No. I.

JOURNAL

OF THE

STRAITS BRANCH

OF THE

ROYAL ASIATIC SOCIETY.

JULY, 1878.

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Page II (List of Members)	for	Brooke *St. H. Sir*,	read	*H. H. Raja*
„	„	Labuan & *S'baya*	„	Labuan & *Sarâwak*.
„	„	Penn*dy* F. G.	„	Penn*ey* F. G.
9 „ 2	„	That is , his	„	That is his.
17 „ 20	„	Ma*n*rix	„	Ma*t*rix.
20 „ 3	„	residuce left b*p*	„	residue left b*y*.
21 „ 7	„	an*d*	„	an.
22 „ 28	„	regulu*t*	„	regulu*s*.
23 „ 16	„	needless	„	needle*s*.
„ „ 19	„	fin*n*ds	„	finds.
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24 „ 6	„	N. S. and	„	*S. E.*
42, 43, 44 Head-lines	„	Melanecian	„	Melanesian.
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Zemke, P.

PROCEEDINGS OF THE STRAITS BRANCH OF THE ROYAL ASIATIC SOCIETY.

MINUTES OF MEETINGS HELD AT THE RAFFLES LIBRARY, SINGAPORE, MONDAY THE 4TH NOVEMBER 1877.

Present.

The Ven. Archdeacon G. F. Hose.
N. B. Dennys, Esq., Ph. D.
A. Gray, ,,
D. F. A. Hervey, ,,
The Hon. C. J. Irving, ,,
W. E. Maxwell, ,,
F. Maxwell, ,,
W. A. Pickering, ,,
A. M. Skinner, ,,
J. D. Vaughan, ,,

The Venerable Archdeacon Hose having been requested to take the Chair, Mr. A. M. Skinner explained the object of the Meeting,—that of forming a Society to promote the collection and record of information relating to the Straits Settlements and the neighbouring countries.

Mr. Skinner proposed and Mr. Irving seconded,

"That the gentlemen present form themselves into a Society for collecting and recording Scientific information in the Malay Peninsula and Archipelago: the said Society to be, for the present, called the "Straits Asiatic Society."

Mr. Hervey proposed and M. W. E. Maxwell seconded,

That the gentlemen present form themselves into a provisional Committee, any three of whom will form a *quorum*."

Dr. N. B. Dennys proposed and Mr. Vaughan seconded,

"That the Committee be requested to communicate with the Royal Asiatic Society with a view to the Society being incorporated as the Straits Branch of that Society."

Mr. A. Gray proposed and Mr. W. A. Pickering seconded,

"That the subscription of the Society be fixed at $6 per annum; and that the Hon. C. J. Irving be requested to act as Honorary Treasurer."

Mr. Irving consented to accept the office, and Dr. Dennys agreed to act as Honorary Secretary until the receipt of the answer from the Royal Asiatic Society.

The following gentlemen having previously signified their interest in the establishment of such a Society, though unable to be present at the Meeting, it was agreed that their names should be included in the List of "Original Members" to be sent to the Royal Asiatic Society with the application for incorporation :—viz.

The Hon. J. Douglas, C. M. G.
„ Hon. W. Adamson.
Herbert Cope, Esq.
F. Kehding, „

MONDAY, THE 21ST JANUAEY, 1878.

A draft of Rules for the regulation of the Society was taken into consideration and after discussion Rules were agreed to in the form appended.

The election of Officers and Councillors for 1878 was then proceeded with, the result being as follows :—

Ven. Archdeacon Hose, *President.*
J. D. Vaughan, Esq., *Vice President for Singapare.*
D. Logan, Esq., *Vice President for Penang.*
Hon. C. J. Irving, *Honry. Treasurer.*
N. B. Dennys Esq., Ph. D., *Houry Secretary* (pro: tem:)
The Hon. J. Douglas, C. M. G.
Ernest Bieber, Esq., L. L. D.
A. M. Skinner, Esq.
E. Koek, „
J. Miller, „

In discussing the future place of Meeting for the Society, the Hon. J. Douglas, Chairman of the Committee of Management of the Raffles Institution stated that he believed there would be no objection to the use of the rooms of the Library and Museum on any evening, except Tuesday and Friday in each week.

MONDAY, THE 5TH FEBRUARY, 1878.

An Editorial Committee was chosen consisting of the following members :—

The Ven. Archdeacon G. F. Hose.
„ Hon. C. J. Irving.
A. M. Skinner, Esq.
N. B. Dennys, Esq., Ph. D.

It was decided that the first monthly General Meeting should be held at the Raffles Library on Thursday 28th February 1878, when the President would read his Inaugural Address.

