pig and a host of animals that they actually wasted much more fruit than they ate or even required. Each denied the accusation but with the exception of the Mouse Deer was ingeniously shown to be in the wrong, whereupon the various Mammals concerned decided (as perhaps humans would have also) to be revenged on the "Pelandok," who thought himself so fine; but the Pelandok promised to fight all and sundry at one o'clock next day on the edge of a certain clearing and caused the men living in this clearing to dream of a most wonderful burn if they lighted

their clearing at mid-day on the morrow. The hosts of Pig, Deer, Brok and other animals issued forth to give battle at the appointed time but were consumed by the fire then at its height, only the "Oho" having had the sense to side with the Mouse Deer in this seemingly unequal contest.

**Nannosciurus exilus sordidus** Chasen and Kloss.

PYGMY SQUIRREL. This race was described from middle East Borneo. It is much duller on the whole than Sarawak and W. Borneo specimens.

**Nannosciurus melanotis borneanus** Lyon.

PYGMY SQUIRREL. This pretty Squirrel is grayish buff in general colour, quite buff below and on the head, two narrow buff stripes start on the nose and broaden out into creamy white beneath the eyes, becoming more buff again as they pass under and reach behind the ears. There is a deep black patch behind the ears and a greyish pointed dorsal marking between them and on the nape.

Though this Squirrel is so common in collections I have for some reason never seen a live one and cannot speak of its habits for certain, though they are doubtless much the same as those of *N. exilis* which is easier to observe.

**Nannosciurus melanotis pallidus** Chasen and Kloss.

THE BLACK-EARED PYGMY SQUIRREL. This race is recorded from middle East Borneo and is pale when compared with Sarawak specimens, particularly as regards the head and buffy ear stripe.

**Funambulus (Lariscus) insignis diversus** Thos.

Land Dayak Pass *gegin*.

A medium sized but very distinct squirrel, for the flanks and thighs are bright chestnut and the back grizzled greyish with a median and two lateral black longitudinal markings, the belly and chest are creamy white. The tail is short, the same thickness all along, more or less grey above and quite rufous below.

A not uncommon lowland squirrel, found usually singly as far as I know, all over Sarawak, almost entirely terrestrial or seen running about on fallen tree trunks

**Funambulus hosei** Thos.

GROUND SQUIRREL. This peculiar squirrel resembles *insignis* in size but in little else, in colour it is very dark, a dull rabbit colour, darker than the two light dorsal stripes of *insignis* but with no rufous at all, the underside washed with pale yellowish. There is a peculiar, median, dorsal, narrow, reddish-buff line with a fairly wide black area on each side, then outside that on each side a light almost dirty white longitudinal stripe from shoulder to tail and outside these another black one, the whole suggestive of late al and sublateral stripes not yet shifted down onto the flanks.

The tail is not fluffy, and the snout is short, not elongated as in an allied Malayan form, of which it is probably not the Bornean representative.

It has been taken on Kinabalu at 5000 ft. and at a similar altitude on Dulit and Batu Song but is not represented in our collections and seldom elsewhere.

**Drenomys everetti** Thos.

GROUND SQUIRREL. Dusun: *Mengaluton*.

The back is uniformly grizzled dark all over, the underside grey, the tail short and thick.

This is I believe an entirely terrestrial squirrel found apparently on all mountain tops above 3000 ft., Kinabalu, Pamambo Range, Dulit, Penrissen and Poi. It looks like a large rat running in and out of the fallen tree trunks and is I suppose one of the commonest high altitude animals.

**Rhinosciurus laticaudatus** Mull. and Schleg.

GROUND SQUIRREL. The back is very dark, slightly ticked and with long black bristles; the vent is cream coloured, a little fulvous on the flanks, the tail as usual short and thick. The snout is long.

This species in old days was very common round Kuching but, in keeping with many other animals, felling the jungle has driven it away and in five years including much collecting near Kuching only one specimen has been taken; it occurs apparently in other parts of Sarawak but I have never seen one and cannot say anything about its appearance or habits.

**Petaurista nitida rajah** Thomas.

FLYING SQUIRREL. Malay: *Kubong merah*; Dusun: *Tagaut*.

This large flying squirrel is a bright chestnut red all over, but the nose, a ring round the eyes, the ears, forefeet and hind feet are all tipped with black, and there are here and there a certain number of black hairs on the back; immature specimens are darker, more blackish whilst very young ones have the head and back black. The underside is paler as is also the tail which is much like it in colour. This species is of course famous for the cartilaginous support running back from the wrist supporting and extending the patagium during flight.

Though a common animal I have never seen it wild, but one in captivity proved a most surprising animal; it was remarkably fierce, growled and advanced threateningly when annoyed, curiously enough striking out suddenly with one or both of its sharp clawed forefeet; the blunt face, big black beady eyes and black upstanding ears gave it a most aggressive appearance. It of course climbed well, the patagium folded up so that it was neither obstructive or noticeable and the long tail mostly used as a balancing organ; when at rest on a branch or on the ground the tail was bent round over the back and the black tip recurled over the extremity of the tail: when asleep the tail was curled round the body and face. During the day it was not a very wakeful animal but in the evening used to come out and feed on bananas; I never saw it gliding but it used to make

prodigious leaps and progress on the ground in a series of rather awkward hops suggesting that it was not very used to the lower regions.

The habits of an allied species *P. philippensis* have been described in India; apparently it is nocturnal, lives in the hollows of trees or the dried fronds of tree ferns, often goes in pairs and returns to the same place night after night: it is sluggish and reluctant to leave its hole by day, can glide nearly 100 yards and alights with a slight "phut," as I have also noted in some of the smaller Flying Squirrels. It appears to breed all the year round, to have one young which remains with its parent until nearly full grown; the nest is said to be lined with leaves and a mixture of the animals own fur.

**Petaurista nitida thomasi** Hose.

FLYING SQUIRREL. Dr. Charles Hose described this species from the Silat, a tributary of the Baram River; it is apparently just like the big red Flying Squirrel but lacks the black tip to the snout, ears and tail, being therefore rufous all over.

**Petaurista nitida lumholzi** Gylf.

FLYING SQUIRREL. Another race has been described from Central Borneo remarkable in the main for having very poor black tufts to its ears. The validity of these races rests on single specimens and awaits further examples, for Flying Squirrels are no less subject to variation than other Squirrels.

**Petaurista (Aeromys) phaeomelas.**

FLYING SQUIRREL. This is a large Flying Squirrel only slightly smaller than *nitida* but as a rule dark chocolate brown in colour, with a varying amount of grey grizzling on back, hindlegs and tail.

It is not a common Squirrel but has been taken at various places in the lowlands of Sarawak. It has been put in a separate genus with a race (*tephromelas*) from the Malay Peninsula.

**Hylopetes everetti** Thos.

FLYING SQUIRREL. I think this medium size Flying Squirrel is the commonest in Sarawak; in colour a varying shade of yellowish brown to buffish on the back and head which may be grey, the feet and patagia black, or at any rate a very dark brown, as is the underfur. The underside is grey, the flattened tail varying from dark brown to umber, constricted at the root where it is either a pale clear grey or buff.

I have at times seen this Squirrel, running up a tree trunk and along a branch in the ordinary way but sometimes ones attention may be attracted by a falling leaf acting queerly, descending on a long slant, sometimes tilting in front and sometimes behind the supposed leaf may land on a tree trunk with a quite audible "phut" and the Squirrel scuttles upwards to be soon lost to sight until another flight is made.

**Hylopetes (harrisoni) caroli** Gylf.

FLYING SQUIRREL. A single specimen was described from E. Borneo notable for having the white area of the throat continued in a narrow line down the underparts: it is not much to found a race upon but we have a single specimen from near Kuching which would raise it to specific rank (*everetti* being there found also) if one believes in its distinctness, a course I do not follow.

**Iomys lepidus** Lyon.

FLYING SQUIRREL. Another race has been described from S. W. Borneo, differing mainly in being smaller than *thomsoni*; the name *lepidus* has also been used for the Javan form of *Hylopetes everetti* and I consider that this race is of doubtful value.

**Iomys thomsoni** Thos.

FLYING SQUIRREL. Next to *Hylopetes everetti* this is the common small Flying Squirrel; it is slightly bigger, a more uniform dark brown and the tail though constricted at the base lacks the pale clear buff characteristic of that region in *H. everetti*.

On the ground, which is not of course its natural habitat, it proceeds in a series of hops, the tail stretched out behind and sharply arched proximally. It of course climbs readily and takes prodigious leaps but when feeding the tail is curled over the back and the tip recurled just behind the head in a position exactly similar to that adopted in *Pteromys nitidus*.

**Pteromyscus pulverulentus borneanus** Gunth.

FLYING SQUIRREL. A medium size Flying Squirrel about 18 inches long, the general colour of the underfur dark brown but obscured by masses of grey hairs which constitute the prevailing colour, except for the tail which is dark brown and very fluffy.

Malayan specimens are I believe more brown and not so grey, but so few specimens are known that I cannot say if the Bornean race is separable.

**Petinomys genibarbis borneoensis** Thos.

FLYING SQUIRREL. This is the first of the Pygmy Flying Squirrels, tiny little animals little more than six inches long. *Genibarbis* is a uniform reddish brown with many light hairs on the head and a pure white underside.

**Petaurillus setosus** Temm.

FLYING SQUIRREL. There are a number of these Pygmy Flying Squirrels of which this is the one most often taken, though it is comparatively rare. It is a very dark brown with an irregular mass of greyish hairs on the back, the head quite grey, the tail quite brown, constricted at the base, where it is white on the underside like the rest of the body.

**Petaurillus hosei** Thos.

FLYING SQUIRREL. All the Pygmy Squirrels have long and pointed ears but those of *hosei* are twice as long as in *setosus*; the white tipped tail is also peculiar to this and the next species.

***Petaurillus emilliae* Thos.**

**FLYING SQUIRREL.** This is described as being exactly like *kosei* but smaller, a not very distinctive character when dealing with two "species" which both come from the same district, namely the Baram.

## Family MURIDAE.

## Rats and Mice.

Bornean Rats, all Oriental Rats, have long been the bane of systematists; colour, spines, skulls and length of tail all vary so much that there are a host of species most difficult to identify and it is not easy to name and describe the common Rats one may meet.

## Non-Spiny Rats.

***Rattus sabanus sabanus* Thos.**

**JUNGLE RAT.** A large and yellowish, buff coloured jungle rat with a sharply defined, creamy white underside, the hairs everywhere soft and not spiny. The clear bright colouring, large size and very long tail distinguish this species.

It has been taken all over Sarawak sometimes on mountains such as Kinabalu, Dulit and Poi, and sometimes on lowlands at Baram, Niah and near Kuching; there are races in Java, Sumatra and the Malay Peninsula.

***Rattus muelleri borneanus* Miller.**

**JUNGLE RAT.** This is another large Rat whose colour I can only describe as "ratty" and whose underside as a pale creamy white; like *R. sabanus* it has a long tail, noticeably very large hind feet and soft non-spiny hair.

It occurs all over lowland Sarawak and Borneo but has also been taken quite high up on Kinabalu; houses and clearings are not frequented and this Rat is to be found mainly in old jungle

***Rattus infraluteus* Thos**

**JUNGLE RAT.** This curious Rat is probably peculiar to Kinabalu; it is quite a large animal, very furry and spineless, dark brown above and below.

The "*rattus*" Rats come next and it must be confessed it is difficult to convey a clear account of the species as they occur.

***Rattus rattus neglectus* Jent**

## THE MALAYAN FIELD RAT

Definitely a field Rat, not found in towns though it may occur on the outskirts or be found round native houses, for example in rice fields, where it does a good deal of harm. Beyond being "ratty" in colour it is notable for a whitish or light grey underside, very distinct from the flanks and back. The small hind feet clearly distinguish it from *R. muelleri*.

***Rattus rattus diardi* Jent.**

## THE MALAYAN HOUSE RAT.

Very similar to the last but the underside a dark grey almost ochraceous, not so distinct from the colour of the upperside. Strictly

speaking it is often difficult to determine specimens as one or the other species and it is quite possible interbreeding goes on, particularly on the outskirts of towns where the two overlap.

**Rattus norvegicus** Erxl.

THE SHIP RAT.

Occurs in the ports of Sarawak and is noticeable for its short tail, shorter in fact than its head and body, whereas that organ is the longer (or as long) in the Malayan House Rat.

**Rattus concolor ehippium** Jent.

Though distinctly "mousey" in colour this animal is actually a small Rat, larger than the European or Asiatic House mouse (*Mus musculus* or *humourous*\*) whose appearance in Sarawak is uncertain; this small Rat is very common in houses.

Spiny Rats.

**Rattus surifer bandahara** Robinson.

JUNGLE RAT. This was formerly confused with the next longer established species. Both are medium sized, long tailed spiny rats, a rather clear buff above and white below. The species in question was separated on account of a varying almost pinkish collar showing on the underside of the neck, the white of the underside further not reaching to the sole of the hind foot.

It is found with the next species on Kinabalu and certainly on the lowlands of Sarawak.

**Rattus rajah rajah** Thos.

JUNGLE RAT. As I have mentioned, this species is very like the above, with which it occurs, the characters separating them being very technical points.

**Rattus whiteheadi** Thos.

JUNGLE RAT. A very variable medium sized Rat—about the size of *R. concolor*. Some specimens are a pretty fawn colour, with a pinkish bloom on the ventral surface in life though this fades somewhat after death. Other specimens are more "ratty" in colour and greyer below, so much so that Thomas tried to separate those of Kinabalu from other parts of Borneo but the variations are found throughout the country and are not peculiar to any one locality.

Like *R. muelleri* it is found only in old jungle and never in houses or clearings.

There now follows a host of Rats, many peculiar to Kinabalu.

**Rattus alticola alticola** Thos.

Only known from the higher parts of Kinabalu, up to about 8—9000 ft.

**Rattus alticola ochraceiventer** Thos.

JUNGLE RAT. From Kinabalu below 3000 ft.

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\* Recorded from Sandakan.

**Rattus rattus baluensis** Thos.

JUNGLE RAT. Found on Kinabalu only from 8—10,000 ft. and possibly a high altitude representative of *neglectus* which occurs up to 3000 ft.

**Rattus baeodon** Thos.

JUNGLE RAT. Kinabalu only.

**Rattus cremoriventer kina** Thos.

JUNGLE RAT. Described from a low elevation on Kinabalu but also found elsewhere in the lowlands.

**Rattus rapit (jerdoni)** Thos.

JUNGLE RAT. Kinabalu, Dulit and Penrissen as well as lowlands such as Lawas and Niah

Species of the genus *Chiropodomys* are all small and mostly so hard to identify that it is very uncertain how many species occur in Borneo, specimens are few, species being sometimes founded on single ones and the genus as a whole is distinctly rare.

Though small and mouse-like in size and in appearance they are remarkable mainly for the large ears and long whiskers and particularly for the presence of a nail instead of a claw on the "thumb" and "big toe," some species being undoubtedly arboreal: As in the Pen Tailed Tree Shrew (*Ptilocercus*) the tail is rather sparsely covered with hairs except for a vane at the end.

**Chiropodomys major** Thos.

PENCIL-TAILED MOUSE. Several taken at Sadong and one from Kuching, notable for the comparatively long tail. A specimen was taken alive in a trap set in the top of a tall tree and was kept for a long time, feeding on fruit and bananas. Normally it was not active until evening but on being disturbed during the day became very agile and quite savage for so small an animal, making determined efforts to bite its aggressor; ordinarily it was a scrupulously clean and rather dainty little beast.

**Chiropodomys legatus** Thos.

PENCIL-TAILED MOUSE. Found only on Kinabalu and apparently the largest species of the genus.

**Chiropodomys pictor** Thos.

PENCIL-TAILED MOUSE. So far found on Kinabalu and also at Balingian on the coast near Mukah. The tail is relatively very short, much shorter than the body.

**Chiropodomys gliroides** Thos.

PENCIL-TAILED MOUSE. One taken on Kinabalu at 1000 ft. agrees with some from Burma and Tennaserim.

**Chiropodomys pusillus** Thos.

PENCIL-TAILED MOUSE. From Kinabalu 1000 ft.

**Haeromys margarettae pusillus** Thos.

JUNGLE MOUSE. Found on Kinabalu and smaller than *m. margarettae*.

**Haeromys m. margarettae** Thos.

JUNGLE MOUSE. So far only known from Mt. Penrissen.

## ORDER IV CARNIVORA.

(Cats, Dogs, Stoats, Badgers, Otters etc.).

This Order is made up of Flesh-eating Mammals, reaching their highest specialization in Cats, provided with long, sharp, canine teeth for stabbing and holding their prey together with knife edged molar teeth working against each other like the blades of a pair of scissors in cutting up their meat. All Carnivores exhibit these characteristics to some extent, in accordance with flesh-eating requirements.

The Order includes of course the Seals, Walruses and Sea Lions, Mammals entirely absent from Borneo and requiring no consideration here; Dogs, Jackals and Foxes are also unknown and call for no special mention. Cats however abound and, in the absence of Tigers and true Leopards, the largest is the Clouded Leopard, a beast some 6 feet long and probably a lowland representative of the Central Asian Ounce or Snow Leopard. Civet Cats are most numerous but differ from Cats in many ways: the latter have their claws retractile within a sheath usually absent in Civets whose claws are as a rule only partially if at all retractile. Cats further have a very short blunt muzzle, a few molar cutting teeth specialized in accordance with their flesh eating requirements whilst Civets have a rather long sharp-pointed muzzle and many not so particularly specialized teeth in accordance with their more omnivorous habits. Allied to the Civets is the Mongoose of Africa and the Oriental Region, but the Bornean representative has not the snake-killing propensities of some of its relatives.

Borneo possesses an unmistakable Bear, probably the smallest form there is; there are two kinds of Otters, a most offensive smelling Badger, a Ferret Badger, a large Marten and a Stoat which do not call for particular mention.

**Ursus (Helarctos) malayanus** Raffles.

HONEY BEAR, SUN BEAR, Malay. Bruang; Iban: Jugam; Murut and Tagal: *Bawang*

This is one of the smallest of Bears and is covered with short, coarse shiny black hair except for the snout, which is grey as far back as the eyes, sometimes enclosing them in rings like spectacles; there is also a yellowish white, sometimes almost orange, usually V shaped patch on the throat. It has a large broad head, comparatively thin neck, narrow chest, long bow-legged forelegs, high shoulders, rather big stomach, very short hind legs, low, rounded hind quarters and the shortest of tails. Like all the bears its feet are plantigrade, provided with long curved claws which, combined with the bandy forelegs and rather inturned toes, give it a clumsy, rolling gait accentuated by holding the head low and swinging it from side to side as it walks. It is at all times a very restless animal, never still, its head and nose particularly being always on the move. The eyes are small and protruding, the ears very small and rounded,

the tongue surprisingly long when extended. Very old specimens become very wrinkled and almost grey on the forehead and crown, which gives them a most ludicrous, worried look.

The yellowish white patch is often comparatively larger in old animals but not always so; in the young it is usually V shaped set with the point backwards and other examples show various stages in the opening out of this V into a diamond shaped patch, the yellowish white arms of the V getting broader until in some cases there is a complete diamond. I should add that in all cases this yellowish white patch has a number of small faint black spots.

Usually the Bear presents a very broad head and an absurdly thin neck but when serious it may sit up on its hindquarters and stretch its head, the skin on the sides of its neck becoming flattened out like a Cobra's hood and serving to show off this throat marking. Some Dayaks say there is a larger kind of bear with no markings on the throat, and very rarely a completely reddish brown one is said to be encountered.

This species even when young is bad tempered, being a highly strung, sensitive, nervous animal easily frightened by anything unusual; when suspicious it sits erect on its hind quarters or even stands erect on its hind legs, makes a few passes with its forepaws, breaks into a harsh bark and rushes at its opponent in an attempt to bite. It is not really brave and I have seen one scared by a full grown "Brok" (*Macacus nemestrinus*—The Pig Tailed monkey) of its own size, the Bear putting its head between its forelegs and making peevish noises. In a wild state it sometimes runs off with a loud snort and being a clumsy beast is just as likely to run into some unoffending person, a Dayak in one case having been thus severely bitten. When wounded it may charge and Dayaks have occasionally fought and overcome it with their hands. Bears can also be very playful, two together getting on well and even alone it will play with leaves, bits of wood or even its own foot, when pleased it makes a continued gurgling noise, often with one foot in the mouth as if sucking it. In captivity it is friendly with other animals such as Mias, Gibbons except at feeding time: the Mias is too quick for the Bear, fends him off with long arms if attacked or presents a shaggy back on which the Bear makes no impression.

Bears are wonderful climbers, swarming up a thick tree trunk in a series of jerks, the widespread, bow-legged forelegs encircling much of the trunk and pressing the chest close against it, the hind legs supplying the motive force; they do not dig their claws straight into the bark as do some Cats and Squirrels, the claws just preventing the Bear slipping and making it most difficult to detach. A thin branch is grasped by just the wrist and claws, the animal moving along a sloping branch back downwards and I have seen a captive Mias repeatedly try to shake them off this position with

only very occasional success: young ones that have fallen 20 ft. or so seem none the worse for it. There is great wrist play which helps them in climbing and hooking themselves over thin branches. Food is sometimes held in one forefoot, the sole bending round to almost touch the undersurface of the arm.

Almost anything serves as food, fruit of all kinds, meats, cock roaches and various insects, milk and anything sweet, captive ones taking scorpions, centipedes and any snake, poisonous or not, animals which would have given them a nasty shock had the poison organs not been previously removed. In a wild state they are fond of honey and certainly ants, their powerful teeth and strong claws soon enlarging the smallest of cracks in a log. Most animals, except true Rodents, presented with a flat surface, such as the palm of ones hand, are unable to bite it except where uneven or on the edge; not so the Bear who turns up his rather long nose and can gnaw through the flat surface of a plank.

The young are usually born singly and apparently at no particular season, being sometimes laid in a hollow tree or between the buttresses at its foot. The disposition of the mother varies, she usually but not always being concerned in making her own escape and hoping the young will follow. They are said to make rough nests in trees but I have never seen them. Captive bears were very fond of playing about in shallow water: they could probably swim if given the opportunity.

**Lutra sumatrana** Gray.

THE SUMATRAN OTTER. Malay: *Bran Bran*; Tagal: *Ketong*; Dusun: *Bongkol*.

Two species of Otters occur in Sarawak, the present species having the usual claws on its fore and hind feet whilst the other species has no sharp, projecting claws, but only a series of very small rounded nail-like objects in their place.

The former species resembles the European Otter and is a uniform fawn colour, lighter below; it is of interest to note that just as in *Cynogale bennetti*, the Civet that has taken to an aquatic life, this Otter has very wide spread forefoot with large fleshy pads. Its whiskers are also like those of *C. bennetti* but less prominent.

Though Otters are extremely common, both in fresh water and on the sea-shore, their nocturnal habits and general wariness prevent them being often observed. The head is very rounded, muzzle broad and blunt, eyes small and beady with a general vivacious look that does not belie their activity. It is not uncommon to see one or both parents followed by three or four young crossing a path nor is it difficult to catch the offspring; they soon become most tame and make good pets but set up a squeaking noise all day until fed, stowing away such quantities of food that they eventually die of over-eating. Contrary to some statements, the young swim the first time they take to the water and soon become

quite swift on land; the gait is a quick but rolling rush, the body seemingly extending on each side beyond its limbs and giving a most nautical aspect to its movements. In the ordinary way it walks with its head down, back arched and comparatively short tail stretched downwards behind.

Very little is known of the habits of these animals, the average Malay never having got beyond some Rablesian stories connected with the number of its wives.

### **Lutra cinera** Illig.

#### THE CLAWLESS OTTER.

As I have mentioned this animal is notable for the absence of its claws; size is a very variable factor but this species though equally common does not seem to run as big as the other species. In colour the adults are usually greyer but immature specimens are dark with a lightish patch on the throat

They may be met with on the sea shore or far upriver in the small side streams, this is the best place to see them, for the roar of the water drowns the noise of ones movements and the otters may be easily observed nosing about the water's edge. Sometimes solitary, sometimes in families of 5 or 6 they all take to the jungle in a sharp clumsy gallop on being disturbed, for the water as a rule is too shallow for them to find refuge. Most natives will not eat them and they are very tenacious of life, sure to escape if not killed outright. When surprised they sit upright on the hind legs and tail, the short forepaws hanging down free but in walking they assume the usual gait, head held low and back high arched and rounded.

### **Mydaus lucifer** Thos.

#### THE BADGER; *Teludu*; *Sigoeng*, Kalabit: *Dengan ruit*.

The Badger is a comparatively small animal up to about two feet in length, black except for a white crown and complete or incomplete rather narrow white stripe down the back onto the short tail; the head is thickset, snout pink, hard and rounded, the claws especially on the forefoot being long and curved, giving a rather Bear-like impression. Frequently on the nape of the neck there is a marked whorl in the hairs, sometimes two whorls but sometimes no whorls are recognizable so that neither this character nor the variable size, nor the varying continuity of the white line down the back are safe guides in classification, a fact which has caused much confusion.

This is one of the most notorious of Bornean mammals and much remains to be found out about it; a single specimen was taken on the "mainland opposite Labuan" and given the above name. The late Dr. J. C. Moulton obtained some skins made into seat mats at Mein in the Kalabit country, Ulu Baram, and

to these gave a different name, whilst Dr. Mjoberg visited the very spot and obtained the whole animal, to which he gave yet a third name. A review of all these and some from S. E. Borneo however shows them to be really all the same and they are better united under the original name.

As far as I know it is only found in the one place in Sarawak—at the Kalabit house of Mein—and the Badger lives not in caves as sometimes stated but in holes in the ground dug either by itself or by the Porcupines with whom it is sometimes found living. The Kalabit dogs find the entrance to these earths and the smallest dogs will eagerly enter and bay the quarry underground whilst the men dig furiously down from above with the aid of sharpened sticks. Earths however are rarely found and not always occupied; according to Horsfield there is a globular smooth side chamber several feet in diameter with a passage about six feet long to the outside world and I agree with him in not finding the burrows at a depth of more than about two feet.

It is a strange looking animal not more than a foot or two long, short legged but it walks quite swiftly with the body well off the ground, when actually handled it may growl and attempt to bite but when merely molested it raises the tail straight up in the air, turns the head away from the intruder and may be induced to eject to a distance of some six inches or more nearly a teaspoonful of pale greenish fluid, the smell of which was nearly enough to make sick a neighbouring Dayak and also some Kalabits, who aren't as a rule particular. They say dogs are sometimes asphyxiated in this way or actually blinded if struck in the eye by the discharge. where numerous in other parts of the world they can become a nuisance by passing under houses at night but were put to some account in old Javanese Sultanates in the making of scent in suitable dilutions. The discharge apparently comes from paired anal glands and hydrogen sulphide is a prominent component; Kalabits nevertheless eat the animal and value its skin for sale to down country people, who mix the shavings with water and drink them as a cure for fever or rheumatism.

The Badger much dislikes the light and retires under a log when in captivity. One used to dig a hole and remain with its head buried. Only the fore claws are used in digging, working backwards and forwards not sideways like a Mole; the nose was distinctly pig-like with a hard ridge round the rim with which it loosened the earth at the apex of its pointed diggings; the snout overhung the nearest point of the mouth by three quarters of an inch. A mother and one young one were placed alive in closely-made separate bamboo cages where they were quiet enough in daytime but

the young one soon scratched its way out in the night; the mother was subsequently placed in a tin and her scratchings at night could be heard in many parts of the house by Kalabits anxious for sleep.

They would not touch food in the daytime but worms, grasshoppers, cockroaches and particularly the entrails of fowls dropped into the tin of an evening were always consumed by the morning; the one specimen lived thus for over a week and was allowed to go for an hours walk every evening.

Their external anatomy was peculiar, very short legs, hind feet plantigrade, thickset body kept off the ground, absurd little tufted tail, head raised, small eyes and ears and large, rounded, hard, pink snout; the female was peculiar with a pair of inguinal teats (in the groin), none on the stomach but two pairs a long way forward on the breast.

The animal has an unusual distribution; Mein is over 3000 ft. but it is found at much lower altitudes in N. Borneo and S. E. Borneo; it is also found in Java, Great Natuna Island, but not in the Malay Peninsula.

**Nesictis (Helictis) everetti** Thos.

THE FERRET BADGER.

This is a curious animal about two feet long and with a comparatively very long tail (about 6 inches) for a Badger; it has the usual foul smell of the Badger-Stoat tribe but more resembles the Badgers in the fleshy pig-like snout and long rather curved claws on the forefeet.

As far as I know it is in Borneo confined to Mt. Kinabalu, where it was at one time said to be common, and does not occur in Sarawak nor in Sumatra nor the F. M. S., but its relatives are found in Java, parts of India, China and in Formosa.

The general colour is brownish grey, quite brown on the crown, greyer on the tail; the underparts varying from ochraceous to dirty whitish. A prominent feature is a narrow white stripe beginning at the back of the crown and losing itself about half way down the back, being actually more often discontinuous than not; the face markings are distinctive, two white spots between the eyes, the spots confluent more often than not but in some cases, according to Everett, absent altogether. The white markings behind and below the eyes are also very variable.

Thomas has separated the Bornean form generically from the Indian and other ones on rather minute differences, largely dependent on the shape of the baculum or penis-bone, a character subject to great variation in other groups.

**Putorius nudipes** Cuv.

THE STOAT. Malay: *Munsang pisang*; Kayan: *Choi puteh*; Kenyah: *Hangangan*; Kalabit: *Toh*.

This is a small and very furry Stoat with the usual offensive smell of its kind. There is no mistaking it, for above and below

the colour is yellowish buff with the head, including the chin and ears, pure white, the tail being occasionally more yellowish at the tip.

Solitary individuals are taken in various places at wide intervals but it is nowhere very common and little seems to be known of its habits. It appears to feed on fruit to some extent. A single specimen was seen running about on the bank of a stream and it is noteworthy that the feet are webbed half way along the digits suggesting mildly aquatic habits

### **Mustela flavigula.**

THE MARTEN Iban: *Bragok*; Kenyah: *Pasua*; Murik: *Bawah*.

This Marten is a comparatively large animal with a long tail. The head and shoulders are pale fawn colour streaked with silvery hairs the underparts similar but without the streaking, the back and hind legs dark brown, the tail black. The most distinctive feature is the pale yellow chin, throat and chest, the neck having a dark brown line down each side bordering the yellow.

The pointed alert face, long tail and pronounced musky smell are typical of the Marten. It is mostly arboreal, generally to be seen high up in the tops of the tallest trees but apparently descends to the ground at times, when it is reputed to attack both Pigs and Deer, fastening on either to the eye or underneath the belly and even causing their death by sucking their blood, they must attack young animals for it is difficult to imagine so resourceful an animal as a Pig being thus overcome in his prime.

A specimen shot in April appeared to have been suckling two young ones

I observed one on a sand-bank beside a stream one evening; it carried the head very high, the neck long and sharply arched, showing the yellow underside very plainly: the forelegs were very bowed and the animal progressed in a series of rather awkward hops as if not very used to the ground. The back was fairly straight but the long tail carried at an angle of about 60°, the tip down curved and hook-like.

### **Cyon rutilans** Mull.

HUNTING DOG. Dayak: *Pasun*.

There is one specimen of the Jackal, *Canis aureus* in the Leyden Museum, said to have been collected by Diard in Borneo. No further specimens have been seen or obtained but Dayaks and Kayans still assert that it does occur. It should be remembered that "Pasun" is the name applied by Dayaks to the pack of hounds usually associated with their legends of "Gerghassie," the Demon Hunter. If there be a Wild Dog in Borneo it is more likely to be a representative of the Malayan Hunting Dog than the Jackal of India and Ceylon; actually there is almost certainly no Wild Dog in this country.

## Family VIVERRIDAE.

(Civet Cats with non-retractile unsheathed claws).

- A Tail as long as body
- a Size large in adults, 4-5 ft
- a<sup>1</sup> General colour black Binturong *Arctictis binturong*
- a<sup>2</sup> General colour dark brown, face white Galling *Paguma leucomystax*
- b Size medium total length about 3 ft.
- b<sup>1</sup> General colour grey Munsang *Arctogale leucotis*
- b<sup>2</sup> General colour darker fawn do. *Paradoxurus hermaphroditus*
- c General colour dark brown Hemigale hosei
- c<sup>1</sup> Back with transverse stripes on general buff colour Pangkat *Hemigale hardwickei*
- B Tail shorter than body
- a Black and White markings on throat Tengalong *Viverra tangalanga*.

**Mungos (*Herpestes*) *brachyurus rajah* Thos.**THE MONGOOSE; Iban: *Dumbang*.

A medium size Ferretty looking animal, really black in ground colour but with a varying amount of yellow or rufous ticking, particularly on the flanks and tail, so that some specimens are almost wholly rabbit coloured whilst others in the right light look almost black on account of their fewer and darker tickings. The tail is characteristic, rather short, the hairs sticking out at all angles, long at the base and short at the tip giving the tail a very blunt tapering appearance. It has a curious shaped head, very big and round from the front view, small thick ears, little eyes very light, almost sandy, set close together and with tiny pupils, the whole capped with a pink tipped nose more or less movable. The claws are long, the digits of the fore and hind feet greatly elongated, with bare pads reaching to the wrist and heel; there is furthermore a slight webbing to the toes.

Things animate do not as a rule move swiftly in the East but the "Dumbang" has one of the best claims to be Borneo's little Speed King; occasionally it walks, even runs at times but mostly gallops (or may be does all three together) but to see it shooting in and out of holes, sliding round corners and twice round its cage in no time gives one an impression of a few passing shadows and would leave one quite unable to say what the animal looked like if one didn't know beforehand; one spent a whole afternoon skating

round a large cage before it was sufficiently exhausted to stay still for its picture and proved one of the most difficult animals to photograph.

Though so restless it proved to be a most purposeful animal and cheerfully bit its way through two thicknesses of wire netting in a night, spreading destruction among some Mouse Deer and Prevost's Squirrels that it met outside; for all that it was not always a savage animal and when handled never bit its keeper in spite of easy opportunities, in fact it was a particularly fearless animal in all its doings. Food consisted mainly of fish and the only wild one I have seen was running about in and out among the stones on the bank of a stream; the stomach of this one was crammed full of Cockroaches and this species is recorded as less partial to Snakes than its better known Indian relative. It is further said to be partly aquatic and to fluff itself out when molested until all its hairs stand out on end; it is certainly a good climber and has rather surprisingly long legs compared with Stoats and Martens whose characteristic smell is furthermore not very noticeable in the Mongoose.

Two together were most amusing and for long kept up a continuous cackling like a Jay's alarm; actually they did not quarrel often but gave vent to most malignant explosive spits when really angry. There is something almost vulpine about this Mongoose, its facial expression of malignancy, shrewdness and alertness being a fair indication of its character.

Thomas proposed two races, *rajah* from the lowlands and *dya-corum* from the mountains, the former having light yellowish and the latter warmer rufous tickings. It is only fair to say further material was awaited and whilst I find the distinction good enough as regards colour it is not so distributionally, for we have from Kuching two dark specimens resembling most of our mountain specimens and a very lightly marked one from Mt. Dulit recalling the numerous lowland examples.

#### **Herpestes semitorquatus** Gray.

MONGOOSE. Iban: *Dumbang merah*; Sennah: *Sengangupp*.

We have one specimen of this from 4000 ft. on Mt. Dulit; it has the tail of *H. brachyurus* but its uniform yellowish buff colour above and below recalls *Putorius nudipes*, from which the larger size, absence of white face and the broader tail at once separate it; the soles of the forefeet are not elongated as in the "Dumbang."

There is here also a specimen in spirit from Kuching differing in no way from the Dulit one; Dr. Abbot took several in the Ulu Kapuas, whilst one in the Leiden Museum collected by Von Hasselt at Sukadana in S. W. Borneo is redder still and even more like *Putorius*. It has been taken on Mts. Poi and Penrissen but is not confined to mountains as a high altitude form of *brachyurus*.

**Herpestes hosei** Jent.

**MONGOOSE.** We have no specimens of this species but it is stated to differ from *brachyurus* in its skull, the lower jaw particularly and to be more brownish red with shorter hairs and less curved claws.

I have seen the type in the Leiden Museum, an adult female from Baram, but it did not differ externally from *M. brachyurus*.

**Cynogale benetti** Gray.

**THE OTTER-CIVET.** Iban: *Jellu labi or Padi bahru*; Kayan: *Dingin*.

This is a curious, very thickset, aquatic animal, a short tail, comparatively short forelegs but rather longer hind ones giving the back a high arched appearance as it stands up; the general colour is a very dark brown much grizzled with white above but not so much below and on the tail, which in a few cases has a suggestion of rings at the root. There are many peculiar features about it, notably the whiskers which almost recall Bairnsfather's "Old Bill;" they are yellowish white and very numerous, those from the snout being fairly long but those from a patch under the ear being the longest and reaching back to the shoulder about 6 ins. in length: Like the Otters, the upper lip is very thick, rounded and overhanging, it is said acting as a cushion to keep the water out of the mouth. The actual nostrils are peculiar, for instead of opening forwards in the same direction as the snout they are situated on top of the nose (just as in the Crocodile) and are provided with a valvular apparatus to keep the water out. Finally the feet are unusual; the claws on the forefeet seem at times partially retractile but not into a sheath and most remarkable is the wide expansion of the four digits—the first (really of course the second) being normally expanded in a straight line from the fourth *i.e.* making an angle of 180° with it; in addition the forefeet are webbed for the proximal half of the digits. The hind feet are similarly webbed but the digits more or less parallel and but little if at all expanded; the digits of the forefeet are capable of great flexion as the beast walks, those of the hind feet much less so.

In captivity a beast was distantly savage and uttered an explosive spit when annoyed; it would not eat various dead birds or a squirrel and only very reluctantly took a few pisangs, but frogs were taken with avidity, also prawns and a few fish (such as "semilang") but most small sea fishes were refused; it used to drink considerable quantities of water but I never saw it swim in the tub provided for that purpose. As a climber it was only fair and rather uncertain, in fact it ascended a sloping branch with considerable difficulty, frequently slipping backwards, but was quite ready to scramble on top of a couple of boxes and from there to a horizontal branch, where it would spend the day asleep curled up in the most extraordinary position, its head and nose pointing straight

down towards the ground, possibly because it objected to the light. Ordinarily when walking the head and tail are carried low and the back is high arched.

Nothing much is known of its habits in a wild state but its whiskers are presumably tactile and enable it to detect its food under stones and in crevices whilst the position of its nostrils on top of its snout suggest that it may lie in wait for its prey with only its nose showing. Comparison has been made between this animal and the Otter but what habits they have in common have apparently not gone very far in evolving similar structures.

Apparently two young constitute a brood and they have been taken in May; the kitten is brown without any grizzling, some grey on the forehead and ears with two longitudinal stripes down the sides of the neck extending underneath the throat.

**Arctictis binturong** Raffles.

BEAR CAT; Malay: *Binturong*; Land Dayak: *Tun*; Dusun Saiap: *Pasiu*; Kayan: *Khaitan*.

This, the largest of Civets, is clad in long black hairs with a varying amount of dark yellowish grizzled ones, some specimens being almost yellowish and none entirely black as there is always some grizzling on the head. The long tail and the small, rounded, tufted ears with white hairs round the rims together with the long white stiff whiskers and shorter black ones are characteristic. A specimen in captivity got steadily more grizzled. This character is variable culminating in a specimen from Mt. Dulit covered with dirty white or yellowish hairs, so that it was more white than black, except on the tail.

The shape is peculiar, the head very small and so little marked off from the thick neck that an ordinary collar will not hold it. The animal is plantigrade and walks normally on the ground, not in a series of hops as do many other arboreal forms, the back is high arched and the tail carried outstretched but with the tip curled. It is however a nocturnal beast climbing stealthily about at night and using its tail as a break in descending immature specimens are certainly able to sustain their own weight hanging by the tail. Like the Ant-eater the soles of the hind feet are appose to assist it in climbing. The hair is very long and thick, the animal panting heavily in the heat of the day though no doubt warm enough at night—not that other nocturnal animals are as thickly clad.

It is a fierce looking animal when roused and only when taken young is it easily tamed; freshly caught it is quite equal to tackling a man for it has a most powerful chewing bite: adults become only fairly tame even after a long time. When annoyed it utters a low growl followed by an explosive spit. In spite of this its favourite food is bananas and many is the bunch that has been eaten during the night hanging up in solitary houses; the mouth is quite small for such a large animal, scarcely accommodating a big pisang of which it squeezes out the contents and throws away the skin. It

will eat a bird, such as a Swift and a Moorhen, but a small Squirrel (*Sciurus notatus*) lived easily in the same cage for a fortnight and then escaped; a frog was refused in favour of a pisang. A savage one fresh caught that had not fed for four days took no notice of a live fowl, which was removed after two days and nights. It took no trouble either to avoid or attack a snake (*Dryophis prasinus*) and Ridley records that it is not a snake eater, covering its face with its paws when presented with one. The claws are not retractile but there is great wrist play, food being held either between the fore paws or in one "hand" with the palm bent round almost touching the under surface of the forearm; with this amount of play the "Binturong" can make a deep scratch. Sometimes it smells very strongly but it is a cleanly beast, usually depositing its faeces in the same spot in its cage. On encountering a half grown Bear cub in assumed a cat-like altitude, back high arched and all four feet close together.

It has lived for as many as fifteen years and is easy to keep once past the initial stages; having settled down it takes an easy going outlook on life and a "Munsang (*P. hermaphroditus*) shared its box with impunity, often lying on top of its neighbour.

A form *pageli* was described from Sandakan and has been recorded from Saribas, it differs from the ordinary Binturong by no external characters but in the shape and size of the bullae of its skull and its teeth, which are smaller and more rounded.

#### **Hemigale derbyianus** Gray.

CIVET CAT. Iban: *Pangkat tekalang*; Kayan: *Padungan tana*; Kalabit: *tekalang alud*.

This curious animal is rather larger than a domestic Cat and is coloured greyish buff with a lighter more buff underside, the skin there having a pinkish tinge which fades after death. Its chief characteristic is a number of black or dark brown *transverse* markings across the back originating from two longitudinal stripes down the neck, attempting to throw off posteriorly two transverse stripes, followed by five broad transverse bars on the back extending on to the flank, where they are thinner, paler and inclined to bifurcate. The tail usually has one incomplete bar the rest of it being dull black; there are a number of dull brown markings on the head. Its eyes are enormous and the animal being nocturnal it is most often seen in the rays of a lamp when its two shining eyes are big enough to do duty for a Deer.

A marked characteristic of this and the next species is the very long neck; the stomach of one contained the remains of some worms and some ants. The kitten has the same colour pattern as the adult and a foetus was taken, in February.

"Tekalang" refers to the instrument shaped like a policeman's truncheon but much ribbed and used for rendering bark cloth soft; "Padungan tana" suggests I believe ripples on the land and "alud" means a boat, referring here to the transverse arrangement of the seats.

**Hemigale hosei** Thos.

Dusun: *Tani*.

The shape and size and particularly the long neck resembling *H. hardwickei* and the general colour being dark brown or dull black it might pass for a melanism of this species were it not that the ears, cheeks, some patches on the muzzle and the whole of the undersurface are white. It has the same whorl on the shoulders and the same black ridge down the neck as in *hardwickei*; sometimes white hairy ears as opposed to the grey sparsely covered ones, the nasal stripe broadening out on the forehead: the vestigial eye stripe and particularly the white on the muzzle at the base of the whiskers differentiate it from *hardwickei*. The whiskers are moreover very long, reaching back behind the ear, much longer than in the other species.

We have one specimen from 4000 ft. on Mt. Dulit and there are three more in the British Museum together with one from Kinabalu.

**Arctogale leucotis** Gray.

CIVET CAT. Malay: *Munsang*; Iban: *Munsang akar*; Kayan: *Munin*.

This Civet Cat is usually about the size of a large house cat with a very long tail, longer in fact than the head and body together; the usual colour is grey or greyish brown with a dark brown tail and three broken (occasionally unbroken) dark lines down the back, starting from the shoulders or further back. The underside is lighter and there is a very characteristic white line down the middle of the face. The eyes are prominent, black and beady, the muzzle rather elongated and pinched in to form a snout.

Like most Munsangs it is nocturnal and arboreal, few animals that I have seen being better climbers: it is said to be able to walk along a strand of wire and I have seen it using some very thin sticks which only made it do a few extra acrobatics without falling. As a rule it walks upright but I have one picture of it underneath its perch using its tail in support, the only time I have seen it do so; on the other hand it sometimes used to walk about upside down on the wooden roof of its cage like a fly on a ceiling, except that the Munsang was making use of the cracks between the planks and its tail hanging down free. On the ground it progresses in a series of hops.

It will eat almost anything and is fond of bananas (skin as well), frogs, various birds, a Flycatcher (*Terpsiphone affinis*), an Ant Thrush (*Pitta* sp.) and a Blue Bird (*Irena violacea*) and a "Flying Fox" were welcome but it refused a Hornbill (*Anthracoceros convexus*); even Dayaks won't eat this bird, so nauseous is the smell and the Munsang rolled it on the floor of the cage, generally fouling it. It would not allow a harmless green tree snake (*Dryophis prasinus*) to get away and put a foot on it to haul it back; the snake repeatedly missed the Munsang in striking and the two at last faced each other about 6 ins. apart, the snake head in air, when

with a deceptive quickness the Civet leant casually forward, caught the snakes head far back in its jaws, killed it with one bite and then ate it.

When taken young it makes a good pet but if older is savage and intractable, very old males reaching an enormous size, nearly as large as a "Binturong." It makes a harsh vehement expectoration in the back of its throat which seems to shake the whole animal when annoyed but has also a petulant high pitched scream used only when it has exhausted its vocabulary in the former way; like most of the family it is provided with scent glands and gives off a strong not unpleasant mousey smell. As with all the long tailed Munsangs if picked up by the tip of the it is unable to bend round and bite.

This species is one of the omen animals of the Kayans and Kenyahs though not of the Punans and Dayaks; to the two former tribes it signifies sickness and they particularly object to the noise of it squealing though it is luckily ineffectual after certain good omens.

**Paguma larvata leucocephala** Gray.

CIVET CAT. Iban: *Galling*; Dusun: *Mengulok*; (Saiap) Sennah: *Toon berubok*.

This is, with the Binturong, the largest of our Civet Cats, easily recognizable by the yellowish white head, ears, throat and whiskers, the neck and shoulders being dark brown, the back dark fawn coloured, the underside lighter and the long tail darker with a yellowish white tip; in one specimen there is no white tip.

The hairs are variously arranged, sometimes with no whorls but usually two just in front of the shoulders, making a longitudinal ridge up the neck and a shallower V shaped ridge where the neck hairs meet the backwardly directed ones of the forehead and ears.

The Bornean form is the largest form, except perhaps *P. musschenbroeki* from Celebes, and is found in Malaya and Sumatra but not in Java. Two young, said to have both had the white tipped tail were found by Everett in a female in October, 1895.

Captive ones were uniformly docile even for Civet cats and the young and half grown ones were easily tamed; though so quiet by day they used to get out at night, exhibiting in his respect a much greater ingenuity than their relatives, in fact their sluggishness by day was rather deceptive. Like the Binturong they showed a preference on the whole for bananas as food rather than fish or dead animals.

**Paradoxurus hermaphroditus sabanus** Thomas. (Plate XIII).

CIVET CAT. This is one of the smaller, long tailed Civets and is very variable in colour; the back is fawn coloured with dark indistinct longitudinal markings, sometimes as a continuous line and sometimes as an indistinct line of confluent spots. The ears, neck and tail are black, there are some white markings on the forehead, cheeks and under the eyes; the length of the lines

down the back is very variable, in one specimen there are faint neck rings recalling those of the "Tengalong" and in another there is a yellowish white tip to the tail, just as in *Paguma (Paradoxurus) leucomystax*.

It is a common animal and may often be seen on the edges of river banks at night.

Lonnberg has separated certain animals from the Barito as *P. h. baritensis* on account their larger size but this is variable and it is hard to recognize two races of this Palm Civet.

In habits it is very like *Arctogale leucotis*, mainly arboreal with a very long tail, making the same noise when annoyed and with the same explosive "spit" that seems to shake the whole animal when it is thoroughly vexed. Fruit or meat from the food as in *Arctogale*, to whom it is quite an equal in climbing acrobatics, making the same use of its tail not as a true prehensile but as a balancing, steadying organ. The different proportions of the legs, and the general altitude assumed is markedly very different from the more terrestrial *Tengalong*.

### Linsang (*Prionodon gracilis* Horsf)

THE LINSANG. Dusun: *Gurat gurat*.

This is a much smaller animal than *Hemigale* but it has the same long neck and has a comparatively longer tail with seven dark brown bars, the body has five broken, transverse bars on each side, not joining across the back as in *Hemigale hardwickei* but each bar with a suggestion of a backward prolongation at its inner (or upper) end suggestive of two parallel dorsal stripes. As in *H. hardwickei* there are two dark longitudinal lines down the neck which join onto sections of these transverse bars and give rise to what might just as easily be called longitudinal broken flank stripes. Some are more heavily marked than others, the colour pattern is the same in the young and the general ground colour is a dull yellowish white.

Its habits seem to be unknown but it has been taken on Dulit and Kinabalu at about 3000 ft.

A live female taken near Kuching in February refused all food, fish, frogs, squirrels, birds or even cockroaches; it appeared to have had two young and the two inguinal teats were exposed and worn, whilst the abdominal ones were disclosed on turning the hairs back. Not much was observed of its habits save that it ran about at night, was a good climber, had enormous ears, large eyes and a menacing aspect altogether; it slept with the long tail curled round its forefeet and face. The claws were wholly retractile and the animal made no sound or smell.

*Linsang* is remarkable first for the characters it has in common with *Hemigale* and secondly that in external appearance it almost exactly parallels the African Viverrine genus *Genetta*.



The Civet-Cat (*Paradoxurus hermaphroditus sabanus*)



The Civet-Cat (*Viverra zangalunga*)



**Viverra tangalunga** Gray. (Plate XIII).

CIVET CAT. Sarawak Malay: *Tangalong*; Iban. *Sinang*; Land Dayak: *Kasui*.

This is one of the comparatively short tailed Civets and is larger than a house cat. The general colour is grey with a well marked black line down the back and tail, a series of longitudinally arranged more or less confluent black spots completely covering the flanks. The throat is very characteristic, having in the adult conspicuous black and white markings; there are three parallel black patches starting just behind the ear, going down the side of the neck, leaving pure white interspaces—the two lower markings turn at right angles, broaden out and meet across the white underside of the throat, the upper marking taking the turn but not quite joining or doing so very indistinctly; the chin and rest of the underside are grey with numerous black spots. The head is dark grey with the base of the whiskers whitish, the ears rounded with a white border, there is as a rule a double line of black spots down the middle of the neck, the two parts converging into the black dorsal stripe. The sides and underneath the tail are grey with broad bands of black, complete distally, the feet grey and spotted, the claws very small. Not all Munsangs in life have the erectile crest of upright hairs down the back, and so very noticeable in this species.

This animal is less arboreal in its habits than the "Binturong" and others, as its short tail would seem to indicate; it is however much more carnivorous, only after some time in captivity taking to pisangs raw fish and raw meat it would not touch but fur or feather was always taken though it failed to catch a Squirrel (*Sc. notatus*) loose in its cage, even when the Squirrel used to snuff the Civet's tail. A dead Mur ("Oukang"—*Nycticebus tardigradus*) was eaten except for its head, just the particular part it usually first goes for in other animals, a dead Flying Lemur (*Galeopterus temminckii*) was neatly skinned inside out, the leg bones left attached and the rest eaten. It also attacked a Porcupine and pulled out a number of quills. A Pheasant Cuckoo (*Rhopodytes sumatranus*) it was shy of eating but a small Woodpecker (*Iyngipicus aurantiventris*) and a Bulbul (*Pycnonotus analis*) were eagerly eaten; live snakes were attacked and eaten, all except the head of a Black Cobra, whilst frogs were eaten with great avidity, as many as a dozen for a meal. Scorpions and Centipedes without their poison organs were also eaten with great ferocity. The fondness for Frogs together with an enlargement of the sides of the upper lips to produce an overhang as in an Otter (where it is supposed to keep the closed mouth water tight) all suggest that its habits are mildly aquatic; this overhang of the upper lip is absent in the young. It is also very fond of water and drinks a good deal, rather often. It is less sensitive to the sun than many of its tribe and doesn't retreat at once to a dark corner. It is a compara-

tively poor climber getting little assistance from its tail or claws; neither does it attempt to hold down its food nor use its feet to stop stray frogs jumping away, just making a quick and usually successful snap at them. The animal is terrestrial, may be partially aquatic, carnivorous and probably by no means wholly nocturnal.