THURSDAY, THE 28TH FEBRUARY, 1878.

Members of the Council Present.

Ven. Archdeacon G. F. Hose. President.
J. D. Vaughan Esq., Vice President for Singapore.
The Hon'ble C. J. Irving, Honry. Treasurer.
N. B. Dennys Esq. Ph. D. Honry. Secretary.
The Hon'ble J. Douglas, C. M. G.
Ernest Bieber, Esq. L. L. D.
A. M. Skinner, „
E. Koek, „
J. Miller, „

The Minutes of the last Meeting were read and confirmed.

On the recommendation of the Council 35 gentlemen were elected Members of the Society.

The President proposed that Mr. M. Maclay, the distinguished Russian Traveller, who was at present residing in the Settlement, and who, as was well known, had extensively explored the Malay Peninsula and the coasts of New Guinea, should be elected an Honorary Member of the Society. The proposition was seconded by Mr. Skinner, and was carried unanimously.

The Ven. Archdeacon Hose delivered his Inaugural Address, as President of the Society, see page 1.

Mr. Skinner, at the request of the President, exhibited a sketch Map of the Malay Peninsula on a large scale, which is being gradually filled in as surveys are made or as information is otherwise received; and drew attention to the great extent to which the Peninsula still remained unexplored, even after all the recent additions that had been made to our knowledge.

The Honorary Secretary read a paper on "the Breeding Pearls of Borneo" (see page 34) and exhibited Specimens.

The Hon'ble Mr. Douglas moved that a vote of thanks be given to the President for his valuable and interesting address. This was cordially agreed to: and after a few words of acknowledgement from the President, the Meeting separated.

MONDAY, THE 1ST APRIL, 1878.

Members of the Council present:

The Ven. Archdeacon Hose. *President.*
J. D. Vaughan, Esq., Vice. President for Singapore.
N. B. Dennys, Esq., Ph. D. Honry. Secretary.
Hon. J. Douglas, Esq., C. M. G.
A. M. Skinner, Esq.
E. Bieber, Esq., L. L. D.

The Minutes of the last Meeting were read and confirmed.

On the recommendation of the Council 23 Gentlemen were elected Members of the Society.

The Honorary Secretary Dr. N. B. Dennys drew attention to the circumstances under which he had accepted, as a temporary arrangement, the office of Honorary Secretary to the Society; and proposed that the office should now devolve upon Mr. A. M. Skinner in accordance with the arrangement which had been contemplated at the time. Mr. Skinner expressed his willingness to undertake the duties, and the change was agreed to.

Mr. J. D. Vaughan read a paper on "The Chinese in Singapore. Some discussion ensued in which Dr. Dennys, Mr. Douglas, and the Chairman successively took part.

MONDAY, THE 6TH MAY, 1878.

Members of the Council present.

The Ven. Archdeacon Hose, *President.*
J. D. Vaughan, Esq. Vice President for Singapore.
Hon. C. J. Irving. Honry. Treasurer.
A. M. Skinner, Esq. Honry. Secretary.
Hon. J. Douglas, C. M. G.
E. Bieber, Esq. L. L. D.
N. B. Dennys, Esq. Ph. D.
E. Koek, Esq.

The Minutes of the last Meeting were read and confirmed.

On the recommendation of the Council 9 Gentlemen were elected Members of the Society.

The President communicated to the Meeting the substance of a letter received from the Royal Asiatic Society, in which that Society agreed to the affiliation of the Straits Asiatic Society as a Branch, and undertook to exchange publications.

It was resolved, that the full name of the Straits Asiatic Society shall henceforth be changed to the "Straits Branch of the Royal Asiatic Society."

It was resolved, that it shall be a rule of the Society to request the Governor of the Straits Settlements, for the time being, to be Patron of the Society and that His Excellency Sir W. F. C. Robinson be invited to accept that office.

A paper on the origin of the Chinese Triad Societies was read by W. A. Pickering, Esq.

A conversation upon the actual position and practise of the Tan Tae Höey in the Straits followed.

The Hon. Secretary then read a paper of Mr. N. Maclay's upon, "The Dialects of the Melanesian tribes in the Malay Peninsula."

This gave rise to a discussion upon the identity of the aboriginal races in the North and South of the Peninsula, and the marks of their connection with other Asiatic races to be found in their language, physical peculiarities, &c., and a proposal was made by Hon'ble J. Douglas, and heartily agreed to, that the other Branches of the Royal Asiatic Society in the East should be asked to assist this Branch in collecting Vocabularies and otherwise throwing light on this subject.