This is one of the animals used by Malays for making "obat" and also perfume, the excretions of the anal glands—according to them in the ♀ only, the ♂ being useless—being separated from the faeces and giving the animal some pecuniary value.

#### Family FELIDAE.

True Cats with claws retractile within a sheath.

- |   |              |                |
|---|--------------|----------------|
| A Tail as long as body                                      |              |                |
| a Ground colour greenish yellow, black blotchings           |              |                |
| a <sup>1</sup> Large, exceeding 5 ft. from nose to tail tip | Rimau dahan  | F. nebulosa    |
| a <sup>2</sup> Medium, less than 5 ft. total length         | „ akar       | F. marmorata   |
| b Ground colour reddish brown, no black blotchings          | ?            | F. badia       |
| B Tail shorter than body                                    |              |                |
| b Size small, not exceeding two feet                        |              |                |
| b <sup>1</sup> General colour reddish with black spots      | Kuching batu | F. bengalensis |
| b <sup>2</sup> General colour uniform umber brown           | Jellu maio   | F. planiceps   |

#### *Felis (Pardofelis) badia* Gray.

WILD CAT. We have no adult specimens of this cat, which is about the size of *P. marmorata* but much rarer. Wallace collected one in Sadong and Everett one in Baram, both of which were bright chestnut all over, darker down the back, light on the underside and white on the underside of the tip of the tail as in *Profelis temmincki*. It was thought at first to be the kitten of *P. temmincki* but adult skulls were obtained and in the flesh it lacked the distinctive four face streaks.

Like many of these Cats it is known from Indo-China and also has a gray as well as a rufous phase; one from Baram is ticked grey all over, slightly more rufous on the back and the tail almost rufous, a rufous line extending along the flanks, neck, limbs and tail at the junction of the under and upper surfaces.

A most peculiar kitten was brought in alive to Kuching and was included in the Museum collection on its death; it was completely black except for a few reddish hairs on its feet and flanks and a grey face with two black eye stripes. Certain skull characters led Mr. Boden Kloss to believe it to be the kitten of this species.

**Felis (Profelis) temmincki** Vig. and Horsf.

## THE GOLDEN OR BAY CAT.

This large cat is almost as big as *Neofelis nebulosa*, the Clouded Leopard and is reputed elsewhere to be very fierce and a match for a Tiger; this is almost certainly incorrect for it is quite placid in captivity and was at one time thought to be the ancestor of the Siamese Cat, though this is not very likely.

The tail is very long and the animal varies from a complete yellowish buff with a dark line down the back to some which are ticked a rabbit colour (like the Kra or Long Tailed Macaque) or even completely dark grey with a dark line down the back; a most distinctive feature is four black stripes down the face with white in between.

They are known from Sumatra and are fairly common in S. China but I do not know on what evidence they are included in the Bornean fauna, though it seems to have been the custom.

There is no denying that but for its much larger size the above mentioned greyish form does strongly recall the domestic "Tabby" cat, complete of course with a long straight tail instead of the "kink," as in the domestic Siamese Cat's tail.

**Felis bengalensis.**THE LEOPARD CAT; Malay: *Kuching Batu*.

The Leopard Cat is rather bigger than a domestic cat but has a comparatively short tail, the general colour is a pale buff, the neck and back streaked with discontinuous, longitudinal black markings, the flanks and feet with series of black spots, the under-side white with varying black or dark brown markings. The face is prettily marked, two white eye stripes and two sets of black ones, the ears black, whitish at the base. As a rare variation specimens are occasionally taken in which the ground colour is grey or fawn coloured instead of buff, the pattern of the black markings remaining the same.

As Cats go this is one of the commonest in Borneo though not often seen for it is mainly nocturnal; comparatively small as it is, adults are so savage as to be quite untamable but kittens taken young can be turned into amusing pets. Apparently the mother accompanied by three or four young is sometimes met with and captured kittens, spitting and yowling with characteristic ferocity, are offered for sale by natives.

The rather large eyes, upstanding ears and perky expression are characteristic for there is nothing furtive about this species; it assumes a curious attitude when walking and standing still, the head and shoulders held high, fore legs quite stiff and straight, the back and rump sloping sharply away and the hind legs held somewhere out behind the body instead of directly supporting the weight of the hinder part, an attitude exactly portrayed in an illustration of Mr. F. W. Champion's remarkable work "With a Camera in Tigerland."

Even small kittens do not thrive on a milk diet and take to meat at an early age; a pretty and fairly tractable little Cat becomes a perfect fiend when presented with pieces of raw meat and domestic Cats—not at all conspicuous in his presence—give him a wide berth at this time.

**Felis (Ictailurus) planiceps** Vig and Horsf.

FLAT-HEADED CAT. Iban: *Jelu maiao*; Kayan: *Using*.

This cat is about the size of a domestic one but has a very distinctive square shaped, buff coloured head with two white markings over the eyes, the back is dark brown, the sides grizzled greyish, underneath white with light brown spots running into rings on the underside of the feet. The tail is very short and rounded, the same thickness at all points.

This cat is fond of fruit and also of fish, having sometimes been caught in the "bubu" or conical fish traps into which it may have got by accident or in an attempt at any easy meal.

A single kitten was born to one in January and the mother was not unnaturally very fierce at the time, though on the whole this cat has a reputation for being quiet and not very aggressive.

**Felis (Pardofelis) marmorata** Griff

This very beautiful cat is much larger than a domestic one though considerably smaller than the Leopard. It is difficult to describe but the general colour is greyish buff with black markings on the head, black spots on the breast and long hair on the abdomen. There are two black longitudinal stripes down the neck and shoulders, one down the back which breaks up to go flankwards, some of the offshoots opening up to form buff coloured islands, each enclosed in a dark ring with light buff again inside, some of these islands are independent of lines and some are due to their curling round. The feet and tail have black spots, uniting into vague rings near the tip of the tail. The markings throughout are only roughly symmetrical.

Kittens are much more heavily marked on the back and sides with large dark brown markings separated by light buff and white markings, the tail is profusely ringed.

It is said to be very savage in captivity and doesn't live long, it is known to frequent clearings in the jungle.

Elliot in his monograph of the Felidae figures a red form of this cat but I have never seen a specimen.

**Felis (Neofelis) nebulosa** Griff.

CLOUDED LEOPARD. Malay: *Rimau dahan*; Iban: *Enkuli*; Kayan: *Kolih*; Tagal: *Takinan*.

The Clouded Leopard is a modified Snow Leopard, not quite as big as its better known relative but much the largest cat in Borneo. The ground colour is yellowish with two deep black lines down the back. To the flanks are large blotches of deep black enclosing a patch of yellowish hairs with a few black dots, very much as in *marmorata*, only the colours are brighter, the spots much larger

and closer together. The tail is comparatively very long, the ears small and rounded. I should imagine from its mottled colour that this is a most difficult beast to see.

A shy and retiring species seldom seen and of unknown habits; beyond that it does not attack men here and is almost entirely arboreal even the natives know little of it, though it is sometimes shot at night on river banks and very occasionally caught in snares on the ground. It is mostly found in old jungle but in some parts such as the Lawas District occurs commonly in "blucher" or secondary growth.

The canine teeth are much prized by Kayans, Kenyahs and others but not by Dayaks for ear ornaments, the roots of these teeth being decorated with beads and fastened together with a string of beads passing behind the wearers head and just long enough to permit the teeth to be inserted up to the root in special holes drilled in the upper part of the lobe of the ear; the points hanging downwards and forwards give the wearer a ferocious appearance and the wearing of this emblem together with others was said in old times to have indicated that the owner had taken a head. As much as \$20 and more is paid for a pair of long, subequal teeth; only the upper canines are used, not the lower ones, but although much prized by Kayans, they will not themselves shoot this animal and always obtain the teeth from the Punans or others.

Though perhaps commoner inland this animal occurs almost everywhere, even on Mt. Matang near Kuching, where there is once supposed to have been a black one, it is not common anywhere and owing to its retiring habits, the value of the teeth to the natives and the skin as seat mats together with the Chinese regard for bits of it as medicine, the Museum does not contain a complete specimen.

It has occasionally been taken captive and is not particularly fierce, whilst the young are easily tamed, its food is said to consist of small mammals and birds but the chipped condition of some of its teeth point to it having fed on larger boned animals. It is said comparatively speaking to have the longest canines of all the cats, placing it near the extinct Sabre Toothed Tiger (*Machaerodus*) in this respect. A fine photograph of one from Burma is given in the Journal of the Bombay Natural History Society—the animal attacked a woodcutter "crouched and approached him cautiously pushing a bundle of branches and leaves in front of it either as concealment or to puzzle its prey." It is further said to have taken cattle in that neighbourhood but its behaviour here is exemplary as it is not recorded as molesting children or dogs, much less man. A live one was once brought to Kuching but was cut up by the Chinese for "obat;" one shot realized \$30 in Song bazaar, being brought for the same purpose by a Chinaman.

It is said sometimes to construct a large nest of sticks in a tree top, whether as a place of rest or for concealment or both is not clear, but it has been recorded as suddenly sallying forth and taking a Kra Monkey, immediately returning to its lair.

**Felis tigris.**

THE TIGER. Kayan. *Lajan*.

A. H. Everett records a number of traditions, usually associated with caves, about this animal, notably that of the Limbang Muruts who have a Tiger's Leap Various Simunjan Sea Dayaks at Pupok Hill and the Land Dayaks of Serambo—in fact almost anywhere one will find stories of the “Rimau Antu” mostly (as in the Pupok Hill and Bukit Rimong in the Ulu Mukah) of a flying variety that makes weird noises in caves during the night at certain seasons of the year but is nevertheless an object of considerable veneration to the Dayaks, who don't care about going near the places as a rule.

Real Tiger skins imported and made into war coats are occasionally heard of and are objects of such veneration that many natives will not enter the same house, charms of imported teeth and claws are also in evidence.

Everett describes a Tiger's skull in the Land Dayak house on Singghi not far from Kuching but the owners will on no account part with it, owing to the disaster which would inevitably follow and to examine it even is a matter of considerable difficulty It is not known if it is fossil. It consists of just the skull  $13\frac{1}{2}$  ins. long, the teeth and lower jaw being missing The Singghi Dayaks to-day deny all knowledge of such a skull and I am unable to give further information about it.

## ORDER VII DERMOPTERA

(FLYING LEMUR)

**Galeopterus variegatus borneanus.** (Plate XIV)

FLYING LEMUR *Colugo*, Iban *Kubong Plandok*, Dusun: *Langah*

Systematists have been at a loss where to place the so-called Flying Lemur but this curious animal has been generally put in a Sub-Order by itself, it presents so many Bat-like features (for the thumb of a Bat has the same function as the forefoot of the *Colugo*) that it has been regarded as the living representative of the ancestral patagiate form from which Bats have been derived, they have in fact passed through a somewhat similar stage.

It is a curious looking animal for the blunt, flattened head and the entire back are covered with a very soft woolly grey fur with which is irregularly intermixed a large amount of black and buff hairs giving not only a beautiful appearance but breaking up the general colour of the animal until it looks just like a piece of lichen or giving the same effect as stray shafts of sun light on the tree trunk to which it is clinging The arms and legs terminate in sharp curved claws. The hands are joined to the neck and to the hind feet by a thin membrane covered with a darker fur than on the back and the tail is also included to its extremity in a pointed membrane extending from each hind foot.



The Flying Lemur (*Galeopterus variegatus borneanus*)



The Moon Rat (*Gymnura rafflesii*)



The aptness of the Dayak name "Kubong Plandok" becomes more evident if one holds the accompanying plate upside down when the hunched back and to a certain extent general appearance is characteristic of the Mouse Deer; it is not quite certain that the attitude portrayed is a natural one though the animal moved about and seemed quite at home. Wild it is usually found clinging with its breast to the trunk of a tree and is able to glide to the next tree trunk it is said as much as 70 yards away if it starts at sufficient elevation, on its arrival swarming up in a series of jerks, both hind limbs moving together, the limbs are very weak and will not support it upright on the ground. The tail at rest is always curled, the large membrane enclosing a hollow, the whole affair it is supposed serving as a rudder and to alter the plane of flight, there is no evidence that it is prehensile nor that the membrane is used for catching crepuscular insects in flight, as in the case of some Bats. The anus opens into a large pouch on the underside of the tail but this area is apparently not glandular though some specimens have a faint rather sweet smell whose of unknown origin. Stomach contents indicate that it is herbivorous or frugivorous, bananas being eaten fairly regularly in captivity whilst they are said at times to damage young coconut trees. Or some reason they do not live long in captivity but are very tenacious of life on other occasions. The comb like lower incisor teeth prize off pieces of banana which are squeezed against the serrated edges acting as a sort of strainer, these teeth may possibly be used as a sort of comb for the fur though they have not been observed in the act of combing.

There is usually a single young one though Horsfield has recorded two, there being a large teat under each armpit. The only cry I have heard from young or old is a kind of harsh grating squeak several times repeated, rather like the quacking of a very hoarse duck.

The "Flying Lemur" apart from not being a Lemur does not even fly but only glides with outspread membrane. Several races have been described, *hantu* from N Borneo and *lecher* from E. Borneo but the Bornean Flying Lemur is very variable in colour and these races cannot be upheld, there is a curious brown or rufous phase characteristic of males only it is said, females sometimes approaching this shade but being always much paler than the males.

#### ORDER VIII. INSECTIVORA.

(SHREWS, HEDGEHOGS, MOLES)

#### *Gymnura rafflesi*. (Plate XIV)

MOON RAT. Malay. *Tikus bulan*; Brunei Malay and Kadayan: *Kedurna*; Iban *Haji bulan*; Tagal. *Turu*; Dusun: *Temparulik*; Kayan *Duroi*, Kendah. *Buri*.

The Moon Rat is a good deal larger than an ordinary rat, has a naked pinkish tail, short feet with subequal toes and a long pointed nose with wide pink nostrils which together with a rather abrupt forehead is very suggestive of a young pig; add

to this that its colour is usually white and the casual observer would be at a loss where to place the animal (so long as it was as far from himself as possible for it has a most offensive odour).

The iris is black, ear tinged with yellow, the nose pink, the feet paler and the claws light horn.

There is a short woolly yellowish-white underfur and a number of more sparsely distributed long coarse white hairs mixed, particularly posteriorly, with a smaller number of black ones. It is not found in Java but in Sumatra and Malaya they are I believe dark brown. We have only two parti-coloured ones from Kuching; these are dark brown except on the head, neck, throat and shoulders which are dirty white: there are two dark brown patches on the crown and just above the eyes, the proximal half of the tail being also dark brown and the rest white. The scaly tail has a number of very short hairs longer on the sides than above and below, one hair being inserted on each side of the root of the scale and one in the middle.

This is one of the most generalized Insectivores and is related to the Hedgehogs, Moles, Shrews, having really nothing to do with Rats. Its most marked characteristic is the awful smell proceeding from its anal glands and lingering in its box and on its skin for a long time after. It is nocturnal and I believe partly aquatic; in captivity it shows a great affection for its bath tub, gets right into it, and is fond of frogs and fish (cockroaches too). Its claws are grooved, a characteristic distinguishing fish eaters as a rule. Altogether it is dull and unintelligent, makes no noise but opens its mouth threateningly when disturbed and can give a very sharp bite; it is plantigrade and proceeds on the ground at quite a swift gallop.

So far as is known they are usually found in pairs, either under a fallen tree or in a hole in a bank and they may sometimes be seen about at night. The young appear to be unknown but a female in June had two embryos one about 1 in. long and the other somewhat smaller.

Dayaks tell a story how the *Gymnura* got its offensive smell. He was elected director of operations by all the animals in building a boat for themselves and caused them to fell a very large tree and shape it. He then said it was too big and a bit was shaved off and they had to do this so often that there was finally only a small stick left with which "Aji Bulan" began to pick his teeth, whereupon all the other animals fell upon him and smeared him with the sweat of their armpits.

***Hylomys suillus dorsalis* Thos.**

GROUND SHREW. Kiau Dusun: *Limpungor*.

I believe this animal is nearest to the Moon Rat (*Gymnura*) but is much smaller, the general colour very dark brown and the tail only about an inch long, in fact the whole animal is not much more than 6 inches in length. The underparts are dark greyish brown and there is the usual pointed snout, naked ears and longish

grooved claws on the forefeet. There is also a black stripe down the back but its extent is very variable though I believe always present to some degree.

In habits it is described as nocturnal or crepuscular, living in holes in rocks and very numerous on Mt. Kinabalu having been taken elsewhere only in the Merapok Hills as far as I know; usually it frequents the lower slopes but may reach as high as 5000 ft. Relatives are found in Java and Sumatra and I believe in the Philippines.

#### Family SORICIDAE.

Ground Shrews are perhaps less common in Borneo than most places, though they are not very noticeable anywhere. All are small, some very much so, some aquatic, some terrestrial but one rarely sees more than a corpse killed by mistake by some predaceous animal, lying in the middle of a path. Shrews on account of their musky odour—said to taint unopened beer!—are not eaten by other animals but may be killed in mistake for a mouse wherefore they are said to give rise to loud squeaks when pursued to warn their tormentor that he is on the wrong trail.

Shrews are remarkable mainly for their very soft fur and long, sharp pointed muzzle with mobile tip instead of the round blunted muzzle of Rats and Mice; they of course also lack the two large gnawing teeth of Rodents.

Many species have been recorded from Borneo often on single specimens and owing to their rarity it is impossible to substantiate them all. They do not frequent houses here as they do in neighbouring parts where apart from their odour they may do some good in eating noxious insects such as cockroaches.

#### **Chimarroale himalaica phaeura** Thos.

WATER SHREW. Apparently only found on Kinabalu and a rather smaller form of the Himalayan Water Shrew.

#### **Crocidura baluensis** Thos.

PYGMY SHREWS. So far peculiar to Kinabalu and like the common *C. fuliginosa* but larger.

#### **Crocidura fuliginosa** Blyth.

This is much the commonest lowland Shrew.

#### **Crocidura doriae** Peters.

#### **Crocidura foetida** Peters.

#### **Crocidura monticola** Thos.

Said to have been taken by Everett in Sarawak: indistinguishable from the Javan form.

#### **Crocidura hosei** Thos.

A very small short tailed Pygmy Shrew from the Baram lowlands.

#### **Pachyura krooni** Kohlb.

## ORDER IX. CHIROPTERA.

## BATS.

At one time the Bats and the Insectivores were lumped together but they are now widely separated and any characters they have in common, such as the similarly shaped teeth, are due to similar habits. One approaches this Order with a certain amount of diffidence for there is nowhere a really complete collection of Malayan Bats and so very many species have been described on minute differences that identification is not easy even for an expert.

Roughly there are two kinds of Bats, Insect and Fruit Eaters, the former more numerous in species. Insect eating Bats are small, have many fine pointed little teeth and as they have to exercise considerable discretion in procuring their food in the twilight they are provided with what are regarded as special perceptive organs—either a nose-leaf of some sort or a tragus—the exact use of which whether in avoiding obstacles or catching their prey is so far unknown. Such organs are quite unknown in the Fruit-Eating Bats such as the Flying Fox

Bats vary very much in shape. Some have a plain tail, some have it enclosed in a membrane stretching between the hind-limbs and some have it in a kind of sheath partly free and partly inserted in this interfemoral membrane. The interfemoral membrane in some is said to be used to entrap insects during flight and to hold them against the body until they are eaten, the wings being also used in this way

Every Bornean cave has swarms of bats, the droppings of the fruit-eaters in particular being sometimes collected as good for the garden. Usually there is a great chorus of squeaking going on inside the caves—some Bats squeak in such a high pitch as to be inaudible to the human ear—and a very musky smell in spite of which the natives do not disdain "Bat Pie". Some caves are occupied exclusively by one species, others have one kind in abundance and but a few other kinds present, quite possibly there is some sort of zonal distribution within the caves various species selecting their sites near or far from the entrance according to taste.

I am unable to give descriptions of the Bats I have not seen and there are comparatively few whose habits have been observed.

## SUB-ORDER MICROCHIROPTERA

As mentioned all these Bats are Carnivorous or Insectivorous. There is always a frill round the nose or else a Tragus or sometimes both, most important characters in sorting out the Families.

## Family EMBALLONURIDAE.

Like the next Family (Vespertilionidae) the bats of this Family have a Tragus but no Nose Leaf but the tail is free or in a sheath outside the interfemoral membrane and not contained within the membrane.

Bats of the Genus *Emballonura* are very small, not exceeding two or three inches in length. As in *Taphozous* the tail is partly

contained in a curious sheath; after following the interfemoral membrane for some time it diverges into a pocket on the upper surface of this membrane within which pocket it is partially retractile.

### **Nyctinomus plicatus** Buch.

This curious Bat is like *Taphozous* in size, in the long wings and big ears but is remarkable in that the latter almost unite across the forehead.

I believe it is this species which has been so well described from the "birds'-nest" caves of N. Borneo, they are described as wheeling round before coming out about sunset, flights breaking off now and then to emerge, something like twenty flocks each of many thousands moving off before dusk. At sundown a number of Hawks collected for the fun, two Brahminy Kites (*Haliastur intermedius*) being clumsy compared with a particularly agile Buzzard (*Maccaerampbus alcinus*) which caught and ate its prey on the wing. The affair was reversed at sunrise, Bats coming at great speed for over two hours and dropping straight into their caves.

### **Cheiromeles torquatus** Horsf.

**THE HAIRLESS BAT** There is no mistaking this revolting looking Bat, some six inches or more in length and quite naked, only a few scattered bristles representing the furry covering of other species; I have never myself seen the beast alive and must rely on Shelford's clear description of its peculiarities.

It appears that the membranes of the wings are attached in such a way to the sides of the body, arms and thighs as to form a large pouch extending from under the armpits to the back of the shoulders and sides of the chest. the young are carried in these pouches, present in both sexes, the teats of the female being situated under the armpits. More remarkable still is a strange Earwig which has taken up its abode in these brood pouches of the Bats but it is quite unknown how they fare for food though it is suspected they leave their host at times in search of living insects.

In addition to the brood pouches both sexes of this Bat have a pouch opening on the underside of the neck, into which pouch certain glands secrete a fluid with a most offensive odour, compared by Hose to the smell of burning leather. This Bat is said to form small colonies in hollow trees and not to use the caves frequented by most other Bats.

**THE TAPHOZOUS BATS** are distinguished by their greater size (exceeding three inches) from the rest of the Family.

### **Taphozous longimanus albipinnis** Thos.

As far as I have observed these Bats are solitary as a rule and I have most often seen them fly out of the crown of a coconut Palm as someone ascended the tree, the white wings are particularly noticeable in flight and give the beast an unmistakable piebald appearance.

**Taphozous saccolaemus** Temm.

Differs in having a large pouch under its chin.

**Taphozous melanopogon.****Taphozous affinis** Thos.**Emballonura monticola** Temm.

A very small and fluffy dark brown bat with black wings, the whole very like *Vespertilio muricola* but at once distinguished by the sheath tail; it is found in caves and under overhanging ledges of rock, being a fairly common species.

**Emballonura semicaudata** Peale.

This is said to be a larger species than *monticola* found in Polynesia, the Fiji Islands and Mergui Archipelago.

**Emballonura rivalis.**

Family VESPERTILIONIDAE (TRAGUS-EARED BATS).

Like the Fam Emballonuridae just described these Bats have a tragus but no nose-leaf and differ in having the tail enclosed within the interfemoral membrane instead of in a loose sheath of its own.

**Kervioula pusilla** Thos.**Kervioula whiteheadi** Thos.**Kervioula papillosa** Temm**Kervioula hardwickei** Horsf.**Kervioula bombifrons** Lyon.

Bats of this genus have a comparatively long tail, as long or longer than head and body, than which it is definitely shorter in other Vespertilionids.

**Myotis adversus** Horsf.**Harpyiocephalus suillus** Temm.

THE TUBE-NOSE BAT distinguished by the very rounded, pipe like slightly elongated external nostrils.

**Hesperoptenus doriae** Peters.

I believe this is the Eastern form of the EUROPEAN PIPISTRELLE BAT.

**Pipistrellus tenuis** Temm.**Pipistrellus imbricatus** Horsf.**Glischropus tylopus** Dobson.**Pterygistes stenopterus** Dobson.**Tylonycteris pachypus** Temm.

A peculiar CLUB-FOOTED BAT with strange sucking pads on its hands and feet

**Pachyotis kuhli** Leach.

This small Bat some 3 ins. long is unfortunately not so common here as in Java and India where it has a praiseworthy predilection for White Ants. It is distinguished from the above mentioned Bats in having only one instead of two pairs of upper incisors.

Family NYCTERIDAE.

Notable for the possession of a nose-leaf as well as a tragus.

**Nycteris javanica.****Nycteris tragata.**

**Megaderma spasma** L.

This curious species is sometimes erroneously called the **VAMPIRE BAT** and has been recorded sucking the blood of smaller Bats and even I believe of Frogs; true Vampire Bats attacking Man and his domestic animals are natives of S. America. *Megaderma spasma* is of medium size, has a simple nose-leaf, large ears whose inner margins are united at the base and further lacks a tail.

Family **RHINOLOPHIDAE** (**NOSE-LEAF BATS**).

These Bats are remarkable for the great specialization of the Nose-Leaf but corresponding absence of the tragus; they include the "Horse-Shoe" Bats of Europe, are very numerous in species and perhaps represent the most highly specialized of Bats.

**Hipposiderus dayacorum** Thos; **coxi** Shelford; **sabanus** Thos., **speoris** Schneid.; **bicolor** Temm; **doriae** Peters; **cervinus** Gould; **galeritus** Cantor; **larvatus** Horsf; **insolens** Lyon; **Hipposiderus diadema vicarius** K. Anderson.

A very common Bat in the Birds Nest Caves near Lawas, the male is very dark brown above, fine grey, almost white below, the female much more ochraceous above and below. Of a dozen collected at random only one was a male.

**Rhinolophus minor** Horsf.; **creaghii** Thos.; **affinis** Horsf.; **borneensis** Thos.

**Rhinolophus luctus** Temm.

**Rhinolophus trifolius** Temm.

This is a very fluffy light grey Bat, the commonest species of the genus, occurring solitary or in pairs hanging some 6 feet or so above the ground on some twig in either old or secondary jungle and not frequenting caves or even hollow trees.

**SUB-ORDER MEGACHIROPTERA.**

These are the Fruit-Eating Bats, comparatively few in species but almost incredibly numerous in numbers. All Bats of this Sub-Order lack a Nose-Leaf and the Tragus.

Everyone knows the Flying Foxes to which Sub-Family belong a number of smaller species of which the two following are typical and very common representatives.

**THE FRUIT-BATS.**

**Cynopterus (Penthetor) lucasi** Dobson.

A small Bat some five inches long, sparsely clad in short coarse fur very different from the hairy or woolly appearance of the Insectivorous Bats. The general colour on head and back is dark brown with a greyish collar round the neck, the wings very dark brown but the underside dark grey in the female, light grey in the male.

**Cynopterus brachyotis brachyotis** Muller.

The common lesser Fruit Bat is very like *C. lucasi* but of a more greenish brown above having a distinct buffish (not whitish or grey) collar round the neck.

A most common and voracious little Bat recorded as eating more than its own weight of bananas in a night. There is on Pulau Salak near Santubong at the mouth of the Kuching River a large crevice  
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in the rock and a hole in the ground (now filling in) occupied by enormous numbers of this bat.

**Cynopterus spadiceus** Thos.

**Cynopterus maculatus** Thos.

are two Bats of which I know nothing.

**Cynopterus ecaudatus** Temm.

This Bat appears to have been taken on Mt. Kinabalu and is found in Sumatra and the Malay Peninsula.

**Eonycteris spelea** Dobson.

**Caronycteris minima** Geoff.

These two Bats belong to a different sub-family and are notable for their very long tongues capable of protrusion for half an inch or more. Both have square blunt almost Dog-like muzzles and the former is remarkable in that it has no claw on the second index finger.

**Pteropus edulis** Geoff. (Plate XVIII).

FLYING FOX; Malay: *Kaluang*; Tagal: *Kawat*; Murut: *Bangkaut*; Dusun: *Paniki*; Kayan: *Hawat*.

These huge bats have a wing spread of about four feet; the crown dark but the nape and neck yellowish buff, more rufous on the sides, the back black and the underside a very dark brown. The eyes and ears are large, the whole appearance menacing and repulsive; there are two enormous claws on the "thumbs" of the wings and the hind feet are provided with five curved claws but there is no tail

During the fruit and flowering season from October to February these may be seen almost anywhere about dusk, sometimes during the day and solitary individuals may be seen at other times of the year, the flock no doubt splitting up and scattering when the fruit is off. Colonies of thousands roost together and all at dusk flight towards various fruit trees, notably "Kayu ara," for the evening meal; those already there set up an awful squealing to the late comer who flies up to the projecting tip of a branch, checks its flight, hooks itself on with the long curved claws of its hind feet and hangs head down for a moment. Then it reaches up and with the aid of the long curved claws on its thumbs proceeds to walk back downwards along the underside of the branch until it reaches fruit fit for food. The flight is straight and deliberate, the wing beats slow and deceptive as regards pace which is considerable, the weather effects them little though I think rain and high wind make them fly low, nevertheless some mounting as high up in the air as they often do in fine weather and maintaining their way in very strong winds and rain, a sufficient tribute to their wing power. The heavier species of the various orders of birds have a relatively smaller wing area than lighter species of those orders. The male "Kaluang" being as a rule slightly heavier than the female has about the same relative wing area as his mate, a fact which can only be accounted for by the female having at times the additional weight of the offspring clinging to her which makes her for a time scale as much as the male. The

clinging young are found at any time from December to about March, as a rule just the time when their parents join in huge flocks; half grown ones may also be flying in October.

In the flesh it is a repulsive animal but its meat is said to be good eating in spite of its musky smell. Though it has no real fleas the sight of the numerous apparently bloated wingless flies running about in its fur is unpleasant. The teeth are very powerful and can give a nasty bite. Its method of feeding is to hook its food towards itself with one of its thumb claws on the outstretched wing, surplus food being stored in its cheek pouches. When hanging from a branch its hind feet are always apposed, gripping opposite and not the same sides of its perch, to defecate (a very frequent happening) when hanging head down it hooks the claw on one thumb over its perch raises itself up until the operation is over thus avoiding soiling itself.

Whitehead describes thousands resting on the hanging ends of the Nipa Palms, seeming to court the full glare of the sun and gently fluttering one wing as if fanning themselves, they took off with a rattling noise of their wings and had their mouths open when flying as if they were panting in the heat.

They do considerable damage when roosting in the Nipah Palms for several may hook themselves onto each frond which may ultimately die or in time give way, leaving the bare spikes of the Nipah without a single leaf for several feet from its tip and the leaves lower down broken, bent and dying.

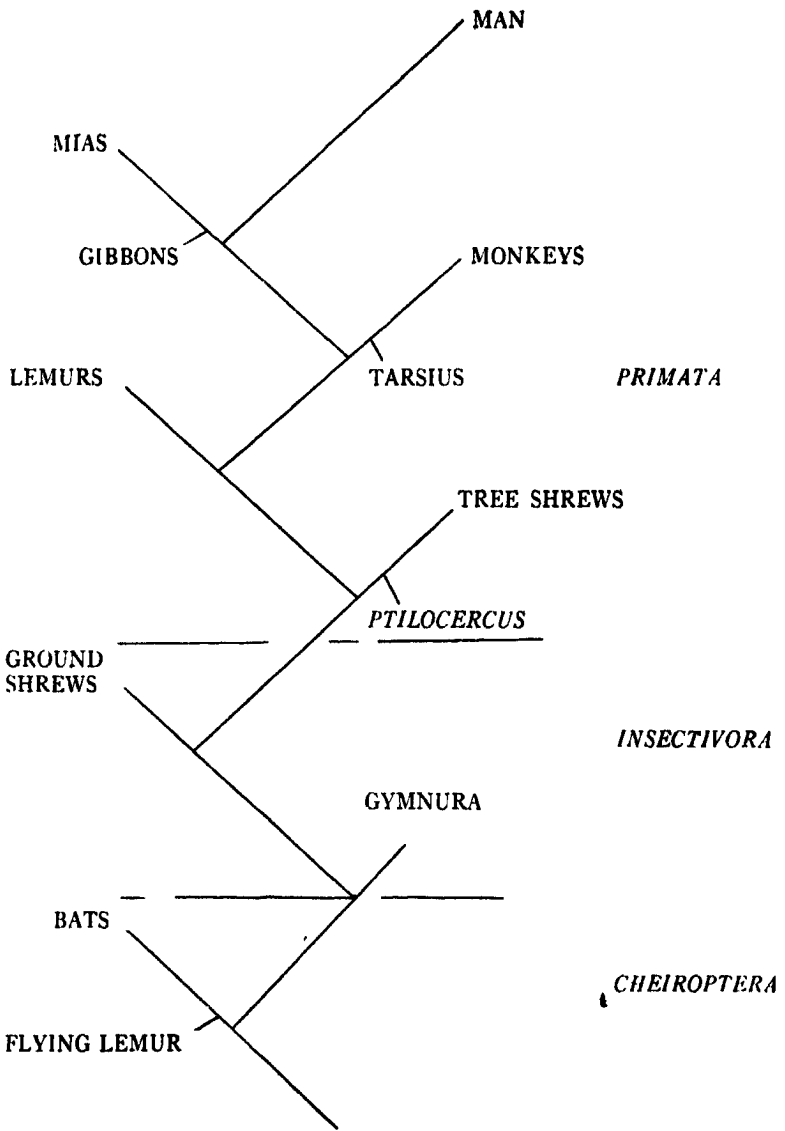
#### ORDER X PRIMATA.

Man, Apes, Monkeys, Tarsius, Lemurs and Tree Shrews.

The Primates are divided by many investigators into the Anthroipoidea (Man and Apes), the Pithecoidea (Monkeys, these last sometimes including Tarsius and sometimes leaving him between themselves and the next, as the Tarsioidea) the Lemuroidea (Lemurs) and possibly the Tupaiidae (Tree Shrews), which recent research strongly suggest should be included in this Order.

One cannot build an entire evolutionary tree out of the strange inhabitants of Borneo but their place in such a tree would be somewhat as follows. Nearest to Man the Apes, of which the Mias comes first in Borneo preceded some way off by the Gibbons then the Long Nose Monkey, the Lotongs and the Macaques (Kras and Broks); close to them in a little section to himself, Tarsius, looked on by some as being nearer than the Apes to the point of Man's origin; further away the Lemurs, represented here by the Loris. Then a fairly big gap to the Tree Shrews with the Pen Tailed species perhaps in a little section to himself slightly nearer the still distant Order Insectivora; follows this Order, the true Ground Shrews and the *Gymnura*, whilst further off the Order Cheiroptera or Bats, and the most archaic of all, the Flying Lemur. Not for one moment does one suppose that the forms mentioned are in the direct line of evolution, being of course but offshoots of it represented graphically somewhat as follows:

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## SUB-ORDER TUPAIIDAE.

## TREE SHREWS.

Great interest has been taken in the so-called Tree Shrews or Tupaiidae and an intensive study of their anatomy, notably by Dr. W. E. Le Gros Clark, has thrown much light on their position in the Animal Kingdom. They are really only very distantly related to the Shrews they outwardly resemble and they have not as many affinities with the other Insectivora as was thought, for a study of the skull, the brain and their general anatomy suggest they should be included in the Primate Phylum with Man, the Apes, the Monkeys and the Lemurs whom they parallel in osteology, myology, vascular and genital systems. They have many primitive and many Primate features, some possibly due to adaptation to their habits and they may be regarded either as the most primitive of Primates, the nearest living representative to the ancestral form from which was derived the Primate stem, or perhaps better still as a representative of a generalized group of Insectivorous mammals which are an offshoot from the stem of the Primate Phylum after the latter had differentiated from other Phyla: all of which means that the Tupaiidae are not Insectivores as formerly thought, but are primitive Primates.

Tree Shrews and Squirrels are much about the same size and when just seen passing in the jungle not unlike to look at, "Tree" Shrew is an unfortunate name for though they can and do run about in the trees most species spend the greater part of their time on the ground running over and under fallen tree trunks. In this connection it is notable that in three cases to be mentioned later where there is a similarity in colour pattern between Tree Shrew and Squirrel it has usually been the ground Squirrels (*Funambulus*) which have been unconsciously chosen as models.

Tree Shrews are all small and bear a superficial resemblance to Squirrels from whom they may at once be distinguished by the pointed snout and the numerous, sharp pointed little teeth quite different from the enormous pair of incisors or "Rabbit" teeth carried by the Rodents.

The superficial resemblance is carried even further, in fact it is even possible that certain Squirrels are mimicked by certain Tree Shrews or vice versa; Squirrels can be insectivorous and Tree Shrews frugivorous but if any advantage is gained it probably goes to the latter. *Tupaia minor* and *Sciurus tenuis* form one pair, *T. montana* and *Funambulus everetti*, both confined to certain mountain tops, are another couple, *T. dorsalis* and *F. insignis* a third, somewhat similar in appearance and habits. Of actual mimicry we have no proof but the specimens laid side by side are certainly suggestive. Squirrels and Tree Shrews often fight in captivity and as I have said the latter name is certainly a misnomer, for trees are probably less frequented by *Tupaia* than the ground, in two cases the habitat of the Squirrels supposed to be mimicked.

A short key is given here to the forms that may be met: .

- A Tail naked except for terminal tuft *Ptilocercus*  
 B Tail hairy  
   b Size large (Fifteen inches length)  
     b<sup>1</sup> Black dorsal stripe  
       b<sup>2</sup> Underside red *Tupaia tana*  
       b<sup>1</sup> Underside yellowish *Tupaia picta*  
         b<sup>1</sup> No dorsal stripe,  
           colour uniform *Tupaia glis*  
     c Size medium, colour uniform *Tupaia montaha*  
     d Size small (Length one foot)  
       d<sup>1</sup> Black dorsal stripe *Tupaia dorsalis*  
       d<sup>2</sup> No dorsal stripe, colour  
           uniform *T. minor & gracilis*

### ***Ptilocercus lowii lowii* Gray. (Plate XV).**

#### THE PEN-TAILED SHREW.

This curious looking little animal has also been the subject of a great deal of controversy, in certain aspects being even more Lemuroid than *Tupaia* but in other ways much more primitive \* The latest account would seem to emphasise its primitiveness and perhaps ascribe its Lemuroid features to its nocturnal adaptations, as opposed to the more Primate-like features of the diurnal *Tupaia*. *Ptilocercus* is a generalized and primitive arboreal animal and represents a slightly earlier stage than *Tupaia* in the evolutionary development of a Lemuroid from a primitive insectivorous animal compared with *Tupaia* it has a more primitive brain, smaller elaboration of the neopallium and is much less Lemurine in skeleton, musculature, genital system and other anatomical features *Ptilocercus* has the visual regions of the brain less developed than in *Tupaia*, the auditory centres and peripheral sense organs better developed, the olfactory regions being little reduced; *Tupaia* on the other hand is most sensitive to visual stimuli and has suffered a corresponding reduction in the olfactory apparatus of the brain.

Actually it is a little animal not much bigger than a small rat, covered in greyish mouse coloured fur, the tail naked except for the terminal inch or so which bears a whitish plume, sometimes with a few black hairs proximally. The nose is pointed, the eyes and ears rather prominent and the feet rather noticeable for the wide expansion of the digits.

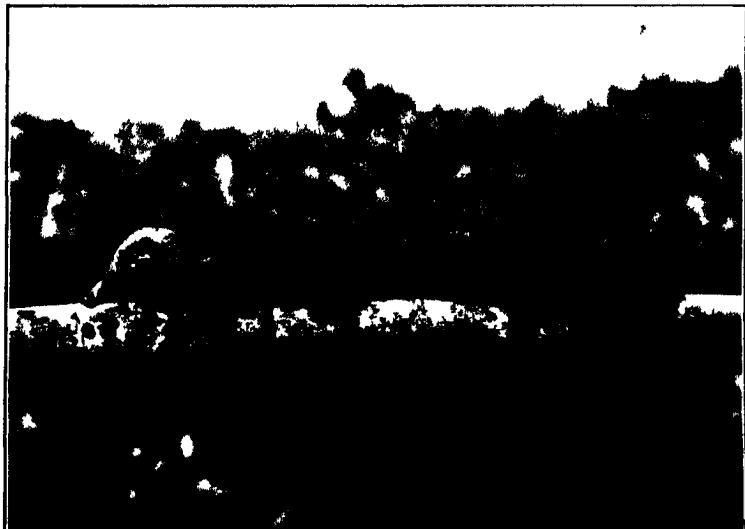
Some that I had in captivity used to spend most of the day asleep and only come out in the evening to eat up a few cockroaches

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\* The late Mr Oldfield Thomas considers the many cusped tooth, such as in this animal, to be the primitive original form of tooth and the simple tooth to be much specialized, he would therefore not consider *Ptilocercus* to be more primitive than *Tupaia*



The Pen-tailed Tree Shrew (*Ptilocercus lowii*)



The Tree Shrew (*Tupaia tana utana*)



and small bananas; when asleep the tail was curled round till the "feather" covered the face, I imagine to ward off mosquitoes and flies. They were expert climbers, up and down the surface of a door and apparently only using their tail as a support when at rest; on the ground they proceed in a series of hops, the tip of the tail inclined upwards and the digits being so bent that the claws touched the ground sufficiently to interfere with them walking normally on their palms

A fuller account of its habits may be found in the latest contribution to the subject.

**Dendrogale melanura** Thos.

TREE SHREW. This a small rather rufous Tree Shrew, buffish below, lacking the shoulder spot and possessing a normal cylindrical tail neither fluffy nor feathery as in so many *Tupaia*, this last character together with the large claws are responsible for the separate genus.

The animal is rather variable and is said to be common on Mt Kinabalu, occurring also on Mts Dulit and Murud but nowhere below 3000 ft.

**Dendrogale murina** Mull and Schleg.

TREE SHREW A single specimen, much smaller than the above, came from Pontianak and is in the Leiden Museum

**Tupaia montana montana** Thos

TREE SHREW Somewhat resembles *T. glis saltana* in being unicolorous but rather darker, it lacks the long snout, hands and feet and has quite a short tail. A shoulder spot is faintly indicated. The general colour varies according to the angle from which the specimen is viewed but it is usually rather dark with a number of coarse black hairs which in many cases but not all form a dorsal black patch or stripe, the black markings are always absent in the allied form, which has further minor differences

Little is known of its habits beyond that it is mainly terrestrial, inhabits Mts Penrissen, Poi and Dulit above 3000 ft and does not occur in the lowlands

**Tupaia montana baluensis** Lyon.

TREE SHREW Dusun *Temburoih*.

The distinctiveness of this sub-species is not very clear, but depends on minor details except for the invariable absence of the dorsal marking sometimes present in the other.

It is found on Mt Kinabalu and doubtfully on Mt. Murud, at an altitude of over 3000 ft

Robinson and Kloss were to have named this *T. m moultoni* but Lyon preceded them with his description by about a month

*T montana* bears a remarkable resemblance to *Funambulus everetti*, a Squirrel likewise found only on mountain tops above 3000 ft. and not on the lowlands; both the Shrew and the Squirrel are almost entirely terrestrial, running about on and under tree trunks lying on the ground, the similarity in appearance and habits

suggesting some kind of mimicry not yet worked out. The Squirrel is perhaps a little the commoner of the two and possibly has a lowland form in *F. laticaudatus*, whereas the *Tupaia montana* has no lowland representative.

#### **Tupaia picta** Thos.

**TREE SHREW.** This species somewhat resembles *Tupaia tana* but is not rufous being inclined more to black and buffish; in fact the underside is ochraceous instead of rufous. The size is about the same, the snout is short and a black dorsal stripe is present except in one whose back is all black, the sides and flanks usually have a number of buffish hairs and the terminal half of the tail is rufous. The shoulder spot is present but unlike *tana* the area between it and the black of the dorsal stripe is concolorous with the rest of the body and not split into a lighter and darker patch; the shoulder spot in fact is not bordered by black or ferruginous along its inner margin.

Very little seems to be known of its habits but it appears to inhabit the Baram area in N. Sarawak and is absent from the rest of the State.

#### **Tupaia splendidula lucida** Thos. and Hart.

**TREE SHREW.** Somewhat resembles *ferruginca* but has a dark red brown tail something like *tana* than which it is a good deal smaller.

#### **Tupaia dorsalis.**

**TREE SHREW** This species is rather bigger than *T. minor* but has a narrow black dorsal stripe from nape to root of tail. There is a buffish shoulder stripe, the forequarters are fawn coloured, the hind quarters and tail rather rufous; the underside is buffish yellow.

It appears to be a terrestrial species found in most parts of Sarawak, usually on the lower slopes of hills but not noticeably above 3000 ft.

Like *Tupaia tana* and *T. picta* the dorsal stripe suggests an imitation of the colour pattern in the Squirrel *Funambulus insignis*; from observation perhaps *T. dorsalis* is the most likely mimic but possibly only in a very general way. Like the squirrel and *T. tana*, this species is largely terrestrial.

#### **Tupaia gracilis gracilis** Thos.

**TREE SHREW** Very like *T. minor* but not so rufous and perhaps rather larger; the shoulder patch in the present species is grey and not at all outstanding.

Like *T. minor* it is generally distributed over Sarawak, the two being taken in the same area.

#### **Tupaia minor minor** Gunther

**TREE SHREW** Dusun: *Tigi*.

This is one of the smallest of Tree Shrews less than a foot in length but quite one of the commonest, often seen running on the ground, on fallen tree trunks and even in trees. It is uniformly

coloured something like a Rabbit but sometimes more rufous, with a white marking on the shoulder and a greyish white underside. The snout is short and blunt for a Shrew and the tail is not so feathery as in other species.

I have twice had a pair of young of this species, both taken from hollow trees, in one case during September. The young made a little cheeping noise and thrived on milk (which used to get up their noses and lead to snorting matches) and bananas; they were particularly active at night and often used to find a way out of their cages though they didn't stray far. On the ground movement consisted sometimes of a series of hops when in a hurry but normally they walked in the ordinary way.

The cry of the old one is a rather piercing squeak often to be heard about dusk. They are found all over Sarawak up to a fair height on mountains.

*T. minor* and *T. gracilis* somewhat resemble *Sciurus tenuis* in appearance, especially if only just glimpsed in the jungle but they are on the whole less arboreal than their Rodent model.

**Tupaia tana utara** Lyon. (Plate XV).

**TREE SHREW.** This is one of the largest Tupaias and is almost wholly terrestrial. The head is fawn coloured, there are two buffy or greyish white whorls on the side of the neck meeting in the mid line a characteristic median black marking running about half way down the back; there is a large light patch on the shoulders subdivided on each side by a short black lateral line which at once distinguishes it from *T. picta* which has only the median dorsal line and a minute light shoulder streak corresponding to only the more remote part of the larger patch in *T. tana*. The flanks are dark chestnut the underside light chestnut, the lower back almost black, covered with coarse bristly hairs, the tail above and below usually bright chestnut but sometimes darker. Specimens from Mt. Dulit do not differ though immature specimens are often very bright.

In a wild state they are most often seen running on the ground, head and tail up, on occasions probably when near their nest showing no fear of man but scurrying round a yard or so away and uttering low chirps. In captivity they are mostly frugivorous but do not touch anything hard such as sugar cane; pisangs and tomatoes, also sundry small ants sharing the pisangs, were intentionally licked up off the floor, bits of fruit being prised off and squashed to a pulp or strained before eating rather recalling the use of the depressed comb-like lower incisor teeth of *Galeopterus*. Though terrestrial they climbed well, were thoroughly at home on horizontal branches and slept at night in the top of their cage. They quarrelled somewhat among themselves and were generally routed by either *Sc. prevostii* or *Sc. notatus*, their alarm note being a harsh cackle rather like that of a Jay at home. At rest the tail was curled round under the chin, when walking the tip bent straight up, back arched

and head raised. The thumb has a claw instead of a nail as in Squirrels and the walk is normal not splay footed as in the latter; the tail is of the bushy "flue brush" variety, though in skins it appears feathery and flattened. When taken at the end of November the parts of the male were conspicuous and he frequently, often unsuccessfully, tried to cover his mate who was already pregnant. When curious and sometimes when eating they sat bolt upright on their hindquarters, the back almost vertical not bent as in Squirrels; when sitting up to feed this *Tupaia* definitely sat upon its sit-upon whereas *Sciurus prevostii* does not but squats resting the back of its thighs against the back of its legs as in the illustration.

A very beautiful variety *chrysona* was taken by Everett in N Borneo and described by Gunther, it is duller, darker, less chestnut but in moulting has a number of soft grey hairs on its lower back. The tail is bright golden yellow and Everett in his notes says it is confined to Bukit Lumbidan in the Padas Delta and is the only form found there.

Lyon (1913) described several other forms, *paucana* from N. E. Borneo and the Bulungan River differing in having the shoulder stripe bordered by the light colour of the back and not the reddish colour of the flanks; *besara* from the Kapuas River distinguished by its smaller size.

### ***Tupaia glis salatana (longipes)* Lyon.**

**TREE SHREW.** One of the largest of Tree Shrews, it is about 18 inches long but uniformly drab coloured above except for a whitish or almost rufous mark on each shoulder, the actual fore and hind feet, the carpus and tarsus appear to be extra long in this species, as is also the snout.

In habits it does not appear to differ from others of the genus, being found equally on the ground and on tree trunks, it is not as common as *Tupaia tana* but is distributed throughout Sarawak.

## SUB-ORDER LEMUROIDEA.

### (Lemurs).

All the true Lemurs live in Madagascar but they have a number of allies on the African mainland some of which reach the Oriental Region and are represented in Borneo by the Loris. there is a near relative in India and Ceylon and these two with the Potto of W. Africa form a group to themselves differing a good deal from other Lemurs.

Lemurs on the whole are low in the Primate scale of organization but have every right to be considered Primates in respect of their brain and in some other characters; certain fossils are however doubtfully placed among Lemuroidea and Insectivora.

### ***Nycticebus tardigradus borneanus* Lyon. (Plate XVI).**

Malay: *Oukang*; Dusun: *Tandaiundong*; Sennah: *Sesir*.

The appearance of this little animal is rather well known, a rounded, tailless ball of fur with a blunt, square head and short



The Slow Loris (*Nycticebus tardinadus borneanus*)



legs. The colour is very variable owing to there being two different kinds of fur, there being a dense, short, wooly under-fur everywhere but on the head and limbs and a longer, sparser, usually brownish set of hairs; these hairs are sometimes quite whitish giving the animal a "frosted" appearance most common in the young but present in some adults independent of age, sex or season and there is every gradation. There is a broad white stripe down the forehead onto the nose, a large brown patch enclosing each eye, a white patch in front of each ear and then two brown markings meeting on the crown to form a single dorsal stripe which may reach onto the shoulders.

The hands are most efficient, fingers provided with rounded nails and the thumb capable of wide expansion, one toe on the hind foot supports a claw. Both the feet and the leg-joints constitute a mechanism by which the Loris performs strange acrobatic feats and really assumes almost impossible contortions as it moves about.

This little animal is often brought in alive but owing to its sulky and retiring disposition is not very exciting to keep. The young ones can be tamed but as they are nocturnal not very much is seen of them, though they often return from their wanderings after an absence of several days. A single young one is born and clings tightly to its mother occasionally giving a loud squeak whilst its parent utters a low rumbling growl which cannot be heard at some distance. It is very hunched up in shape with its head hidden between its legs, the unhappy animal according to the Malays hiding its face because it is always seeing "antus" or ghosts; when really awake its activity is considerable and I have seen it catching butterflies and cockroaches in its cage with great skill. It lives mainly on bananas but will eat almost anything else, being capable of giving a comparatively very sharp bite for so small an animal. The bite is definitely not poisonous as sometimes stated.