At the Monthly General Meeting of the Straits' Asiatic Society held on Monday evening the 3rd June there were present, of the Council, Archdeacon Hose, (President), Mr. A. M. Skinner, (Honry. Secretary), Dr. Bieber and Messrs. Miller and Koek; besides 35 members and visitors. Messrs. Tolson and Schomburgk Syeds Mahomed bin Ahmed, and Abu Bakar bin Omar, and Inches Mahomed Seyd, Ibrahim and Mahomed bin Maboob were elected Members. It was announced that H. E. the Governor had accepted the office of Patron to the Society.

The President then read extracts from M. Maclay's paper on the wild Tribes of the Peninsula, translated from the German.

The Honry. Secretary (Mr. Skinner) then read a paper furnished by W. E. Maxwell, Esq., Assistant Resident of Perak, on the Proverbs of the Malays, exclusive of those to be found in the works of Klinkert, Favre and Marsden; Dr. Dennys' paper on the Snake-eating Serpent (Ophiophagus Elaps) of Singapore, was read by the President, in the unavoidable absence of Dr. Dennys. In the course of the proceedings, it was stated that the Journal is almost ready for publication.

The Meeting then adjourned to the date of its next regular meeting, the 1st July.

RULES

OF THE

STRAITS BRANCH OF THE ROYAL ASIATIC SOCIETY.

I.—Name and Objects.

1. The Name of the Society shall be "THE STRAITS ASIATIC SOCIETY."

2. The Objects of the Society shall be—

a. The investigation of subjects connected with the Straits of Malacca and the neighbouring Countries.

b. The publication of papers in a Journal.

c. The formation of a Library of books bearing on the objects of the Society.

II.—Membership.

3. Members shall be classed as Ordinary and Honorary.

4. Ordinary Members shall pay an annual subscription of $6, payable in advance on the 1st January of each year.

5. Honorary Members shall pay no subscription.

6. On or about the 30th June of every year, the Hon. Treasurer shall prepare a list of those Members whose subscriptions for the current year remain unpaid, and such persons shall be deemed to have resigned their Membership. But the operation of this rule, in any particular case, may be suspended by a vote of the Council of the Society.

7. Candidates for Membership shall apply in writing to the Secretary, and if approved of by the Council shall be recommended by them to the Society at a General Meeting, and if accepted by two thirds of the members present, shall be deemed duly elected.

8. Honorary Members must be proposed for election by the Council at a General Meeting of the Society.

III.—Officers.

9. The Officers of the Society shall be—

A President,

2 Vice-President, one of whom shall be selected from amongst the members resident in Penang.

An Honorary Secretary and Librarian.

An Honorary Treasurer,

And five Councillors.

Those officers shall hold Office until their successors are chosen.

10. Vacancies in the above offices shall be filled for the current year by a vote of the remaining Officers.

IV.—Council.

11. The Council of the Society shall be composed of the Officers for the current year, and its duties shall be—

a. To administer the affairs, property and trusts of the Society.

b. To recommend members for election by the Society.

c. To decide on the eligibility of papers to be real before general meetings.

d. To select papers for publication in the Journal, and to supervise the printing and distribution of the said Journal.

e. To select and purchase books, for the Library,

f. To accept or decline donations on behalf of the Society.

g. To present to the Annual Meeting at the expiration of their term of office a Report of the proceedings and condition of the Society.

12. The Council shall meet for the transaction of business once a month, or oftener if necessary. At Council meetings five Officers shall constitute a quorum.

13. The Council shall have authority, subject to confirmation by a general meeting, to make and enforce such bye-laws and regulations for the proper conduct of the Society's affairs as may from time to time be expedient.

V.—Meetings.

14. The Annual General Meeting shall be held in January of each year.

15. General Meetings shall be held, when practicable, once in every month, and oftener if expedient, at such hour as the Council may appoint.

16. At Meetings of the Society eleven members shall form a quorum for the transaction of business.

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

18. 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. Officers for the current year shall also be chosen.

19. The work of Ordinary General Meetings shall be the transaction of routine business, the reading of papers approved by the Council, and the discussion of topics connected with the general objects of the Society.

20. Notice of the subjects intended to be introduced for discussion by any member of the Society should be handed in to the Secretary before the Meeting.

Visitors may be admitted to the Meetings of the Society, but no one who is not a member shall be allowed to address the Meeting except by invitation or permission of the Chairman.

VI.—Publications of the Society.

21. A Journal shall be published, when practicable, every six months under the supervision of the Council. It shall comprise a selection of the papers read before the Society, the Report of the Council and Treasurer, and such other matter as the Council may deem it expedient to publish.

22. Every member of the Society shall be entitled to one copy of the Journal, deliverable at the place of publication. The Council shall have power to present copies to other Societies and to distinguished individuals, and the remaining copies shall be sold at such prices as the Council shall from time to time direct.

23. Twenty-four copies of each paper published in the Journal shall placed at the disposal of the Author.

24. The Council shall have power to sanction the publication, in a separate form, of papers or documents laid before the Society, if in their opinion practicable and expedient.

VII.—Popular Lectures.

25. Occasional Popular Lectures upon literary or scientific subjects may be delivered, under the sanction of the Council, on evenings other than those appointed for General meetings of the Society.

VIII.—Amendments.

26. Amendments to these rules must be proposed in writing to the Council, who shall, after notice given, lay them before a general meeting of the Society. A committee of resident members shall thereupon be appointed, in conjunction with the Council, to report on the proposed Amendments to the general meeting next ensuing, when a decision may be taken.

INAUGURAL ADDRESS

BY THE PRESIDENT,

THE VENERABLE ARCHDEACON HOSE M. A.

DELIVERED ON THE 28TH FEBRUARY, 1878.

IF I understand aright the duty which devolves upon me to-night in the position with which you have honoured me, I have two things to do. The first is to explain, at some greater length than has been done hitherto, the objects which the promoters have had in view in seeking to establish the Straits Asiatic Society; and the second is to point out the means by which it is hoped these objects may be attained.

The primary object of the Society, as defined in the Rules, is "to investigate subjects connected with the Straits of Malacca and the neighbouring countries." The expression "neighbouring countries" was selected as being a wide and comprehensive term, in order that the Society might feel as little restricted as possible in accepting communications respecting any part of Southern and Eastern Asia. But no doubt the attention of the Society will be chiefly concentrated upon the Peninsula of Malacca, as far North as the Tenasserim Provinces, and the great Indian Archipelago, that wonderful chain of Equatorial Islands stretching from Sumatra on the West to New Guinea of the East. Science is greatly in want of some general term to describe this great portion of the earth's surface, including both the continental and the insular divisions of it. For, though the different parts of it vary from one another in a great many particulars, yet they are in no slight degree homogeneous, and it would be a great convenience to be able to speak of them all under one common name. Several have been suggested, and of them all I prefer the name 'Malaya,' as being at once the most simple, and the most intelligible. For throughout this whole wide-spread district, the language spoken is either Malay or some closely allied form of speech; and Malay itself is to a very great extent the *lingua franca*—the common medium of commu-

nication for business purposes between the inhabitants of different races.*

This 'Malaya' then (if I may, at least on this occasion, use the word) being our field, we have to consider what work has been already done in it, and what remains to be done.

And in speaking of work already accomplished, I must hasten to do honour to one great name, which such a Society as this must always hold in the greatest respect—it is almost needless to say I mean the name of J. R. Logan. No doubt there were great men who came before him here; men who were possessed of scientific knowledge, and patient observation, and intellectual power, and who brought these great gifts to bear upon the manifold wonders which nature has accumulated in this part of the world; and in their writings gave to their own time, and to posterity, the benefit of their labour and research. Mr. Logan had his predecessors, "*Vixêre fortes ante Agamemnona multi*," and we have not to lament with the poet, at least in the case of all of them, that they lie overshadowed by the long night of oblivion, unwept and unknown. Marsden, Leyden, Raffles, Newbold, not to mention Portuguese and Dutch travellers who came before them, will ever be illustrious names in the history of these countries. But to Mr. Logan belongs the special honour of having not only observed much, and thought much, and written much himself, but also of having associated together with himself other thinkers, and of having contrived a plan by which the knowledge acquired by some of his contemporaries and fellow residents in this Colony, and in the neighbouring Settlements, might be recorded and published. This was, as you know, by means of the "Journal of the Indian Archipelago." The town of Penang justly boasts of its handsome memorial of this remarkable man; but the most enduring and the most worthy monument of him is his own Journal, of which for 15 years, from 1847 to 1862, he was the Editor, and to the papers of which he was also the principal contributor. If there is any member of this Society who has not yet done so, I would recommend him to read the introductory article in the first number, from Mr. Logan's own pen, upon "The present condition of the Indian Archipelago." I think he cannot fail to rise from the perusal of it full of admiration of the genius and culture of the

* In connection with this point the following passage from Mr. Logan's writings may be of interest:—

"If the word "Malay" be confined to the Malays and their language; and "the word "Malayan" be exclusively used as a generic term for all the "races and languages of what the French call *Malaisie*, we may dispense "with the indefinite word "Archipelago" (Journal I. A. vol: III p. 229.)

author, and also impressed with a very deep sense of the importance of those great problems which are presented here to the student, and the merchant, to the politician, and the philanthropist.