There are legions of amusing stories about the Loris, mostly unprintable; in Assam he is supposed to have attended a great feast at night and so much did everyone enjoy themselves that the Sun was asked to stay down a little longer when morning was due; but he couldn't resist having a peep, disclosing the Loris, then nimble and sprightly, doing a "pas de seul," whereupon the Loris was furious with the Sun who only replied that he should neither dance nor see the Sun again, which accounts for his ungainliness and love of darkness.

Bock states that the Loris is covered beneath its skin by a layer of nauseous-smelling fat which renders it unpalatable, it is true that the stomach cavity of one specimen was richly loaded with fat and that a "Tenggalong" (*Viverra zangalunga*) refused to eat much of it but other normal specimens were consumed in the ordinary way, save for their heads, the very part usually first eaten in other animals.

## SUB-ORDER TARSIOIDEA.

(Tarsier).

Tarsius is the only living representative of this Sub-order and has come in for more scrutiny than most animals; originally put among the Lemurs, he has at times been transferred to the Monkeys, with whom he has apparently more affinity and has been cited as being more nearly like the ancestors of Man than the Apes and Monkeys, usually credited with the nearest resemblance to that mythical being.

It is perhaps fairly clear that he is no longer a Lemur and has a great many characters common to Monkeys; the claim to a prominent place in Man's ancestry rests on the labours of anatomists and on certain Tarsioid fossils but there still remains a vast amount of evidence provided by Monkeys, Apes and by fossil human skulls as to Man's Simian ancestry.

**Tarsius spectrum borneanus** Elliot. (Plate XVIII)

THE TARSIER, IBAN: *Inkat*, Kadayan. *Sempalit*, Senrah. *Lakud*, Dusun *Tindok rokok*.

Few animals have excited more comment in their appearance or stir in the scientific world than the Tarsier, which has now come to be popularly regarded as a sort of missing link between the Lemurs and the Monkeys and though rather nearer the latter, has appealed to evolutionists as being a relative perhaps of the common ancestry of Man, The Apes and the Monkeys. Prof. Wood-Jones has I believe assumed that the Anthropoid Apes, living or extinct, have at no time played a part in Man's ancestry and assumes the many common anatomical features to have been independently acquired, though anatomists will not agree with him thus far, he proceeds to contend that Man's independent origin must be sought for among the small Tarsioid animals of the Eocene Period, a contention which however improbable redoubles the interest in Tarsius as a survival of those animals just possibly long ago responsible for Man's development. The little beast has been and still is being studied intensely and whilst it would not be seemly here to repeat some of the things written about him some general account is included because of his notoriety.

He is only a little buff coloured animal about 15 ins. long with a comparatively big round head in which are set two enormous brownish eyes; the thin fingers and toes are very elongated, their tips widening out into small adhesive rounded suckers, the nail still remaining but being prominent on two toes only. The tail is about as long as the body but except in the young is quite hairless on the underside and almost so on the upper side save for the last two inches; it is in no way prehensile but the underside is applied to the upright stick to which he most often clings and thus helps to keep him in position. The fur is soft and woolly often leaving a bare or sparsely covered area all down the inside of the

The Flying Fox  
(*Pteropus edulis*)



The Tarsier  
(*Tarsius spectrum borneanus*).



limbs and under the throat. The ears are rounded and fairly prominent but the nose resembles those of Monkeys rather than Lemurs; in the latter the nose overhangs the lower jaw, and the upper lip is adherent so that drinking is done by lapping, whereas the Tarsier has a free, uncleft upper lip probably capable of partial protrusion as in monkeys. Some authors would divide the Primates into two groups, the Lemurs by themselves in one and Man, Apes, Monkeys and the Tarsier in the other but others favour putting the latter in a Sub-order by himself between the other two divisions.

The Tarsier seldom lives long in captivity, about a fortnight if one is lucky though it will eat Cockroaches and Grasshoppers with apparent zest; the Dayaks keep it on rice and bananas, which latter it does occasionally touch and though it may live for a week or so thus it is generally offered for sale when at its last gasp. It is at times most obtuse in taking any notice of its food, though at other times it is quite smart, irrespective of its hunger; sitting upright on its stick it sees a Cockroach meditating on the floor and after staring at the prey for a few moments the Tarsier without further warning takes a flying leap—may be as much as a yard—and lands near its food when the long fingers with the curious pads close on the Black Beetle, for whom there is then no escape. A few nips quieten the Cockroach whilst its captor nibbles round the wings until they drop off, the victims body being held in one or both hands; here it may be remarked that it is characteristic of the Tarsier, the Loris, the Tree Shrews and some Civet Cats that when biting their teeth do not penetrate very far but that there is considerable crushing power, perhaps enough to almost numb one's finger, and no doubt quietening an active insect even more quickly than a sharp piercing bite would do. The Tarsier seems to close its eyes when biting but opens its mouth when threatened as do most animals, it has I believe been recorded picking dead insects out of Pitcher Plants but this requires confirmation.

The Tarsier is fond of drinking and licks up any drops of water sprinkled on its fur. It is of course entirely crepuscular and nocturnal, being most usually found solitary by Dayaks clearing secondary jungle but sometimes in old jungle too, though it does not ascend mountains. They apparently breed as do most Mammals from about October to March and the young are born in a well advanced state, learning to feed and jump about in a months time; Hose recorded the mother carrying its young by the scruff of its neck like a cat with its kitten but this statement has been denied and the young are certainly usually carried clinging to the mothers underside. They have a slight mousy smell but make no noise in captivity beyond the squeak of the young one for its mother; the natives have called attention to its cry about dusk, a croak rather like that of a frog followed by a whirr like the stridulation of grasshopper, or a fishing reel running out, and if this really be their note they must be fairly common. I have twice let specimens go

in the secondary growth at the back of my house and in one case heard this noise for many nights after and the other case for only a few, but have of course been unable to bring it home to the Tarsier, though I have not heard the sound at other times.

As an example of the intermediate position occupied by the Tarsier its mode of vision is of interest; monkeys have stereoscopic vision, each eye gets the same picture but the lower mammals have panoramic vision, each eye receiving a slightly different picture. Certain nerve cells known as the "nucleus of accommodation" are in Primates divided into two, correlated with the independent focussing necessary for stereoscopic vision but are undivided in other mammals where the eyes in the sides of the head register different views, that of the Tarsier is single but broadened out as though trying to divide and if stereoscopic vision is not yet attained there is at least some advance on the mammals lower than the Primates.

Finally there are the blood precipitation tests which proved to be positive for Man, The Orang Utan and Gibbon but negative for Kras and Broks (*Macacus*) the Loris (*Nycticebus*) and for Squirrels and Cats.

#### SUB-ORDER PITHECOIDEA. (MONKEYS).

Monkeys are clearly divided into two groups, those inhabiting the Old World differing so markedly from the New World Monkeys that their origin has been attributed to two different stocks of ancestors, particularly as no intermediate fossils have been discovered. The tail is never prehensile in Old World forms as it sometimes is in the New World ones and the former have the nostrils close together and pointing downwards as against the widely separated, outwardly directed nostrils of the latter: one has a narrow and the other a broad nose.

The Old World monkeys are again divided into two families, the Macaques (curious word) and the Langurs or Lotongs; the former includes the Gibraltar Ape, the usual "Jacko" like animal of caricatures and barrel-organs, and the "Kra" and "Brok" so common out East, whilst the Lotongs or Leaf Monkeys are slender animals now confined to the Oriental Region but found fossil in France.

Though Man is not "descended from Monkeys" and their common origin is some way off, the human characteristics of these animals are apt to make one uneasy, for so far as I can see it is hard to exactly delimit a monkey's capabilities. Their intelligence and reasoning power, poor though it is in comparison of course, is yet a distinct advance on the limited associations of dogs and cats (who scarcely reason at all) but as with all captive animals stories of their marvellous "intelligence" are seldom to be taken seriously for it is impossible as a rule to know what associations the subject had formed during its captivity prior to the time of any particular

actions; stories of pets however amusing are seldom of real value for one has no record of how much the animal has learnt by association in the past.

Monkeys, like most animals, can communicate with each other about food and enemies, one investigator even going so far as to credit them with a vocabulary which he was able to imitate by his own voice and by gramophone records to the extent of being able to "open a conversation" with stranger captive Monkeys; the "speech" rather differed for different kinds and was limited to only about ten sounds, indicating in a very general way such things as food etc. without specifying any particular kind, an ability hardly superior perhaps to that of other gregarious wild animals such as Deer or Dogs—one can for example tell from the cries of a Dayak's dog whether Wild Ox, Deer, Pig, Barking Deer or Mouse Deer is being hunted.

It may be as well to give a short "key" to the various Bornean Monkeys.

|                     |   |             |                       |
|---------------------|---|-------------|-----------------------|
| <i>a</i> Tail short | .. ..   | " Brok "    | Macacus nemestrinus   |
| <i>b</i> Tail long  | Colour uniformly tawny  | Kra         | Macacus irus          |
|                     | " " red   | Jellu merah | Pygathrix rubicundus  |
|                     | " " black   |             |                       |
|                     | The young white with a black cross on the back . . .                          | Bijit       | Pygathrix chrysomelas |
|                     | Colour red and black  | Bijit       | Pygathrix cruciger    |
|                     | Colour uniformly grey, no white spot on forehead, young orange coloured .. .. | Lotong      | Pygathrix cristatus   |
|                     | Colour uniformly grey with much white hair on forehead . . .                  | Bangat      | Pygathrix hosei       |
|                     | Colour uniformly grey with little white hair on forehead .. ..                | Bangat      | Pygathrix everetti    |
|                     | Colour general dark grey with bare white spot on forehead ..                  | Puan        | Pygathrix frontatus   |

**Pygathrix frontatus** Mull.

LANGUR. Iban: *Puan*; Kayan: *Perut*.

This monkey has no obvious affinities in colour pattern with other species, its distinguishing feature being that the hair retreats on its forehead leaving a diamond shaped patch of bare milky white skin, from which it derives its name; this patch and the face and nose are sometimes divided by a dark vertical line made by the junction of two inwardly pointing sets of hairs. Elliot has named the Sarawak specimens *nudifrons* and those from East and Central Borneo *frontata*, the former distinguished by a triangular face spot undivided by this vertical line of hairs, and by various colour differences. There is much variation in colour, the vertical hairy frontal line may be present in specimens I have seen from both localities and is independent of age or sex, its shape varying somewhat with general hairiness and the specimen should be seen in the flesh to record the correct shape of its patch—in fact it is impossible to separate specimens from these localities either on the characters given or on any others.

The general colour is a delicate bluish grey, rather lighter below, the limbs black except the actual shoulders and inside of the arms and thighs, which latter are covered with sparse grey hairs. The crest and cheeks are black or very dark brown, the beard white. Half grown young are very similar, rather dark brown where the adult is black and there are a pair of whorls on the forehead as in *P. femoralis*.

The eyes are dark brown, the ears black and as I have said the diamond shaped frontal spot milky white.

The "Puan" is not rare in certain restricted localities but is at all times shy, particularly of cultivation, and appears at one time to have had a much wider range having now withdrawn into the unoccupied head-waters of such rivers as the Mukah, Oya and Bintulu, though formerly and still occasionally occurring in the Saribas area; its headquarters at present are probably the Ulu Batang Lupar, where it is much persecuted for its Bezoar stone. It is most expert in the old jungle but like some others of the genus, on disturbing a troop or even single ones, it comes down to the ground and makes off along the floor of the jungle where to give it its due all trace is lost much sooner than if it had gone crashing off through the trees; Panthers in India are alleged to try to catch members of this genus by emitting a sudden roar in their vicinity in the hope that some of them will fall or take to the ground in their fright. It is a lowland inland species, usually going in troops of 4 or 5, rather fewer than in the other species; the noise is a loud chuckle, shrill as in *P. hosei* and the animal in the flesh has a faint sickly smell like the Long Nose Monkey.

The young are carried about September and the foetus occurs in February; gallstones are occasionally found in this species.

**Pygathrix hosei** Thos.

LANGUR. Biunei Malay: *Kikok*; Kadayan: *Singagar*; Dusun: *Minusop* Kayan and Murut: *Bangat*.

The back, limbs and tail of this monkey are grey varying a good deal in depth of colour; the hands are black as are the hind legs from the knee down, except on the inside; the underside appears yellowish white or white—as I shall explain later—and this is continued down the inside of the limbs. The crown is black but the sides of the neck, cheeks, parts of the crest and the very broad forehead are white, turning creamy yellow in some specimens. The young are remarkable in that they have a greyish black crown, dorsal stripe down the back, tail and upperside of limbs, the rest being white recalling in pattern the young of *P. femoralis*.

This is the common monkey of the Baram District though not coming very much further South; it is still very numerous—except in the immediate vicinity of the nomad Punans—and is much persecuted on all sides for the sake of its flesh but more particularly for the stone sometimes to be found in the small intestine. The large oval stones, a shiny green colour and as much as an inch in greatest length, may realise as much as \$30 and \$40 being rather easily friable and ground up by the Chinese for medicine. Specimens from special localities are said to nearly always have such stones, those from other localities seldom or never and the origin of these stones is obscure, salt springs, in which the water is quite bitter, are visited by numbers of this monkey in particular, one place that I saw having the neighbouring small trees worn quite smooth and black by the frequent visits of these monkeys but so far as I know it is impossible to correlate the occurrence of bezoar stones with the presence of such springs. The habits of this species are much as in the others of the genus, the “*Bangat*” keeping to old jungle either on plains or up to some 3000 ft on mountains and as far as I have noted never descending to the ground even when alarmed; it makes the usual prodigious leaps and I have observed this kind and *P. cristatus* keep up a side to side movement of the tail during long leaps, thus assisting momentum or direction very much as does the common squirrel (*Sc. notatus*). Some that I saw in the Lawas District were rather noisy, their cries somewhat resembling the loud chuckles of the black “*Bijit*,” *P. femoralis*; in the Baram they were much less noisy, giving fewer and less noisy chuckles, together with a sort of snoring sound not altogether unlike the noise the Long Nose Monkey makes through its nose.

**Pygathrix everetti** Thos.

LANGUR This species resembles *hosei* but is much darker, except on the tail; the general grey colour is darker and so is the black of the limbs whilst there is an indication of a black dorsal stripe. The crown and nape are black but there is only a small yellowish white spot on the forehead instead of the large white area of *hosei*; as in this species the underside varies from white to creamy-white.

1931] *Royal Asiatic Society*.

The young appear to be of the *hosei-femorialis* type, white with black markings down the head and back and on the upperside of the limbs.

*Everetti* has a similar distribution to *hosei* being not found much further South than the Baram District; it differs markedly in that it is never found on the lowland plains or in coastal areas but inhabits only the hilly districts and mountains from their foot up to as much as 4 and 5000 feet.

The three species *P. hosei*, *everetti* and *sabanus* merit special attention; the first has a completely white forehead and cheeks, the second black forehead and cheeks, with the exception of a very small white spot on the forehead; the third has a white forehead divided down the middle by a black marking, the cheeks being black. *Hosei* and *everetti* are the two most doubtful species and there is strong if not complete evidence to show that they are really one kind, *everetti* being perhaps but the old female of *hosei*.

Shelford in some unpublished notes first had the idea that all was not well with these two species, pointing out that the head markings in both *hosei* and *everetti* were so variable that it was not unreasonable to consider the latter an extreme melanic variation of the former; Everett must also have seen suspicious for he mentions in his notes that of ten Kinabalu specimens, the eight females were *everetti* and two males *hosei*. Mr. F. N. Chasen also noted the relations of these two supposed species in N. Borneo drawing my attention to the need for investigation and I therefore made a point of collecting these monkeys and comparing the skins already collected.

We have in the Sarawak Museum five adult skins of *everetti*, all fairly typical and female by sex; the frontal spot is always small and in one case almost absent, varying a little in size in other specimens. Of three half grown and five adult typical *hosei* all are male except one and this female was only obtained from the headwaters of the Baram River after four males had been secured. We have however two female specimens of *hosei* in which the white forehead is separated from the white cheeks by a dark marking reaching from ear to face recalling *sabanus* (though of course without the median frontal black marking) and suggesting an intermediate between *hosei* and *everetti*.

I have only seen one *everetti* alive, when a single individual left its troupe and descending to a low level in the trees actually offered defiance to our party; not only did it prove to be a very large female (weighing 14 lbs against the 10 lbs. and 11 lbs. of ♂ *hosei*) but a typical white-fronted immature ♂ *hosei* was shot from the same flock to which this *everetti* belonged. The cry appeared to be much the same in both species as are the colours of the soft parts; the edges of the eyes, nose and lips yellowish white and the rest of the face a very dark chocolate brown, almost dull blackish.

Nearly all *hosei* are male, all *everetti* are female; *hosei* lives on lowlands and mountains, *everetti* only on mountains, mixed flocks being recorded where their distribution overlaps. *Everetti* (judging from a single specimen) is larger than *hosei* and whilst typical female *hosei* do occur, two intermediates between the two are female and it all rather suggests that *everetti* is the old female of *hosei*. What old *hosei* do down on the plains where *everetti* is absent is so far uncertain but it appears that the female of this species is dimorphic.

One further point: Shelford (unpublished) points out that Thomas' statement that the white markings of *hosei* are replaced by cream in *everetti* is incorrect, for both white and cream marked *hosei* can be seen in Museum specimens, the yellowish suffusion in his opinion being due to drying the skins over a wood fire in the jungle. He very aptly adds "It is perhaps worthy of note that this mistake of Mr. Thomas' has resulted in the production in Mr. Forbes "Monkeys" (Allens Naturalist Library) of a figure of *P. everetti* with absurdly brilliant yellow markings: a good illustration, if not of the Monkey, at least of the fact that published errors share with scandal the privilege of growing in size with advancing age." As far as I recollect both *hosei* and *everetti* have white markings in the flesh and judging by certain specimens subsequently relaxed in a bath of alum, it is these in particular that have the yellowish tinge as opposed to the whitish untreated ones.

***Pygathrix cristatus*** Miller. (Plate XVII)

LANGUR Malay: *Lotong*.

This is a pretty long haired Monkey clothed in long silvery grey hairs, the hands and feet are often almost black in the adult. The young are peculiar, light orange colour with no sign of a crest and a fine fluffy tail very different from the almost rat-like appendage of a young Macaque Monkey, such as the Kra (*M. irus*); at first the babies are quite unlike their parents in colour but soon go grey at the extremities, the crown, tip of the tail and the hands and feet, passing into a particoloured stage

It is a common lowland form in Sarawak and so far as I have seen partial to swampy jungle beside rivers and on the sea coast; it is common in the mangrove and Pedada swamps close to Kuching. In captivity it was rather fearful and indolent, not by any means aggressive though capable of giving a fairly severe bite on provocation. It was distinctly active among the trees but did not thrive, being too frightened to eat most things except the shoots and young leaves of the Pedada tree, of which like the Long Nose Monkey it required an immense quantity. Some but not by any means all individuals of this species alone in the Genus had the enormously distended stomach so characteristic of the Long Nose Monkey. I have not heard a wild one make a noise, nor did a captive one get beyond a few Gibbon-like plaintive squeaks, there being no sign of the harsh chuckling alarm note of others of the genus.

1931] *Royal Asiatic Society*.

Some Lotongs when fired at take to the ground out of fright but this species does not as a rule do so; the captive one I had was however obtained in this way, having inadvertently descended deeply into a muu bank from which he was abstracted by the nearest Dayak.

The head of this species is notable for the pointed crest, the beard and the two outstanding tufts under the ears which give it a rather bonneted appearance. It is unfortunate they will not live for they soon get used to being lead about and lose a certain amount of shyness. The tail is used in this and other species as a support, being at times curled loosely round a branch as a sort of balancing organ.

Elliot described a form *ultima* from 3000 ft. on Mt. Dulit and I am not really clear whether he wished to separate this from other Bornean Lotongs, for which I can see no particular justification. **Pygathrix cruciger** Thos.

The colour of this monkey is most variable, no two specimens being quite alike, generally they are rusty red, more yellowish than the chestnut coloured *P. rubicundus*, with a black line variable in extent reaching down the back and tail and continuing onto the upper surface of the forearms to give the impression of a cross. It is possible to show an adult series in which at one extreme are more reddish specimens with incomplete broken up black dorsal markings and at the other extreme are specimens with an extra broad black back leaving only the head, flanks and thighs a rusty reddish. The calf of the leg is reddish but blackens probably with age; there is a dull whitish stripe down the inside of the limbs as in *P. chrysomelas*. The young resemble the adult, rusty reddish with a black cross.

This animal is very local in its distribution, occurring in the Batang Lupar and Saribas area, also in the Pelagus in the Ulu Rejang and near Miri; it is neither a mountain animal nor a plains animal, living chiefly in the foothills and lower slopes of mountains, a region where the black *P. chrysomelas* mainly of the plains overlaps with the red *P. rubicundus* mainly of the mountains. There is considerable evidence that this species is a hybrid of some sort, the particoloured young one, reddish with a black cross, perhaps representing the black cross of the white young of *P. chrysomelas* transplanted onto the red ground colour of the young of *P. rubicundus*. Mixed flocks of *P. cruciger* and *P. chrysomelas* have been recorded and on one occasion a female *P. cruciger* was found carrying a typical young one of *P. chrysomelas* i.e. white with a black cross, but with a few characteristic reddish hairs to indicate ownership.

Actually this species closely resembles the black *P. chrysomelas* having the same coloured face and eyes, the voice being indistinguishable, all characters slightly different in *P. rubicundus*.

This particoloured species nearly always if not invariably takes to the ground on being shot at and thus makes its escape.

### **Pygathrix chrysomelas.**

LANGUR. Lundu Dayak: *Penyatat*; Iban: *Bijit*; Kayan *Pant*.

The upperside of this monkey is entirely black, the hair long, that on the underside shorter and duller. The abdomen is also grey but a narrow yellowish white line runs down the inside of the legs in a stripe though this is variable in width and may be only dirty white in colour. The amount of white varies in all these markings but is always present to some extent; they usually cover the whole of the inside of the thigh but in two cases the whole of the shank inside as well which as a rule has only a faint or no marking at all. We have a peculiar male from Lingga (No. 5216) in which the bases of the hairs instead of being black or blackish brown are rust coloured on the shoulders, down to the elbows, and on the thighs and flanks so that only the extremities of the hairs are black. If turned aside they disclose rust coloured markings faintly suggestive of *P. cruciger*; the hairs on the rump have only a little rust colour just at the base and there are few of these. The tail is dark brown at the base and more grizzled brownish at the extremity; the crest is very well marked but yellowish white in front with a white patch behind each ear.

The young are very pretty, white with a black line down the back and the upperside of the forearms is also black, the whole suggestive of a cross; when a little older the white turns a delicate French grey and the black extends onto the crest and tail.

This is easily the commonest Leaf Monkey found here, anywhere from old jungle on the mountains at 3000 ft. down to the Pedada and mangrove trees on the shore. It has a noisy staccato chuckle like that of a big squirrel and goes in parties of three to six or more, it will come down on the sea shore in uninhabited parts and sometimes comes down onto the ground when shot at. The young make a querulous mewling rather cat-like noise, sometimes to be heard at night; *P. entellus* the common Indian Langur is recorded as playing with its young, tossing it up in the air and catching it.

### **Pygathrix rubicundus ignita** Dollman.

LANGUR. Iban: *Jellu merah*; Kayan: *Khalassie*; Kadayan and Dusun: *Merogang*.

This monkey is coloured uniformly dark red, rather darker chestnut on the limbs and lighter below. The young vary, some being quite red, lighter below with a light ruff round the neck: another has the limbs, under surface, and part of the tail whitish, the neck and back of the head being quite light. This specimen is probably much faded.

Most of our specimens are from Baram, one from Mt. Dulit 3000 ft. and two from Mt. Murud 6000 ft.: these last are darker chestnut and very much longer haired than the others; in only one

from Malinau in Upper Baram are the feet almost black. The distribution in Sarawak is peculiar for if not a mountain animal it is mostly confined to hills and is absent from the coast and neighbouring lowlands whereas in parts of Dutch Borneo it is said to be the common lowland mangrove swamp monkey. It is doubtfully recorded from Penrissen, does not occur in Western Sarawak, is common in the Kalinkang Mts. and occurs in parts of the Saribas area, such as the Ulu Awik where there is no flat land but a series of broken hills about 1000 ft. high whose tops are still enclosed in jungle forming a retreat for these monkeys

Three forms have been proposed for Borneo, *rubicundus* with black hands and feet in S. E. Borneo but not Sarawak, *ignitus* from Baram with uniform red hands and feet and *rubida* from S. W. Borneo differing only from *ignitus* in skull characters. The last one should probably be omitted and Elliot would unite the first two on alleged specimens of both from Mt. Mulu but he has not been followed in this

It varies in disposition, sometimes going in troops and being most noisy, sometimes singly and almost mute, in any case it is one of the most active of the genus and is not always easy to secure, particularly as it is an inland species avoiding human habitation and only occasionally touching the rice crops.

The Kayans call this and others of the genus "khalassie" meaning in their language "a quarrel" and referring to the scolding, rather truculent cry of the animal; the cry of this species is characteristic of the genus, a loud series of resonant chuckles, the first note as in *P. chrysomelas* and the succeeding three or four much sharper and shriller, at once distinguishing the animal.

A female specimen had four holes, one above each collar bone and one on the inside of the knee, the two former ones quite  $\frac{1}{2}$  in. deep and showing as a bluish pocket when the animal was skinned; it is suggested that the young when carried inserts its fingers into these two holes, just of such a size, and is able to take a grip on the collar bone of its mother, its toes no doubt bracing itself against the parental legs. I have no idea if these holes are seasonal though they are certainly present during pregnancy and I have not found them in males, whilst an immature female Long Nosed Monkey certainly had indications of them.

### **Pygathrix natunae.**

LANGUR. We have a pair of these collected by Dr. Hose in the Great Natuna Islands in 1895; they are light brownish above with the limbs and tail dark brown (possibly black when fresh); the underside is yellowish white as are also the inside of the limbs, and the posterior surface of the thighs which last is a very distinctive feature. The crown is rather dark brown with no frontal spot; the young are unknown.

**Nasalis larvatus** Wurm.

THE LONG NOSE MONKEY; Sarawak Malay: *Orang Blanda*; Brunei Malay: *Bankatan*; Iban: *Rasong*; Tagal: *Bukala*; Murut: *Dungoih*; Dusun: *Magung*.

In the adult male the back and crown of the head are rich chestnut brown, lighter and more brindled on the shoulders; the arms and legs are greyish or fawn coloured, the tail and a patch on the rump yellowish white, often quite white. The cheeks, sides of the neck and the hairs on the throat form a light yellowish ruff sharply marked off from the darker upperside and lighter undersurface. The head is very square, the crown flat, the sides and face upright, the actual colour of the face is a sort of dark pink giving in general the appearance of a most grotesque masque. The nose is tongue-shaped, 2-3 in. long, but rather pinched in at its origin, the tip is rounded, depressed and slightly expanded, and there is a shallow groove down the centre: the paired nostrils are situated on the underside. The eyes small, the iris yellow ochre and there is a distinct forward pointing tufted beard under the chin. The female has a rusty brown crown, less well marked ruff, brownish back and greyish rump-patch and tail, in fact is less strongly and less richly marked than the male. The young of both sexes are lighter and more yellow, particularly on the legs and though the crown is reddish brown the back has a greyish tinge; the upper surface of the tail and the rump-patch so conspicuous later on are dark grey and the ruff in some is hardly differentiated.

The Long Nose Monkey and the Brush Tail Squirrel (*Rhithrosciurus macrotis*) are peculiar to Borneo and have no near relatives elsewhere, the Long Nose Monkey is distantly related to the Langurs or Lotongs or Leaf Monkeys of the genus *Pygathrix*.

The shape is most peculiar for the lower part of the chest where the breast bone ends is enormously distended by the huge stomach, almost as in pregnancy, the abdominal and pelvic region being comparatively narrow and slender as in the Macaques, *Scnopithecus* Monkeys and Gibbons, distension in Man and the Mias is abdominal and neither the Rasong nor the Mias have the stream-lined appearance of some of the Lotongs. It frequently walks on the ground when the thickset appearance is most marked, the heavy rounded hind quarters and massive forequarters giving it a rolling, clumsy gait.

In the flesh this monkey often has a sweet sickly not unpleasant smell which may sometimes be so strong (possibly according to season) that it indicates the animal's presence before they are visible in the swampy jungle they frequent. Being protected they are quite numerous even close to Kuching, being chiefly found near river banks and neither far inland nor up-country; for some reason they are absent in many parts of the coast division from Igan to Kedurong. They may frequent either large trees or low mangrove swamps but are always found near water; in the Lawas district they swarmed in the mangrove swamps where there were numerous  
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small platforms of sticks and though the animals in the evening often frequented trees containing fresh nests, I never saw the nests used. A captive male used to gather the surplus Pedada leaves to sit on and I should not be surprised if some sort of platform is used in a wild state.

The most remarkable feature is the nose of the male, about which there are many illusions; it does not hang down in front of the mouth and impede feeding, it is not inflatable and is not to my knowledge held in the hand as the animal leaps from tree to tree: all these assertions have been made. When angry it opens its mouth, slightly raises the tip of the nose so that numerous wrinkles occur at its base, draws in a deep breath through its nose making a loud resonant snore; the inhaling and exhaling of its breath may be heard at some little distance and the whole performance is distinctly menacing, especially as it may be accompanied by a frothy champing of the jaws. The female has a milder, petulant, rather resounding cry faintly suggestive of a Goose.

Contrary to some statements I have seen a wild one drinking on the river bank and a captive drank freely; he wrinkled and turned up his nose as far as possible but the entire tip was often under water and the nostrils always. Its food in a wild state is apparently the young shoots of the Pedada tree on which it thrives in captivity, choosing particularly the buds and green growing tips thus requiring an enormous bundle of foliage to get enough to eat though it takes in the younger leaves as well; it will make an effort to eat most young leaves or grasses or bananas or fruits such as Rambutans but tires of them in a short time. I have never heard of one reaching Europe alive and it is by no means easy to keep at any time. On the whole it is indolent and fearful, usually inoffensive and by no means aggressive; it is however savage in defence of its mate and on one occasion is recorded as coming down out of a tree and attacking a Chinaman's hunting dogs with deft grabs, seizing their paws, conveying them to its mouth and inflicting a bad bite. This is its usual method of offence and I should judge the bite sufficiently strong to break ones finger if it had the chance. The female has been recorded as being most solicitous for its young, snatching away with almost unnecessary violence any food it doesn't think fit.

Rivers are no obstacles to it, for it swims in a powerful sort of "dog paddle" and is able to dive if necessary

A "Bezoar" stone (*gelaga*) is sometimes found I believe in the stomach, egg shaped, dark green, about 1½ ins. long, quite light and easily broken; as with all such stones it is much prized by the Chinese as medicine.

**Macacus irus.**

CRAB-EATING MONKEY. Sarawak Malay: *Kra*, Brunei Malay: *Ambok*; Dusun: *Ka*; Tagal: *Kala*; Murut: *Jibulau*.

This is the long tailed monkey most often seen wild on river banks and in captivity; it may be greyish drab or even a mild golden yellow, the colour varying individually, specimens from 4000 ft. being almost rufous. No two are quite alike, the male as a rule having the underside of the eyebrows white, becoming startlingly apparent when he raises his brows: sometimes the female also has it. The young are sparsely covered with dark brown or black hairs, the long tail lacking the furry appearance of that of the young Lotongs.

The Kra expresses considerable range of feeling by a series of grunts, more numerous than in its neighbour the "Brok," than whom it is perhaps more refined and less grotesque. Any jungle will do for it from mangrove and nipah swamp to old jungle up to 4000 ft. or more on mountains: it descends to the shore and walks about on the mudflats where it is of course wary, putting up a sharp gallop for a short distance, the tail carried in a graceful curve with the tip just clear of the ground, though when walking it may drag. I have never actually seen it put the tip of its tail down a crabs sand hole but there is not much doubt it does sometimes entice the crab to take a grip, whereupon he is jerked out and eaten; I have heard of a Kra's tail being thus seized by a monster crab who detained the monkey, barely releasing him in time to avoid the incoming tide. The Kra's tail sometimes has a tuft of hairs on the end and may be it is this the crab gets hold of for if you tweak the end of the monkeys tail he jumps like any other animal.

They go in the usual family troops, one old male, various females and half grown ones, all repairing to the same sleeping place—generally a bare tree—for several consecutive nights. The males are savage among themselves, as are also the females, an intruder being set on by both parties as a rule though it is comical to see the old male with a new wife and the old ones trying to drive her away. One young is born, not infrequently to captive ones, usually up in a tree sometime in the night or very early morning. A large Kra weighing 12 lbs. and carrying a young one proved to be a fully adult male.

They probably do have a few "things" in their fur at times but don't scratch themselves much although they hunt assiduously through each others hair; it has been pointed out that they are then seeking newly growing hairs to suck or squeeze out whatever moisture there may be in the root and they will also pluck out hairs on ones arms and legs in the same way.

A lot of harm is done to padi fields and fruit trees, more being wasted than is eaten and the Dayaks have a cruel way of driving them off: one of a troop is caught and an inch or so of a prickly rotan inserted in its anus, the rest protruding—the monkey is then loosed and its friends subsequently try to remove the obstruction

when the recurved thorns of the rotan immediately grip and the screams of the victim cause the whole troop to leave the neighbourhood.

Pulo Kra at Santubong is associated with an alleged white specimen.

The Kra has considerable intelligence and I have heard of some children playing hide and seek with a tame one, the monkey staying behind till the children called him when he started off to look for them.

Malays say that if a captive one has his tail docked it is no use letting him go for no wild troop will take it in, a thing not easily accomplished by a normal one. Ridley records Kras as swimming and diving well on some occasions doing it for fun and staying under water for some time; on another occasion for hours a party of Kras fought a party of Lotongs (*Presbytis femoralis*) for possession of a Rambutan tree in fruit, the combatants biting fiercely and sometimes falling to the ground together immediately to ascend and carry on; the Kras did not win.

**Macacus nemestinus broca** Miller (Plate XVII).

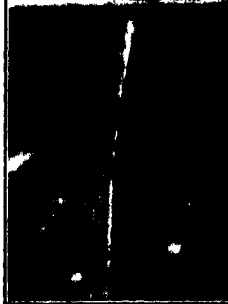
THE PIG TAILED MONKEY: Malay: *Brok*, Iban: *Empau*; Murut, Dusun *Gobuk*, Tagal *Basuk*

This monkey is very thickset with a short usually curly tail. The general colour is rather dark fawn, very dark in old specimens, the crown of the head black or a very dark brown, the back, rump and dorsal surface of the tail similarly marked, the black of the back being broader in old specimens and shading off into the dark fawn of the rest of the body. The young have these dark markings restricted forming a marked contrast to the light fawn of the rest of them. There is in all a very pronounced whorl on the crown, all the hairs in front of the ears pointing forwards, no crest is present except in one case in which I noted two collateral whorls

The Brok has not such a good vocabulary as the Kra but is if possible more vivacious, and certainly more grotesque, the tail is a good indication of its feelings hanging down limply when the animal is uninterested and curling up S shaped, as in the Plate, when excited. The full grown animal is very thickset, with heavy chest and shoulders, and a high stern with long hind legs; it is equally as partial to the ground as the Kra, where its gait is a swift but rather clumsy rush. The canine teeth are exceptionally large, particularly in the male and just like those of the African Baboon may be associated with a partly terrestrial life necessitating meeting more possible enemies than it would in the tree tops.

It is found in almost any kind of country, less frequently in nipah and mangrove than the Kra and is as a rule fond of the sea-shore. It grows to a very large size, nearly as large as small examples of the Chacma Baboon of S. Africa, particularly solitary old bad-tempered males known as *Brok tungall*, which are reputed to molest native women at times though I know of no such authentic

Lotong Monkey  
(*Pygathrix cristatus*)



The Pig-tailed Macaque  
(*Macacus nemestrinus*  
*bica*)



case. White ones do occur, one came from Samarahan years ago and another recently from Kapit: the latter was the property of a Chinaman who regarded it as lucky and worth a considerable price (\$250).

This species is the one used in coconut picking, being taught when young to pluck the ripe nuts at a signal from its owner, usually a tug at a string around its waist or by voice, a few trained ones are exported to the Natunas Islands (Sirhassen). They are not in any sense delicate animals but there are few that are more amusing and grotesque especially when young, stories of their doings being legion for they are amenable to captivity and can in time be loosed to follow their owner about like a dog, even in the jungle.

The Brok has only one young at a time and the period of gestation is about 7-8 months: parturition occupies about fifteen minutes as a rule, generally in the very early morning and does not appear to be unduly painful, the afterbirth being as a rule devoured, the young are quite active when born, learn to cling in about half an hour and to eat solid food in about a month, being in fact one of the most precocious and amusing pets one could wish for when small. The father is not offensive to his offspring and barring illness and accidents Broks may live for as much as thirty years and in times of stress will cross freely with the Kra (*M. irus*) to produce offspring.

Males are rather larger than females and the latter in some cases have a red subcaudal swelling absent in the near relative the Kra (*M. irus*). Females on heat and solitary old males can be vicious and quite a match for most dogs one finds out here.

The Bornean form apparently only differs from the Peninsula form in some small skull characters, but there are other forms in Sumatra, various small islands and right away to India. Quite a number of forms have been described from Borneo such as *arctoides*, *melanurus* and *maurus* but there is probably only one Pig Tailed Monkey in Borneo.

#### SUBORDER ANTHROPOIDEA.

(Man and Apes).

Leaving out Man the members of this Sub-Order include the Gorilla, the Chimpanzee, the Mias and more remotely the Gibbons or little Wa-Was, much more like Monkeys in their small size and presence of hard callosities on their "sit upons" but differentiated at once by the absence of a tail.

Naturally considerable interest attaches to the Mias and the Wa-Wa as being mixed up in Man's ancestry for whilst nobody seriously believes these days that Man is descended directly from Apes it is fairly well accepted that both have descended from the same ancestor—which I have been told is the "same thing"—and are cousins some few or many times removed.

I find it impossible to decide which of the Apes is nearest to Man though anatomically the Gibbon is perhaps the most remote; each one of them is like Man in some characters but differs in many others so that it needs no mean effort to sum up the possibilities. Even the Wa-Wa has the chin most like Man, more or less vertical or even protruding a little and the form and arrangement of its molar teeth is said to be very human; the Mias has the most man-like brain of them all but is undoubtedly inferior in intelligence to the Chimpanzee.

Wa-Was are great favourites in captivity and if the same cannot be said of the Mias it is a point of general interest to note their common ailments in captivity. They usually succumb eventually to pneumonia, which takes the form of short and very quick breathing, coughing and gasping, high temperature to be felt on hands or face, the lips blue and the nose hot and dry, frequently exuding or coughing up mucous which is particularly dangerous owing to bacterial infection; animals in this state should be separated and should they happen to die, they and their belongings should be burnt and the cage well disinfected, if not burnt as well to avoid infection. Mias or Wa-Wa effected in only one lung always lie on that side of the body to give the other lung a chance to function; when both lungs are effected they sit upright but the arms, head and shoulders droop forward markedly. Very little can be done for them when really ill, quinine and aspirin may be safely given, a couple of grains twice a day and as they nearly always die of heart failure a teaspoonful or so of Brandy twice a day bucks them up and will also induce them to eat a little if they have been off their food. Perhaps the best one can do is to make some sort of a flannel waistcoat with armholes and hope they will not be too liverish when you try to put it on but unfortunately the Mias at any rate does not take kindly to this treatment every effort should be made with sacking to somehow keep the body at an even temperature and damp or cold cement floors avoided as sleeping places.

Worms, colds and fever seem to come and go without hurting them if care be taken but diarrhoea particularly in Wa-Was is a thing to avoid; both animals greedily eat any number of bananas and a diet of these always brings it on. Unpolished rice, boiled but not steamed and served slightly warm, seems a good diet but lumps of cold, wet, soggy rice are harmful as these Apes do not chew their food much.

**Hylobates cinereus abbotti.** (Plate XIX).

GIBBON. Malay: *Wa-Wa*, Iban: *Empliau*; Murut, Kadayan and Dusun: *Kalawat*, Kayan: *Wok Wok*.

As with the Mias no two Gibbons are quite alike in regard to colour and skull characters so that altogether four races have been proposed from Borneo, all allied to the now rather rare Javan

*H. c. cinereus*. With *mulleri* from S. E. Borneo, distinguished by its brownish lower parts and extremities and with *albibarbis*, paler and with white whiskers from S. W. Borneo, I have nothing to do; Sarawak has two Gibbons, *abboti* and *junceus*. The former is found in the Kapuas River, in the Kuching and Saribas area even up into the Baram and is usually mouse grey in colour, though occasionally a much lighter silvery grey, with a very indistinct dark cap on the head; *junceus* the common north Bornean form is usually a dark almost chocolate colour often with a paler grey patch on the rump: there are no all black specimens and the Wa-Wa is remarkable on the whole for being darker coloured below than above.

There is probably no more popular pet than a Wa-Wa, its cleanly habits, bright beady eyes, perky, intelligent expression and its engaging ways soon endearing it to its owner. On the ground it walks upright with rather rolling gait, its long arms bent upwards at the elbow but its hands rather drooping downwards, in the trees its agility is astonishing and it will leap outstretched between branches 40 feet apart it is said, executing incredible and most graceful attitudes as it outstrips terrestrial followers. Wa-Was are highly strung, almost a bundle of nerves and on sudden, abrupt or alarming movements are capable of inflicting a severe bite with their long canine teeth, for the most part they are however exceptionally affectionate mixing when wild with other monkeys and even the Mias, whilst in captivity dogs, cats, bears, and even the surly Binturong fall for its charm as well as its human owners, nor is it above going to the assistance of its friends and helping them in their fights.

One of its most notable features is the almost bird-like, cheery, bubbling call it makes early in the mornir; or when disturbed and it is impossible to convey by words this most characteristic early morning noise, unfortunately Wa-Wa's flesh when in condition is preferred by the natives even beyond pork and the Kayans construct a bamboo call to allay its suspicions as they approach it; the fat stores in the armpits and groin are also much valued by them as a cure for rheumatism and there is a marked absence of Gibbons in the neighbourhood of those nomad hunters the Punans.

Its food in a wild state seems to consist of fruits, shoots and young leaves though it seems to eat most things in captivity and clears out all the Spider webs in ones house; it most frequently dies of pneumonia or of diarrhoea, this last helped on by too many bananas of which it is very fond. Although undoubtedly delicate they are said to have been acclimatized in France, where some run loose in a large park; drinking is usually performed by dipping the back of the hand in the water and licking the drops on the hairs. Asleep it sits with its knees all humped up under its chin and arms folded across its chest and though it makes no sort of a nest for itself a captive one used to loll on its back in the old nests left by a Mias.

The young are said to be born after from 7-9 months gestation and may stay with the mother in some cases for upwards of two years, the male sometimes leaving the troop and accompanying her for a time after the birth. A young one clinging to its mother appeared in size to be half grown and quite helpless: it couldn't walk on the ground, over-balanced itself but learnt in three days and became quite tame in that time; its teeth were quite large enough to draw blood when it bit but its food such as a Rambutan fruit at first to be skinned for it.

A fossil Ape from the Miocene of France does not appear to be generically separable from the Wa-Wa.

**Simia satyrus.\*** (Plate XIX)

Malay: ORANG UTAN, Iban: *Mias*; Sennah: *Marah*; Kayan: *Koyang*; Dusun: *Pagiuh*.

No two *Mias* are alike and it would be difficult to say even now how many kinds there are or if those found in N. Sumatra differ from the Bornean ones. In general their appearance is much the same, covered with usually long hair either of a light sienna red or some shade down to a dark chestnut, the legs are short the arms comparatively long and thick, making the short barrel shaped body look insignificant. The head is the most prominent feature and varies considerably; it is by no means certain but generally accepted that both Sumatran and Bornean females have the ordinary rounded head and snout as in the illustration but that males may have either a similar head or else enormous lateral cheek pouches producing a most grotesque appearance. These expansions are described by Beccari as due to accumulations of fat over the masseter muscle just in front of the ear and he is inclined to regard them as analogous to the hump of the Indian cattle, the protruberances (warts?) on the face of *Sus verrucosus* (The Javan Warthog) and I have even heard them compared with the enlarged tail of the Fat Tailed Sheep or the occasional accumulations of fat in the lumbar region seen in Kalahari desert tribes; Beccari even points out that "steatopygia" (or accumulation of fat) sometimes becomes apparent in humans between the cheeks and ears. The storing of fat is usually associated with hard times and is frequently only temporary but there can be no doubt that the face expansions of the *Mias* are quite permanent and that there is always an abundance of food for the animal so that it is by no means clear why only some of the males, often in an immature state, should apparently needlessly start to store up fat whilst the more fortunate majority of its relatives have no need to do so—in fact it is difficult to see any reasonable argument for supposing the facial expansions are for the purpose of fat storing. They are nevertheless most extraordinary and rather resemble half a plate tacked on to each side of the face, thicker nearer the head and not more than about

\*I believe "*Pongo pygmeus*" was selected by the International Nomenclature Committee.

The Gibbon  
*(Hylobates (mereus) abbotti)*



The Orang Utan  
*(Simia satyrus)*



an inch or so at the rim, which does not carry the external ear as is sometimes stated; from the flattened nature of these expansions it is supposed the name "Mias tjaping" meant "pappan" or planks, and as an alternative theory it is said "tjaping" refers the shape of the face to the small object thus known and used to cover the parts of very small female children, but this object is however little used among Bornean tribes and is known to them as "takup"

Descriptions of dissections of the lateral face expansions and the laryngeal sacs are always of interest: the former consists of masses of fatty tissue on a fibrous framework, the fat cells being particularly dense within and more sparsely arranged round the edges. Paired lateral sacs are situated under the chin and accessory sacs may extend as far as the arm-pits; their use is unknown and they appear to be absent in females. In outward appearance they are covered with a thin, white, wrinkled almost blister-like skin, which wobbles like a jelly at every movement.

As far as its habits are concerned, the Mias is for practical purposes arboreal, only descending to the ground on exceptional occasions; travellers' stories and the travesties portrayed of its certainly unusual appearance have led to a general belief in its ferocity, a belief totally incorrect though when wounded or molested the Mias can very naturally exert such strength as to make him a fearsome opponent. Normally encountered in the tops of its native trees there are few more benevolent animals and the Mias if unmolested merely temporarily suspends its occupation to examine his relative down below, regards him with no show of fear or anger but a mild and wholly benevolent curiosity which one imagines at times to extend to an amiable grin or its rather grotesque countenance. After a time it may become so bored as to resume its former occupation and pay no further attention to the intruders. He is nevertheless a cunning fellow, for when the Macaque or Lotong Monkeys suspect a man about they quite needlessly go bounding off through the trees, at once betraying themselves by the loud rustling of the branches—not so the Orang Utan who sits dead still where he is when suspicious and in this way I am certain very frequently escapes detection. With a party of Dayaks I once sat and smoked a cigarette at the foot of a tree and it was not until nearly time to move on that someone noticed a large Mias peering benevolently at us from the next tree; even when he had satisfied himself the only further indication of his presence was the light rain of small sticks and twigs that were occasionally broken off in feeding operations and he made very little greater commotion in eventually moving off at a speed which outstripped us along the steep hill side. I believe on river banks and more thickly populated parts they do show a quite evident desire to get out of sight of man and I have even heard of a mother parting with its clinging offspring at the sight of a boatload of men, leaving the little one to

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follow at its own pace; in fact it is said that the female not infrequently abandons its young when harassed by close pursuit but this I do not believe without further evidence for the Dayak is maybe providing an excuse for the non-appearance of the female which he is not supposed to shoot for the purpose of taking its young. Under ordinary circumstances the Mias is however an excellent citizen and I have seen a full grown male and female contentedly eating the "Kayu Ara" berries in the same tree with a troop of Wa-Was unconcernedly mixing within their reach on neighbouring branches, the contrast between the cheery Wa-Wa and solemn old Mias being almost ludicrous but in no way leading to bad feeling between them. The captive young ones have a most engaging way of rolling their eyes, pursing their lips, and drawing up the corners of their mouths when feeding time approaches and I have seen just this comic, demure child-like or senile expression on the face of huge captive males of enormous strength, an expression which if recognized would call forth such expressions as one applies to a nicely behaved child or some dear old man rather than the harsh epithets of those who can see no further than the bizarre appearance of brutishness. In a wild state and unmolested, Mias exhibit little more than a benevolent curiosity towards man and the extremely child-like and almost pathetic expressions that can be assumed in captivity point to the Mias as an extremely peaceful and gentle animal when left to himself, always remembering of course that both temper and strength are there in reserve for use when aroused. I have not noticed it as a particularly noisy animal: when annoyed it is liable to purse its lips out into a point, cover the opening with one hand, noisily suck in a deep breath, and let out an enormous coughing belch closely followed by another whistling intake of breath. Stories of Mias molesting native woman have not been authenticated and are probably only a product of the Rablesian sense of humour rather characteristic of Dayaks.

Mias as everyone knows make a kind of platform of sticks on which they sleep at night and even during the day but I have never seen captive ones make any sort of roof or make use of leaves to keep the rain off, as is sometimes alleged. Nests are of two kinds, either a flat platform or more usually a deep triangular shaped affair in the upright fork of a tree; the nest is neither always situated very high nor in a big strong tree and what the Mias aims at is to have several branches handy which it can grip with its hands and feet as it sleeps so that sometimes a ridiculously small but much branched tree may be chosen even by a full grown animal, the whole outfit not thirty feet from the ground far below tree top level. The branches are bent over and crossed to make the foundations of these nests and neighbouring branches or twigs are bitten or torn off and laid on top, the Mias flattening them down with the outer postaxial border of its forearm, testing the nest for comfort and if necessary altering the arrangement of the leaves; a

fresh nest is almost certainly made every night and I counted eleven such nests still with green leaves all close together near a "Kayu Ara" fruit tree where a pair were feeding: there was one very large nest big enough to fill a bullock cart and situated in the arm of a large branch of a tree but I am not certain it belonged to the Mias and it was certainly much older than the other nests.

The distribution of the Mias in Sarawak is peculiar in its relations to the rest of Borneo; it occurs in parts of N. Borneo † though I don't know the details and it is common in W Borneo, the Landak River and right up the Kapuas River. Now the Mias is very sensibly fond of neither cold nor rain, in fact the damp is his worst enemy and for this among other reasons the occurrence of Mias at 3000 ft. is very exceptional\* nor is he as common in the immediate lower vicinity of mountains as he is at the foot. For some 70 miles the Kalinkang mountains run N. E. and S. W. forming a watershed between that part of the Kapuas river running S. W. and numerous short Sarawak Rivers running West into the Sea and it is obvious that these mountains form an obstacle to the movements of Mias which are common on the Kapuas and curiously enough on the Sarawak side. The explanation lies I think in a gap in the Kalinkang Mts. which towards Lobok Antu slope away almost to sea level eventually to rise on the other side as the Batang Lupar Mts. and stretch away unbroken Northwards into Central Borneo. It is therefore more or less true that the Mias is confined to a range bounded on the N. E. by the Rejang, R., on the W. by the Sadong River: the Orang Utan has flowed through from Dutch Borneo and filled up suitable and available places, his distribution as a matter of chance exactly paralleling that of the early Sea Dayaks, who originally occupied the Saribas area and whose further migrations have been a matter of history. The Kalinkang Mts. lose their continuity at the Sadong River and there remains but a few broken hills to prevent the Mias of the Landak River straying into upper Sarawak; it is therefore peculiar that reports of its occurrence there are confusing: a few were supposed to have been found in the old days according to Beccari but they are certainly only occasionally found there now and most of the natives have nothing but the most unreliable records of their appearance. That they did occur is certain, for Everett

† There is a single large ♂ "Mias Pappan" skull hanging in the Leppu Tau house at Long Mou in the Ulu Baram, it was said to have been taken in the neighbouring S Silat two generations ago and it is difficult to see how it got there for Mias are unknown and always have been in the Baram district. Some Ulu Baram Punans, the nomad hunters, also had a story of how they once saw a big bundle of sticks in a tree from which a Mias emerged, the Punans ran helter-skelter dropping "parang" and blow-pipe quivers in their terror, a fact which indicates the animals' rascality to even the keenest hunters.

\* Whitehead however records them at 8000 ft and Haviland at 6000 ft on Mt Kinabalu.

records two imperfect skulls belonging to the British Museum taken from Chinese goldwashers who had found them in a crevice of the Limestone hills at Paku but nowadays though a possibly stray one may be found, the Mias is absent from all that region adjacent to the watershed of the Landak River which offers no obstruction to it passing into Sarawak.

As I have remarked elsewhere it is useless to quote the antics of ones pets as instances of intelligence for one has no record of what it has previously assimilated but there is no doubt a young Mias can become a most endearing object once one gets over its undoubtedly repulsive first impressions; having gained its confidence it behaves with a most child-like simplicity, and is fond of food and play. sudden rages are quickly forgotten and it has a most appealing sympathetic demeanour when in difficulties. One that I had for four years seemingly existed without a dull moment. It would smoke native cigarettes—a pinch of Tobacco in a palm leaf, grasp the “roko” between thumb and forefinger, put the unlighted end in its mouth holding it with the hand palm upwards, draw and blow the smoke out of its nose and hastily consume the ash presumably for the sake of the salt; it demanded a light when the cigarette went out but had no use for European cigarettes, always tearing them open to see the inside. Originally, it had an expanded metal cage but it used to hook a forefinger through the mesh, brace its two hind feet against the cage and “ping” went the piece of metal and then the corners of her half open mouth used to turn up a bit as always when amused, the openings made were closed by wire, the two ends being twisted together but she very quickly learnt to untwist them or to make use of a nail or piece of wood as a lever to help. All snakes and a small crocodile were carefully avoided: a banana was placed beside one of the latter, the Mias tried to scrape it away from the “croc’s” vicinity with a short stick and easily succeeded with a longer one with which the “croc.” was heartily beaten from an overhead position. She used to tease a small Honey Bear and the two used to roll about locked in pretended combat and though friendly with a Gibbon she had no use for any other Mias, larger or smaller, in her cage and displayed an almost devilish ingenuity in biting her opponents fingers and toes till the other could hardly climb. She was not a mischievous animal like Monkeys when loose but had her share of devilment; when I was away once she objected to the temporary occupant of the house, climbed up into the roof with a light rotan chair and endeavour to drop it on the unsuspecting man as he entered; she is also said to have spent a Sunday afternoon hammering with a piece of wood on the tin roof below which the same man was trying to sleep, the Mias descending now and then and poking her head round the door to see how he was getting on. Telephone wires were a strong point and she used to swing on them until she could catapult into an adjacent

tree, affording one much relief from the ever tinkling bell; the gardener's tiffins were frequently unearthed and eaten whilst she once pulled some shingles off the kitchen roof and was caught clutching a pine-apple and a bottle of vinegar as she tried to climb a nearby tree.

Mias are intensely ticklish and rather enjoy it up to a point, the neck region being particularly sensitive but for this reason they should *never* be tied up with a collar round the neck for the miserable animal is in a state of torment for a long time and as it is almost impracticable to tie them round the waist—they always get away—Mias should be kept in cages or better still quite free. As a matter of fact it is now forbidden to catch, keep, kill or export Mias except in special circumstances, a not unreasonable restriction for it has but a very limited distribution in a few districts of Sumatra and Borneo and though not uncommon in places, a slow breeding animal of such interest can hardly hope to last for long when a single consignment of over 70 is shipped to Europe from one place, a corresponding number having been no doubt killed or maimed in the procuring of even these.

The intimate details of a Mias' life are unknown and owing to the extreme difficulty of observation will probably remain so; one never meets more than three in a party but how far they are monogamous, pair for life and so on is quite unknown. Moreover the age of Mias is almost impossible to estimate for the closing of the cranial sutures—the lines marking the limits of the bones of the cranium—is no guide to age as it is in man, for some sutures that close in the latter before second dentition remain open long after that event in the Mias; the new teeth appear before he is half grown, in fact at about 8-10 years judging by captives and it is very possible that Mias take nearly as long to mature as humans (anyway Asiatics) and barring accidents live just as long: the front incisor teeth are the first to change and the cutting edges are not level but each have four "cusps" regularly disposed, one on each lateral edge and two equally spaced in between. Dropped teeth are never found. The median sagittal crest is a fair sign of age in males but varies in females: the angle of the jaw is no indication of sex as it is in man; moreover extra molar teeth are not uncommon, sometimes even incisors too so that a Mias skull is a poor guide to age and sex as a rule.

Notwithstanding this and other variations, neither fur nor skull characters being distinctive, out of a mass of some 280 skulls from the right bank of the Kapuas River at least six races were made, founded chiefly on cranial capacity: none of these races can be expected to stand for one of the most variable of Mammals.

I have mentioned the impossibility of here summing up its anatomical relations to Man but it appears to exhibit a number

of primitive, specialized and retrogressive features which on the whole place it perhaps further from Man than the Chimpanzee and Gorilla, two Apes which except in the matter of size have much in common: though less intelligent perhaps than its neighbours the brain of the Mias is to look at the most human of the three.

A broken canine tooth from the lower Pliocene of the Siwalik hills in Upper India has been said to closely resemble that of the Mias, all the more astonishing as remains of Apes belonging to the same genus as the Chimpanzee have also been found, these two Anthropoid Apes therefore once occurring in the same region.

## APPENDIX A.

Alphabetical list of Native names for Bornean Mammals, with corresponding common and Scientific names.

|               |         |                          |                            |
|---------------|---------|--------------------------|----------------------------|
| Aam           | Milano  | Bear Cat                 | Arctictis binturong        |
| 'Aji bulan    | Iban    | The Moon Rat             | Gymnura rafflesi           |
| Angkis        | "       | Porcupine                | Trichys lipura             |
| Ambok         | Malay   | " Kra "                  | Macacus irus               |
| Babi utan     | Malay   | Wild Pig                 | Sus barbatus               |
| Babui         | Kayan   | " "                      | " "                        |
| Badak         | Malay   | Rhinoceros               | Rhinoceros<br>sumatranus   |
| Bakah         | Kalabit | Wild Pig                 | Sus barbatus               |
| Bakass        | Dusun   | " "                      | " "                        |
| Balukun       | Murut   | Scaly Ant-eater          | Manis javanica             |
| Bangat        | Kayan   | Hose's Monkey            | Pygathrix hosei            |
| Bangkaut      | Murut   | Flying Fox               | Pteropus edulis            |
| Bankatan      | Brunei  | Long Nose                | " "                        |
|               | Malay   | Monkey                   | Nasalis larvatus           |
| Banteng       | Malay   | Wild Ox                  | Bos sondaicus              |
| Basing        | Tagal   | Various Squirrels        | Sciurus sp.                |
| Basing baiong | Kadayan | Brush Tailed<br>Squirrel | Rhithrosciurus<br>macrotis |
| Basuk         | Tagal   | " Brok "                 | Macacus<br>nemestrinus     |
| Bawah         | Murik   | Pine Marten              | Mustela flavigula          |
| Begulu        | Kenyah  | Leopard Cat              | Felis bengalensis          |
| Belabangan    | Dusun   | Small Mouse              | " "                        |
|               |         | Deer                     | Tragulus kanchil           |
| Belaloh Asing | Kenyah  | A Small Squirrel         | Sciurus notatus            |
| Besalong      | Tagal   | Wild Ox                  | Bos sondaicus              |
| Bijit         | Iban    | Black Monkey             | Pygathrix<br>chrysomelas   |
| Binturong     | Malay   | Bear Cat                 | Arctictis binturong        |
| Bragok        | Iban    | Pine Marten              | Mustela flavigula          |
| Bran bran     | Malay   | Otter                    | Lutra cinerea              |
| Brok          | "       | Pig Tailed<br>Monkey     | Macacus<br>nemestrinus     |
| Bruang        | "       | Honey Bear               | Ursus malayanus            |
| Bukala        | Tagal   | Long Nose<br>Monkey      | Nasalis larvatus           |
| Buri          | Kenyah  | Moon Rat                 | Gymnura rafflesi           |
| Caloni        | Tagal   | Scaly Ant-eater          | Manis javanica             |
| Camansur      | "       | Rhino.                   | Rhinoceros<br>sumatranus   |
| Chok putih    | Kayan   | Stoat                    | Futorius nudipes           |
| Dengan ruit   | Kalabit | Badger                   | Mydaus lucifer             |

|              |         |                 |  |
|--------------|---------|-----------------|--|
| Doyong       | Malay   | Sea Cow         | <i>Halicore dugong</i>   |
| Dumbang      | "       | Mongoose        | <i>Herpestes</i><br><i>brachyurus</i>  |
| Dungoih      | Murut   | Long Nose       |  |
| Engkarabak   | Iban    | Monkey          | <i>Nalis larvatus</i>  |
| Enkoyong     | Kayan   | Giant Squirrel  | <i>Ratufa ehippium</i>   |
| Enkuli       | Iban    | Mias or Orang   |  |
| Entamba      | "       | Utan            | <i>Simia satyrus</i>   |
| Enturun      | "       | Clouded Leopard | <i>Felis nebulosa</i>  |
| Empau        | "       | Flying Fox      | <i>Pteropus edulis</i>   |
|              | "       | Bear Cat        | <i>Arctictis binturong</i>   |
|              | "       | " Brok "        | <i>Macacus</i><br><i>nemestrinus</i>   |
| Gajah        | Malay   | Elephant        | <i>Elephas indicus</i>   |
| Galling      | Iban    | White faced     | <i>Paradoxurus</i><br><i>leucomystax</i>   |
| Gobuk        | Murut   | Civet Cat       | <i>Macacus</i><br><i>nemestrinus</i>   |
| Gurat-gurat  | Dusun   | " Brok "        |  |
| Haji bulan   | Iban    | Slender Civet   |  |
| Hangangan    | Kenyah  | Cat             | <i>Linsang gracilis</i>  |
| Hawat        | Kayan   | Moon Rat        | <i>Gymnura rafflesi</i>  |
| Ingkat       | Iban    | Stoat           | <i>Putorius nudipes</i>  |
| Jabu         | Land    | Flying Fox      | <i>Pteropus edulis</i>   |
|              | Dayak   | The Tarsier     | <i>Tarsius spectrum</i>  |
| Jani         | Iban    |                 | <i>Sciurus prevostii</i><br><i>kuchingensis</i>                                      |
| Jellu        | "       | Wild Pig        | <i>Sus barbatus</i>  |
| " labi       | "       | An aquatic      | Any animal   |
| " miau       | "       | Civet Cat       | <i>Cynogale barbatus</i>   |
| " merah      | "       | The Red Monkey  | A Cat, <i>Felis planiceps</i> in particular<br><i>Pygathrix</i><br><i>rubicundus</i> |
| Jibulau      | Murut   | " Kra "         | <i>Macacus irus</i>  |
| Jugam        | Iban    | The Honey Bear  | <i>Ursus malayanus</i>   |
| Kalam        | Tagal   |                 | Rats and Mice  |
| Kalassie     | Kayan,  | The Red Monkey  | <i>Pygathrix</i><br><i>rubicundus</i>  |
| Kalawat      |         | Gibbon          | <i>Hylobates cinereus</i>  |
| Kamaya panas | Iban    | Large Mouse     |  |
| Kasui        | Land    | Deer            | <i>Tragulus javanicus</i>  |
|              | Dayak   | Civet Cat       | <i>Viverra zangalla</i>  |
| Kawat        | Kadayan | Moon Rat        | <i>Gymnura rafflesi</i>  |
| Keduran      | Tagal   | Flying Fox      | <i>Pteropus edulis</i>   |
| Khaitan      | Kadayan | Bear Cat        | <i>Arctictis binturong</i>   |
| Kijang       | Malay   | Barking Deer    | <i>Muntiacus muntjac</i>   |
| Kikok        |         | Hose's Monkey   | <i>Pygathrix hosei</i>   |

|                   |                    |                          |                                    |
|-------------------|--------------------|--------------------------|------------------------------------|
| Kleho             | Iban               | Wild Ox                  | <i>Bos sondaicus</i>               |
| Kluang            | Malay              | Flying Fox               | <i>Pteropus edulis</i>             |
| Koyong            | Kayan              | Orang Utan               | <i>Simia satyrus</i>               |
| Kra               | Malay              | Long Tailed<br>Monkey    | <i>Macacus irus</i>                |
| Krampu            | Iban               | Brush Tailed<br>Squirrel | <i>Rhithrosciurus<br/>macrotis</i> |
| Kubong            | Malay              |                          | Most Bats                          |
| "  merah          | "                  | Red Flying<br>Squirrel   | <i>Pteromys nitidus</i>            |
| "  plandok        | Iban               | Flying Lemur             | <i>Galeopterus volans</i>          |
| Kuching batu      | Malay              | Leopard Cat              | <i>Felis bengalensis</i>           |
| Landak            | Malay              | Porcupine                | <i>Hystrix mulleri</i>             |
| "  dudul          | Iban               | The "Tarsier             | " "                                |
| Lakud             | Sennah             | Flying Lemur             | <i>Tarsius spectrum</i>            |
| Langah            | Dusun              |                          | <i>Galeopterus volans</i>          |
| Limpungor         | "                  |                          | <i>Hylomys suillus</i>             |
| Lomba lomba       | Malay              |                          | Any Porpoises or<br>Dolphins       |
| Lotong            | "                  | A grey monkey            | <i>Pygathrix cristatus</i>         |
| Magan             | Dusun              | Long Nose<br>Monkey      | <i>Nasalis larvatus</i>            |
| Mangka            | Kenyah             | Giant Squirrel           | <i>Ratufa ephippium</i>            |
| Mantok            | Dusun              | A Pygmy Squirrel         | <i>Nannosciurus<br/>whiteheadi</i> |
| Marah             | Sennah             | Orang Utan               | <i>Simia satyrus</i>               |
| Merogang          | Kadayan<br>& Dusun | Red Monkey               | <i>Pygathrix<br/>rubicundus</i>    |
| Mias              | Malay              | Orang Utan               | <i>Simia satyrus</i>               |
| Munin             | Kayan              | ^ Civet Cat              | <i>Arctogale leucotis</i>          |
| Munsang akar      | Malay              | " "                      | " "                                |
| Munsang<br>pisang | "                  | Stoat                    | <i>Putorius nudipes</i>            |
| Munsang           | Iban               |                          | Any Civet Cat                      |
| Oho               | Kayan              | Pigmy Squirrels          | <i>Nannosciurus sp.</i>            |
| Orang blanda      | Malay              | Long Nose<br>Monkey      | <i>Nasalis larvatus</i>            |
| "  utan           | "                  | " Ranga-targ "           | <i>Simia satyrus</i>               |
| Oucang            | "                  | Loris                    | <i>Nycticebus<br/>tardigradus</i>  |
| Padi baru         | Iban               | Aquatic Civet<br>Cat     | <i>Cynogale barbatus</i>           |
| Padungan tana     | Kayan              | Barred Civet Cat         | <i>Hemigale<br/>hardwickei</i>     |
| Paguih            | Dusun              | Orang Utan               | <i>Simia satyrus</i>               |
| Pangkat           | Iban               | Barred Civet Cat         | <i>Hemigale<br/>hardwickei</i>     |

|              |               |                  |                     |                    |
|--------------|---------------|------------------|---------------------|--------------------|
| Pangkat      |               |                  |                     |                    |
| tekalang     | Iban          | Barred Civet Cat | Hemigale            | <i>hardwickei</i>  |
| Paniki       | Dusun         | Flying Fox       | Pteropus edulis     |                    |
| Pas daum     | Land          | Brush Tailed     | Rhithrosciurus      |                    |
|              | Dayak         | Squirrel         |                     | <i>macrotis</i>    |
| Pasiu        | Dusun         | Bear Cat         | Arctictis binturong |                    |
| Pasua        | Kenyah        | Pine Marten      | Mustela flavigula   |                    |
| Pasun        | Iban          | Wild Dog         |                     |                    |
|              |               | (Mythical)       |                     |                    |
| Paus         | Malay         | Any Whale        |                     |                    |
| Pelabun      | Kenyah        |                  | Sciurus hippurus    |                    |
| Penyamoh     | Kayan         |                  | Rhithrosciurus      | <i>macrotis</i>    |
| Penyatat     | Lundu         |                  | Pygathrix           |                    |
|              | Dayak         | Black monkey     |                     | <i>chrysomelas</i> |
| Perut        | Kayan         | A Monkey         | Pygathrix frontata  |                    |
| P'iau        |               | Sambhur Deer     | Rusa equinus        |                    |
| Plandok      |               |                  |                     |                    |
| kanchil      | Malay         | Small Mouse      |                     |                    |
|              |               | Deer             | Tragulus kanchil    |                    |
| Plandok      |               |                  |                     |                    |
| tamping      | Iban          | Small Mouse      |                     |                    |
|              |               | Deer             | " "                 |                    |
| Plandok napu | Malay         | Large Mouse      |                     |                    |
|              |               | Deer             | " javanicus         |                    |
| Puan         | Iban          | A Monkey         | Pygathrix frontata  |                    |
| Pukang       | "             | Pygmy Squirrel   | Nannosciurus exilis |                    |
| Rasong       | Malay         | Long Nose        |                     |                    |
|              |               | Monkey           | Nasalis larvatus    |                    |
| Rimau akar   | "             | Marbled Cat      | Felis marmorata     |                    |
| " dahan      | "             | Clouded Leopard  | " nebulosa          |                    |
| Ringin       | "             | Otter            | Lutra cinera        |                    |
| Rusa         | "             | Sambhur Deer     | Cervus unicolor     |                    |
| Salum        | Tagal         |                  | Sciurus prevostii   |                    |
|              |               |                  | rufoniger           |                    |
| San          | Miri          | Wild Pig         | Sus barbatus        |                    |
| Sapuan       | Kenyah        |                  | Sciurus prevostii   |                    |
|              |               |                  | griseicauda         |                    |
| Schimaru     | Iban          | Rhino            | Rhinoceros          |                    |
|              |               |                  | sumatranus          |                    |
| Sempalili    | Kadayan       | The Tarsier      | Tarsiur spectrum    |                    |
| Sinang       | Iban          | A Civet Cat      | Viverra tangalanga  |                    |
| Singagar     | Kadayan       | A Monkey         | Presbytis sabanus   |                    |
| Tagaut       | Dusun         | Red Flying       |                     |                    |
|              |               | Squirrel         | Pteromys nitidus    |                    |
| Tagurog      | "             | A Monkey         | Pygathrix sabanus   |                    |
| Tambang      | Dusun & Murut | Sambhur Deer     | Rusa unicolor       |                    |

|                      |               |                         |   |
|----------------------|---------------|-------------------------|---|
| Tamparulik           | Dusun         | Moon Rat                | <i>Gyinnura rafflesi</i>                            |
| Tampik<br>(doubtful) | "             | Wild Ox                 | <i>Bos sondaicus</i>                                |
| Tana                 | Tagal         | Large Squirrel          | <i>Ratufa ephippium</i>                             |
| Tekalang alud        | Kalabit       | Banded Civet            | <i>Hemigale<br/>hardwickei</i>                      |
| Teli                 | Kayan         |                         | <i>Sciurus prevostii</i><br>" <i>griseicauda</i>    |
| Telaoh               | Murut         | Barking Deer            | <i>Muntiacus muntjac</i>                            |
| Teledu               | "             | Badger                  | <i>Mydaus lucifer</i>                               |
| Tembaiungan          | "             | Rhino                   | <i>Rhinoceros<br/>sumatranus</i>                    |
| Temadu               | Malay         | Wild Ox                 | <i>Bos sondaicus</i>                                |
| Tengalong            | "             | A Civet Cat             | <i>Viverra tangalanga</i>                           |
| Tengiling            | "             | Scaly Ant-eater         | <i>Manis javanica</i>                               |
| Tikus bulan          | "             | Moon Rat                | <i>Gyinnura rafflesi</i>                            |
| " blanda             | "             | Rabbit or Guinea<br>Pig |   |
| Toh                  | Kalabit       | Stoat                   | <i>Putorius nudipes</i>                             |
| Tuahan               | Tagal         |                         | <i>Rhithrosciurus<br/>macrootis</i>                 |
| Tupai kelapa         | Malay         | Plantain Squirrel       | <i>Sciurus notatus</i>                              |
| Tupai pinang         | "             |                         |   |
| Tupai<br>kenyulong   | "             |                         | Most Tree Shrews<br><i>Tupaia tana</i> as a<br>rule |
| Tupai tana           | "             |                         |   |
| " labang             | Iban          |                         | <i>Sciurus prevostii<br/>caroli</i>                 |
| " chelum             | Tagal         |                         | <i>Sciurus prevostii<br/>rufoniger</i>              |
| Tupai<br>bekarang    | Iban          |                         | <i>Sciurus prevostii<br/>atricapillus</i>           |
| Tun                  | Land<br>Dayak | Bear Cat                | <i>Arctictis binturong</i>                          |
| Ulak                 | Tagal         | Wild Pig                | <i>Sus barbatus</i>                                 |
| Wawa                 | Malay         | Gibbon                  | <i>Hylobates cinereus</i>                           |
| Wok wok              | Kayan         | "                       | " "   |

APPENDIX B.

Measurements and Weights of Bornean Mammals including notes on the colours of their soft parts.

|  |  | Total length in inches | Tail in inches. | Height at Shoulder. | Weight in pounds | Collector.         | Colour of Soft Parts.   |                                |
|--|--|------------------------|-----------------|---------------------|------------------|--------------------|---|--------------------------------|
| Journal Malayan Branch [Vol. IX, Pt. II. | <i>Manis javanica</i><br>(Ant Eater)             | ♂                      | 3' 6.4"         | 1' 8.4"             | 16 lbs. 8 ozs.   | Dr. Abbot          |   |                                |
|  | <i>Halicore dugong</i><br>(Sea Cow)              | ♂                      | 9'              |                     | 325 lbs.         | Prater             |   |                                |
|  | <i>Balaenoptera musculus</i>                     | ♀                      | 8' 4"           |                     | 280 "            | "                  |   |                                |
|  | <i>Sus barbatus</i><br>(Bearded pig)             | ♂                      | 4' 7.8"         | 2' 6.5"             | 185 lbs.         | S. M.<br>Dr. Abbot | Iris quite white in old specimens, not so clear in immature ones. |                                |
|  |  |                        | 4' 7.4"         | 2' 4"               | 140 "            | "                  |   |                                |
|  |  |                        | 4' 10"          | 2' 4.5"             | 178 "            | "                  |   |                                |
|  |  |                        | 4' 9.8"         | 2' 6.3"             | 138 "            | "                  |   |                                |
|  |  | ♀                      | 4' 8.6"         | 2' 5.1"             | 182 "            | "                  | Snout white to flesh coloured.                                    |                                |
|  |  |                        | 4' 4"           | 2' 2"               | 126 "            | "                  | Hooves horn.  |                                |
|  |  |                        | 4' 3"           |                     | 126 "            | "                  |   |                                |
|  |  |                        | 4' 5"           | 2' 5.5"             | 135 "            | "                  |   |                                |
|  | <i>Cervus unicolor equinus</i><br>(Sambhur Deer) | ♂                      | 5' 6"           | 10"                 | 3' 6"            | 280 "              | S. M.   | Iris brown.                    |
|  |  |                        |                 |                     | 117 "            | "                  | "   | Nose horn with greenish tinge. |

|                    |   |          |       |        |               |  |           |                                   |
|--------------------|---|----------|-------|--------|---------------|--|-----------|-----------------------------------|
|                    | ♀ | 5' 11"   |       | 4' 10" | 200 lbs.      |  | Dr. Abbot | Hooves horn.                      |
|                    |   | 6' 2"    |       | 4' 1"  | 150 "         |  | "         |                                   |
| Tragulus kanchil   | ♂ | 1' 7"    |       |        | 4 lbs. 8 ozs. |  | "         | Iris dark brown.                  |
| (Mouse Deer)       |   |          |       |        |               |  |           |                                   |
|                    |   | 1' 6.7"  | 2.6"  |        | 4 " 3 "       |  |           |                                   |
|                    |   | 1' 5"    | 2.6"  |        | 3 " 8 "       |  |           | Nostrils grayish horn.            |
|                    |   |          | 2.6"  |        | 4 " 6 "       |  | S. M.     | Ears pale horn, edged with black. |
|                    |   | 1' 6"    |       |        | 4 " 2 "       |  |           |                                   |
|                    |   | 1' 5"    | 2.5"  |        | 3 " 11 "      |  | S. M.     |                                   |
| Tragulus javanicus | ♂ | 1' 10.2" | 3.3"  |        | 9 lbs.        |  | Dr. Abbot | Iris very dark brown.             |
| borneanus          |   |          |       |        |               |  |           |                                   |
| (Mouse Deer)       |   |          |       |        |               |  |           |                                   |
|                    |   | 1' 8.7"  | 2.5"  |        | 7 "           |  | "         | Hooves and Muzzle pale horn.      |
|                    |   |          |       |        |               |  |           |                                   |
|                    |   | 1' 9.5"  | 3.25" |        | 8 " 8 ozs.    |  | "         |                                   |
|                    |   | 1' 9.5"  | 3.5"  |        | 7 " 8 "       |  | "         |                                   |
|                    |   | 1' 10.2" | 2.75" |        | 7 " 8 "       |  | "         |                                   |
|                    |   | 1' 9.5"  | 3.2"  |        | 10 " 1 "      |  | "         |                                   |
|                    |   | 1' 10"   |       |        | 10 "          |  |           |                                   |
|                    |   | 1' 9"    | 3.3"  |        | 6 "           |  |           |                                   |
|                    |   | 2' 4"    | 3.3"  |        | 7 " 12 ozs.   |  | S. M.     |                                   |
|                    |   | 1' 11.3" | 3.1"  |        | 8 " 10 "      |  | "         |                                   |
|                    |   |          |       |        | 7 " 8 "       |  | "         |                                   |
|                    |   | 1' 11"   | 2.5"  |        | 7 "           |  | "         |                                   |
|                    | ♀ | 1' 9.5"  | 3.3"  |        | 9 " 8 "       |  | Dr. Abbot |                                   |
|                    |   | 1' 7"    | 3.9"  |        | 6 "           |  | S. M.     |                                   |

|  |   | Total length in inches. | Total inches. | Height at Shoulder. | Weight in pounds. | Collector.         | Colour of Soft Parts.  |
|--|---|-------------------------|---------------|---------------------|-------------------|--------------------|--|
| <b>Muntiacus muntjac</b><br>(Barking Deer)     | ♂ | 3'                      | 6·7"          |                     | 28 lbs. 10 ozs.   | Dr. Abbot          |  |
|  |   | 2' 11·7"                | 6·7"          | 1' 8·4"             | 35 " 3 "          | "                  | Iris dark brown.   |
|  |   | 2' 11·4"                | 5·9"          | 1' 9·2"             | 32 " "            | "                  | Snout black.   |
|  | ♀ | 3' 1·7"                 | 5·3"          |                     | 28 " "            | S. M.              | Hooves horn.   |
| <b>Bos sondaicus</b><br>(Wild Ox)              | ♀ | 6' 10·4"                | 2' 2·8"       | 4' 3·2"             | 386 "             |                    |  |
|  |   |                         |               |                     | 600 " (guttled)   | Dr. Abbot<br>S. M. | Iris light sandy yellow<br>with black flecks.<br>Muzzle dark greyish<br>black. |
| <b>Rhinoceros sumatanus</b><br>(Rhinoceros)    |   |                         |               |                     |                   |                    |  |
| <b>Trichys lipura</b>                          |   |                         |               |                     |                   |                    |  |
| <b>Hystrix muelleri</b><br>(Porcupine)         | ♂ | 2' 4"                   | 3·1"          |                     | 22 lbs.           | Dr. Abbot          |  |
|  | ♂ | 2' 6"                   | 7"            |                     | 17 " 8 ozs.       | S. M.              | Iris very dark brown.  |
| <b>Hystrix crassipinis</b>                     | ♀ | 2' 3"                   | 7"            |                     | 13 "              | S. M.              |  |
| <b>Rattus muelleri</b>                         |   |                         |               |                     |                   |                    |  |
| borneanus                                      | ♂ | 1' 6·3"                 | 10·5"         |                     | 12 ozs            | S. M.              |  |
| <b>Rhithrosciurus macrotis</b>                 | ♂ | 2' 10"                  | 1' 1"         |                     | 2 lbs. 2 ozs.     | S. M.              |  |
|  | ♂ |                         |               |                     | 2 " 4 "           | "                  |  |
|  | ♂ | 1' 10·8"                | 12"           |                     | 1 " 6 "           | "                  |  |
| <b>Nannosciurus exilis</b><br>(Pygmy squirrel) | ♀ | 5·2"                    | 2·3"          |                     | ¾ "               | "                  |  |
| <b>Funambulus insignis</b>                     |   |                         |               |                     |                   |                    |  |
| diversus                                       | ♂ | 11·5"                   | 4·8"          |                     |                   | "                  | Iris very dark brown.  |
|  | ♀ | 1' 25"                  | 4·8"          |                     |                   | "                  |  |

|                              |                      |         |         |              |            |  |                                   |
|------------------------------|----------------------|---------|---------|--------------|------------|--|-----------------------------------|
| 1931] Royal Asiatic Society. | Funambulus everetti  |         |         |              |            |  |                                   |
|                              | Sciurus tenuis       |         |         |              |            |  |                                   |
|                              | Sciurus lowi         |         |         |              |            |  |                                   |
|                              | Sciurus brookei      | ♀       | 1' 2"   | 5.2"         | 5.75 ozs.  | S. M.  |                                   |
|                              | Sciurus jentinki     |         |         |              |            |  |                                   |
|                              | Sciurus notatus      | ♂       | 1' 4"   | 6.1"         |            |  |                                   |
|                              |                      | ♀       | 1' 4.1" | 7.3"         | 8 ozs.     | "  | Iris dark brown, claws pale horn. |
|                              | Sciurus prevostii    |         |         |              |            |  |                                   |
|                              | borneoensis          | ♂       | 1' 7.4" | 9.4"         | 1 lb.      | S. M.  | Iris dark brown.                  |
|                              |                      | ♀       | 1' 8.1" | 10.5"        | 1 lb.      | "  | Claws horn, paler at tip.         |
|                              |                      | ♀       | 1' 7.4" | 9.5"         | 14.75 ozs. | "  |                                   |
|                              | Sciurus atricapillus | ♂       | 1' 6.5" | 9"           | 13 "       | "  |                                   |
|                              |                      | ♀       | 1' 6.4" | 9.5"         | 15.25 "    | "  |                                   |
|                              | Sciurus caroli       | ♂       | 1' 7.9" | 9.9"         | 1 lb.      | S. M.  | Iris dark brown.                  |
|                              |                      | ♂       | 1' 4"   | 8"           | 1 " 1 oz.  | "  | Claws horn, pads black.           |
|                              | ♀                    | 1' 6"   | 9.2"    | 14.5 ozs.    | "          |  |                                   |
| Sciurus rufoniger            | ♀                    | 1' 6.5" | 9.5"    | 1 lb.        | "          | Iris dark brown, Pads and claws black, latter tipped with horn. Ears and muzzle black. |                                   |
| Sciurus griseicauda          | ♀                    | 1' 6.2" | 9.2"    | 12½ ozs      | S. M.      | do.  |                                   |
|                              | ♀                    |         |         | 1 lb. 2 ozs. | "          |  |                                   |
| Sciurus hippurus             | ♂                    | 1' 8"   | 10"     | 14.5 ozs     | S. M.      | Iris dark brown.   |                                   |
|                              | ♂                    | 1' 7 1" | 10"     | 13 "         | "          | Pads and claws pale horn, tips of claws black.   |                                   |

|   |                  | Total length in inches. | Tail in inches. | Height at Shoulder. | Weight in pounds. | Collector.  | Colour of Soft Parts.                                    |   |
|---|------------------|-------------------------|-----------------|---------------------|-------------------|---|--|---|
| <i>Journal Malayan Branch</i> [Vol. IX, pt. II. | Ratufa ephippium | ♂                       | 2' 8"           | 1' 5"               | 2 lbs. 12 ozs.    | S. M.   | Iris very dark brown. Pads and claws horn, muzzle black. |   |
|   |                  |                         | 2' 6.5"         | 1.2"                | 2 " 10 "          | "   |  |   |
|   |                  |                         | 2' 5"           | 1' 3.5"             | 2 " 6 "           | "   |  |   |
|   |                  |                         | 2' 6.3"         | 1' 4.6"             | 2 " 5 "           | "   |  |   |
|   |                  |                         | 2' 4"           | 1' 5"               | 3 " "             | "   |  |   |
|   |                  |                         | 2' 4.6"         | 1' 3.5"             | 2 " 8 "           | "   |  |   |
|   |                  |                         | 2' 4"           | 1' 3.5"             | 2 " "             | "   |  |   |
|   |                  |                         | ♀               | 2' 6.5"             |                   | 2 " 8 "   |  | " |
|   |                  |                         |                 | 2' 7"               |                   | 2 " 9 "   |  | " |
|   |                  |                         |                 | 2.8"                | 1' 2"             | 3 " "   |  | " |
|   | ♂                | 1' 1.8"                 | 7' 2"           | 4 "                 | S. M.             | Iris very dark brown.                                     |  |   |
|   | ♂                | 4' 5.2"                 | 3.5"            | 124 "               | Dr. Abbòt         |   |  |   |
|   | ♀                | 2' 6.4"                 | 1' 2"           | 5 " 8 "             | "                 |   |  |   |
|   | ♀                | 2' 6"                   | 1'              | 6 "                 | S. M.             | Iris dark brown.  |  |   |
|   | ♀                | 1' 5"                   | 2"              | 3 " 8 "             | "                 |   |  |   |
|   | ♀                | 2' 5.7"                 | 1' 5"           | 3 "                 |                   |   |  |   |
|   | ♀                | 2' 6.5"                 | 1' 1.4"         | 2 " 6 "             | Dr. Abbot         | Iris brown, nose pink; claws flesh coloured, horn at tip. |  |   |
|   | ♂                | 1' 10"                  | 8"              |                     | S. M.             |   |  |   |

|                                 |                                 |         |         |        |        |                   |   |                                |
|---------------------------------|---------------------------------|---------|---------|--------|--------|-------------------|---|--------------------------------|
| 1931]<br>Royal Asiatic Society. | Mungos brachyurus<br>(Mongoose) | ♂       | 1' 5-5" | 9-3"   | 4 lbs. | S. M.             | Iris light yellow ochre;<br>claws horn, pads<br>whitish. Nose pink. |                                |
|                                 |                                 | ♂       | 1' 4-6" | 9-6"   | 2 "    | 4 ozs. Dr. Abbot  |   |                                |
|                                 |                                 | ♂       | 1' 5-5" | 9-1"   | 3 "    | 6 "               |   |                                |
|                                 |                                 | ♀       | 1' 3-5" | 8-2"   | 2 lbs. | 15 ozs. Dr. Abbot |   |                                |
|                                 |                                 | ♀       | 1' 5-5" | 9-8"   | 3 "    | 2 "               |   |                                |
|                                 |                                 | ♂       | 2' 9"   | 8-2"   | 7 "    | 8 "               | S. M.   |                                |
|                                 | Cynogale barbatus               | ♀       | 2' 7"   | 5-5"   | 10 "   |                   | Dr. Abbot   |                                |
|                                 |                                 | ♀       | 2' 9-4" | 7-9"   | 12 "   | 4 "               |   |                                |
|                                 | Arctictis binturong<br>imm.     | ♀       | 4' 6-5" | 2-3"   | 13 "   |                   |   | Iris light yellowish<br>brown. |
|                                 | Hemigale derbyanus              | ♂       | 2' 6-8" | 1' 2"  | 3 "    | 6 "               | S. M.   |                                |
|                                 |                                 | ♂       |         |        | 5 "    | 8 "               |   |                                |
|                                 |                                 | ♂       | 2' 6-9" | 1' 25" | 3 "    | 5 "               | Dr. Abbot   |                                |
|                                 |                                 | ♀       |         |        | 6 "    |                   |   |                                |
| Arctogale leucotis              | ♂                               | 2' 9"   | 1' 10"  | 6 "    | 9 "    | S. M.             |   |                                |
|                                 | ♂                               |         |         | 6 "    | 8 "    | S. M.             | Iris dark brown muz-<br>zle black.                                  |                                |
|                                 | ♀                               |         |         | 6 "    |        | Dr. Abbot         | Claws pale horn.  |                                |
|                                 | ♀                               |         |         | 3 "    |        |                   |   |                                |
| Paradoxurus herma-<br>phroditus | ♂                               |         |         | 4 "    | 8 "    | S. M.             | Iris brown.   |                                |
|                                 | ♂                               |         |         | 4 "    | 1 "    |                   |   |                                |
| Linsang gracilis                | ♀                               | 2' 3-3" | 13-5"   | 1 "    | 3 "    |                   | Iris dark brown. Nose<br>pink, pads and claws<br>white.             |                                |

|   |                    | Total length in inches | Tail in inches. | Height at Shoulder. | Weight in pounds. | Collector.                                  | Colour of Soft Parts. |
|---|--------------------|------------------------|-----------------|---------------------|-------------------|---|-----------------------|
| Journal Malayan Branch [Vol. IX, p. II. | Viverra tangalanga | ♂                      | 2' 2.5"         | 1' 1.75"            | 8 lbs. 3 ozs.     | Dr. Abbot                                   |                       |
|   |                    |                        | 2' 2.1"         | 1' 4"               | 9 "               | "   |                       |
|   |                    |                        | 2' 1"           | 11.8"               | 6 " 8 "           | "   |                       |
|   |                    |                        | 2' 2.2"         | 10.8"               | 9 "               | "   |                       |
|   |                    |                        | 2' 4"           | 11.9"               | 7 " 2 "           | "   |                       |
|   |                    |                        | 2' 4"           | 1.4"                | 7 " 2 "           | "   |                       |
|   |                    |                        | 1' 9.8"         | 1' 4"               | 7 " 2 "           | "   |                       |
|   | Felis planiceps    | ♀                      | 2' 1.3"         | 1' 3"               | 8 " 1 "           | "   |                       |
|   |                    |                        | 2' 3"           | 1' 7.5"             | 9 "               | "   |                       |
|   |                    |                        | 2' 7.5"         | 1' 4"               | 7 " 2 "           | "   |                       |
|   |                    |                        | 2' 1.2"         | 11.75"              | 8 " 1 "           | "   |                       |
|   |                    |                        | 2' 1.6"         | 1' 2"               | 10 " 6 "          | "   |                       |
|   |                    |                        | 2'              | 1' 2"               | 6 " 3 "           | "   |                       |
|   |                    |                        | 2' 6"           | 1'                  | 9 "               | "   |                       |
| Felis bengalensis (Leopard Cat)         | ♀                  | 1' 11.5"               | 5.4"            | 5 lbs. 10 ozs.      | S. M.             | Iris pale grey with almost a pinkish tinge. |                       |
|   |                    | 1' 7.8"                | 5.4"            | 4 " 12 "            | Dr. Abbot         |   |                       |
|   |                    | 1' 5.5"                | 5.8"            | 4 "                 | "                 |   |                       |
|   |                    | 1' 6.3"                | 5.8"            | 4 " 8 "             | "                 |   |                       |
|   |                    | 1' 5.8"                | 5.1"            | 3 " 12 "            | "                 |   |                       |
| Felis bengalensis (Leopard Cat)         | ♂                  | 1' 7.1"                |                 | 4 "                 | S. M.             |   |                       |
|   |                    | 1' 3.2"                | 7.2"            | 7 " 3 "             | "                 |   |                       |
|   |                    |                        |                 | 4 "                 | Dr. Abbot         |   |                       |

|   |   |          |       |         |            |        |           |   |
|---|---|----------|-------|---------|------------|--------|-----------|---|
| <i>Felis temminki</i>                       |   |          |       |         |            |        |           |   |
| <i>Felis marmorata</i>                      |   |          |       |         |            |        |           |   |
| <i>Felis nebulosa</i><br>(Clouded leopard)  |   | 5' 7.5"  | 2' 6" | 1' 2.5" | 44 lbs.    | 8 ozs. | Blandford |   |
| <i>Galeopterus volans</i><br>(Flying lemur) | ♂ | 1' 10.5" |       |         | 2 "        | 3 "    | S. M.     |   |
| <i>Gymnura rafflesi</i><br>(Moon rat)       | ♀ | 1' 11.4" |       |         | 2 "        | 4½ "   | "         |   |
|   | ♂ |          |       |         | 2 "        | 8 "    | "         | Iris black. Ears flesh coloured, tinged with pale yellow.   |
| <i>Ptilocercus lowi</i>                     | ♀ | 2' 1.1"  | 9.5"  |         | 3 "        |        | "         | Nose pink; feet paler, claws horn.                          |
| <i>Tupaia picta</i>                         |   | 1' 4.5"  | 7.75" |         |            |        |           | Iris brown. Pads and claws horn.                            |
| <i>Tupaia dorsalis</i>                      |   | 1' 3"    | 6.05" |         |            |        | S. M.     | Iris very dark brown. pads and claws horn.                  |
| <i>Tupaia gracilis</i>                      | ♂ | 11.5"    | 6.2"  |         |            |        | S. M.     | Iris very dark brown.                                       |
| <i>Tupaia minor</i>                         |   | 11.85"   | 6.75" |         | 2.25 "     |        | "         |   |
| <i>Tupaia tana</i>                          | ♀ | 1' 3.4"  | 7.0"  |         | 8.5 ozs.   |        | S. M.     | Iris dark brown. Nose, feet and claws horn. Pads pale horn. |
| <i>Tupaia ferruginea</i>                    |   |          |       |         |            |        |           | Iris very dark brown,                                       |
| <i>Cheiromeles torquatus</i>                |   |          |       |         |            |        |           |   |
| <i>Taphozous longimanus</i>                 |   |          |       |         |            | 1 oz.  | S. M.     | Iris dark brown.  |
| <i>albipinnis</i>                           | ♀ | 3"       |       |         |            |        |           | Muzzle dark brown.  |
| <i>Vespertilio muricola</i>                 |   | 2' 2"    |       |         | 136 grains |        | S. M.     |   |

|  |   | Total length in inches. | Tail in inches. | Height at Shoulder. | Weight in pounds. | Collector. | Colour of Soft Parts.  |
|--|---|-------------------------|-----------------|---------------------|-------------------|------------|--|
| <i>Rhinolophus trifoliatu</i>            | ♂ | 3.6"                    |                 |                     | 1 oz.             | S. M.      | Nose Leaf pale yellow, ears dull yellow. Elbows, knees and edge of tail membrane yellow. |
| <i>Pteropus edulis</i><br>(Flying Fox)   | ♂ | 11.6"                   |                 |                     | 1 lb. 4 ozs.      | S. M.      |  |
|  | ♀ | 11.6"                   |                 |                     | 2 lbs. 3 "        | "          |  |
|  | ♀ |                         |                 |                     | 1 lb. 7 "         | "          |  |
| <i>Cynopterus brachyotis</i>             | ♂ | 3.6"                    | .3"             |                     | 1 lb. 13 "        | "          |  |
|  | ♀ | 3.8"                    | .3"             |                     | 1.6 "             | "          | Iris dark coffee coloured, claws horn. Feet dull black.                                  |
|  | ♀ |                         |                 |                     | 1.5 "             | "          |  |
| <i>Tarsius spectrum</i><br>(Tarsier)     | ♀ |                         |                 |                     |                   |            |  |
| <i>Nycticebus tardigradus</i><br>(Loris) | ♂ | 1' 4.7"                 |                 |                     | 3 "               | S. M.      |  |
|  |   |                         |                 |                     | 14¾ "             | "          | Iris light yellow ochre. Nose and feet dull flesh colour.                                |
| <i>Macacus irus</i><br>("Kra")           | ♂ | 3' 9.5"                 | 1' 10.5"        |                     | 11 lbs.           | Dr. Abbot  |  |
|  | ♂ |                         |                 |                     | 12 "              | S. M.      |  |
| <i>Macacus nemestrinus</i><br>("Brok")   | ♂ | 2' 8.9"                 | 8.7"            |                     | 24 "              | Dr. Abbot  |  |
|  | ♀ |                         |                 |                     | 18 "              | S. M.      |  |
| <i>Pygathrix frontatus</i>               | ♀ | 3' 11.2"                | 2' 3.2"         |                     | 13 " 8 "          | "          | Iris dark brown, Ears black, ◊ shaped white spot on forehead. Pads black, claws horn.    |

|                              |                       |          |          |                |                |           |  |   |  |
|------------------------------|-----------------------|----------|----------|----------------|----------------|-----------|--|---|--|
| 1931] Royal Asiatic Society. | Pygathrix everetti    | ♀        | 4' 5"    | 2' 3.5"        | 14 lbs.        |           | S. M.  |   |  |
|                              | Pygathrix hosei       | ♂        | 4'       | 2' 4"          | 11 lbs.        |           | S. M.  | Iris dark brown.  |  |
|                              |                       | ♂        | 4'       | 1' 6"          | 10 "           |           | "  | Pads black. Face dark grey, Eyelids, nose and brows light grey. Upper lip and chin whitish. |  |
|                              | Pygathrix cristatus   | ♂        | 3' 9.3"  | 2' 1"          | 11 lbs. 8 ozs. |           | S. M.  |   |  |
|                              | Pygathrix chrysomelas | ♀        |          |                | 12 "           | 8 "       |  | "   |  |
|                              |                       | ♂        | 3' 10.5" | 2' 3.3"        | 14 "           |           | Dr. Abbot  | Iris very light almost yellowish ochre. Face dull black. Feet and hands black.              |  |
|                              |                       |          | 3' 10.6" | 2' 4.5"        | 14 "           |           | "  |   |  |
|                              |                       |          | 4' 2"    | 2' 6.1"        | 14 "           |           | "  |   |  |
|                              |                       |          | 4' 1.8"  | 2' 5.5"        | 15 "           | 12 "      | "  |   |  |
|                              |                       |          | 3' 9.5"  | 2' 3.4"        | 13 "           |           | "  |   |  |
|                              |                       | 3' 9.4"  | 2' 2.5"  | 15 "           |                | "         |  |   |  |
| Pygathrix cruciger           | ♀                     | 3' 9.7"  | 2' 3.4"  | 15 "           | 4 "            | "         |  |   |  |
|                              |                       | 3' 7"    | 2' 2.5"  | 10 "           | 6 "            | "         |  |   |  |
|                              |                       | 3' 7"    | 2' 2"    | 10 "           | 4 "            | "         |  |   |  |
|                              | ♀                     | 3' 5"    | 2'       | 10 lbs. 4 ozs. |                | Dr. Abbot | Iris dark brown. Face dark greyish. Pads black.                        |   |  |
| Pygathrix rubicundus         | ♂                     | 3' 8"    | 2' 1.5"  | 10 "           |                |           | S. M.  |   |  |
|                              |                       | 4' 6"    | 2' 3.4"  | 16 "           | 6 "            | Dr. Abbot | Iris brown.  |   |  |
|                              |                       | 3' 11.2" | 2' 3.5"  | 14 "           | 6 "            | "         | Ears greyish blue.   |   |  |
|                              |                       | 3' 11.4" | 2' 3.7"  | 15 "           | 8 "            | "         | Face greyish blue, chin and round eyes whitish. Pads black claws horn. |   |  |
|                              |                       | 4' 8"    | 2' 4"    | 15 "           |                | "         |  |   |  |
|                              |                       | 3' 10.4" | 2' 2.6"  | 15 "           |                | "         |  |   |  |

|                    |   | Total length in inches. | Tail in inches. | Height at Shoulder. | Weight in pounds. | Collector. | Colour of Soft Parts.   |
|--------------------|---|-------------------------|-----------------|---------------------|-------------------|------------|-------------------------|
|                    | ♀ | 4' 1.4"                 | 2' 5"           |                     | 16 lbs.           | S. M.      |                         |
|                    |   | 4' 4.1"                 | 2' 5.5"         |                     | 12 " 4 ozs.       | Dr. Abbot  |                         |
|                    |   | 3' 11.3"                | 2' 3.2"         |                     | 14 " 2 "          | "          |                         |
|                    |   | 3' 10.6"                | 2' 3.1"         |                     | 17 " 8 "          | "          |                         |
|                    |   | 3' 10.1"                | 2' 2.3"         |                     | 16 " 6 "          | "          |                         |
|                    |   | 3' 9.9"                 | 2' 2.2"         |                     | 11 " 7 "          | "          |                         |
| Nasalis larvatus   | ♂ | 4' 6.3"                 | 2' 2.2"         |                     | 42 " 12 "         | "          | Iris dark yellow ochre. |
| (Long Nose Monkey) |   | 4' 1.5"                 | 2' 6"           |                     | 29 " 4 "          | S. M.      |                         |
|                    |   | 4' 5.6"                 | 2' 2.4"         |                     | 38 "              | Dr. Abbot  | Face brick red Claws    |
|                    |   | 4' 5.5"                 | 2' 2"           |                     | 44 "              | "          | dark horn. Pads         |
|                    |   | 4' 8.25"                | 2' 4.5"         |                     | 52 "              | "          | black.                  |
|                    |   | 4' 7"                   | 2' 3.5"         |                     | 45 "              | "          |                         |
|                    |   | 4' 6"                   | 2' 2.5"         |                     | 46 "              | "          |                         |
|                    |   | 4' 6"                   | 2' 2.5"         |                     | 48 "              | "          |                         |
|                    | ♀ | 3' 7.6"                 | 1' 9.6"         |                     | 21 " 8 "          | "          |                         |
|                    |   | 3' 10"                  | 1' 11.8"        |                     | 13 " 1 "          | "          |                         |
|                    |   | 3' 9"                   | 1' 11.2"        |                     | 20 " 4 "          | "          |                         |
|                    |   | 4'                      | 2' 4"           |                     | 23 "              | "          |                         |
|                    |   | 3' 7.6"                 | 1' 10.4"        |                     | 22 "              | "          |                         |
| Hylobates cinereus | ♂ | 1' 7.7"                 |                 |                     | 12 " 4 "          | S. M.      | Iris brown. Face, Pads  |
| (Gibbon)           |   |                         |                 |                     |                   |            | of feet hands, black.   |
|                    |   | 1' 6.5"                 |                 |                     | 11 " 4 "          | Dr. Abbot  |                         |
|                    |   | 1' 8.1"                 |                 |                     | 15 " 5 "          | "          |                         |
|                    |   | 1' 6.1"                 |                 |                     | 11 " 4 "          | "          |                         |
|                    |   | 1' 7.1"                 |                 |                     | 11 " 9 "          | "          |                         |
|                    |   | 1' 5.3"                 |                 |                     | 11 " 9 "          | "          |                         |

|                                     |   |         |         |       |           |
|-------------------------------------|---|---------|---------|-------|-----------|
| 1931] <i>Royal Asiatic Society.</i> | ♀ | 1' 6.4" | 13 lbs. | 8 ozs | Dr. Abbot |
|                                     |   | 1' 6.4" | 12 "    | 2 "   | "         |
|                                     |   | 1' 5.7" | 12 "    | 2 "   | "         |
|                                     |   | 1' 6.1" | 12 "    | 8 "   | "         |
|                                     | ♂ | 3' 1.6" | 12 "    | 8 "   | "         |
|                                     |   |         | 450 "   |       | Dr Abbot  |
|                                     | ♀ | 3' 2.1" | 405 "   |       | "         |
|                                     |   | 3' 2.2" | 450 "   |       | "         |
|                                     |   | 2' 5.3" | 162 "   |       | "         |
|                                     |   | 2' 6.7" | 184 "   |       | "         |
| 2' 9.5"                             |   | 225 "   |         | "     |           |
| 2' 6.9"                             |   | 192 "   |         | "     |           |
| 2' 5.7"                             |   | 135 "   |         | "     |           |
| 2' 6.7"                             |   | 188 "   |         | "     |           |
| Simia satyrus<br>(Orang Utan)       |   |         |         |       |           |

## APPENDIX C.

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- Wallace** .. "Malay Archipelago."



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