The establishment of such a journal in a young Colony, such as the Straits Settlements was in the year 1847, was a bold enterprise for a single individual to undertake. But Mr. Logan was very ably supported. It is surprising, and most encouraging, to find how much of local talent and information came to light, as soon as he had provided the opportunity for it to do so. It was evidently a time of great scientific power, and of much literary activity in the Straits. Contributors from all classes came forward. There was the Governor of the Straits for the time being, and other Government officers. There were Ecclesiastics, including Clergymen of the Church of England, Roman Catholic Priests, and Ministers of various Protestant communions. There were Military men and Naval men. There were Lawyers and Doctors, Merchants and Planters. There were Frenchmen and Germans, Dutchmen and Swiss, and, I am pleased to add, as a promise for the future, one Chinaman. Of these only too many have passed away. Some are bringing their lives to a close elsewhere. Some remain among us, and have given the prestige of their names to this new undertaking, and will, we may hope, contribute to the publications of our Society some of the stores of knowledge and experience which they have been gathering since the old days. Some are represented by their descendants, as in the case of the leader and chief of them all, whose son, Mr. D. Logan, you have elected to be the Vice-President of the Society in Penang.

And before bringing this reference to Mr. Logan's coadjutors to an end, I cannot help remarking with great pleasure, that in the list of them are to be found, not only the names of those whose connection with these countries was more or less temporary, but also of some, who, for generations, have made their family home here. When I come across such names as Baumgarten, and Neubronner, and Westerhout in connection with the advancement of science in the Straits, I cannot help hoping that some of those who bear those names, and other like names, in the present generation, may be stirred up by the example of those who have gone before them, to use the great advantages they have, such as their familiarity with the language of the place, and their inherited power of enduring its climate, in seeking knowledge for its own sake, not merely for the purpose of applying it to their own personal and material benefit, but in order to contribute something to the common stock.

The work done by Mr. Logan and the gentlemen who were associated with him covers a great deal of ground. There are some very valuable papers upon the *Geography* both of Malaya as a whole, and of various portions of it; as well as most interesting accounts of tours undertaken by individuals, in which Geographical notes are interspersed among other facts which the tourist observed and recorded. There is some *Geological* information—and some account of the *Mineral* treasures of the district, both those that are known and those that are supposed to exist. There are useful notices of the *Natural Products*, and of the *Modes of Agriculture*, especially of the methods of treating the most important articles of commerce. The science of *Ethnology* is largely dealt with by Mr. Logan himself, and his papers upon the various aboriginal races will probably continue to be the most reliable authority upon the subject of these races, which are, as usual, fast disappearing as civilization spreads inland. A great deal of information is supplied concerning the *Languages* and *Dialects* of the numerous nations living within the district; with copious vocabularies, forming a very substantial contribution to the science of *Comparative Philology*. Then there are chapters of *History* both of the European Colonies, and of the Native States. There are examples and translations of *Native Literature*, amongst which I must mention a most interesting abstract of the "Sējâra Malayu," or Malay Annals, by the present Attorney-General, the Hon'ble Thomas Braddell, which puts that curious piece of Malayan antiquities and history within the reach of the English reader. There are papers upon questions affecting *Health*, such as Dr. Little's discussions of the effects of opium, and of the causes of the local forms of fever. And, lastly, there is a large collection of statistical information upon the subjects of *Population*, *Trade*, *Weather*, and *Temperature*.

I have not touched upon a great many of subjects that are discussed in this Journal, such for instance as *Natural History*, upon every department ot which attention was bestowed by some one or other of the writers; but I think I have said enough to shew that, even during Mr. Logan's time, a great deal of knowledge was acquired and preserved. Much, too, has been done subsequently by Government Officers, by private individuals, and by distinguished travellers such as Wallace and others. In fact what is known of South-Eastern Asia only appears small, when it is compared with what remains yet unknown. That residuum is indeed vast, and it is for the purpose of endeavouring to diminish it, that the Straits Asiatic Society has come into existence.

It will be impossible for me to do more than just glance at some few of the subjects upon which additional knowledge is urgently required, and may be reasonably hoped for. Let us begin with Geography. Now, I need say nothing to this meeting about the almost total ignorance in which we live of some of the more distant and inaccessible portions of the great extent of land about which this Society proposes to collect and publish information. I need not remind you how completely New Guinea is a "terra incognita;" or even of how little is known of the interior of Borneo and Sumatra. Let us look nearer home. It would probably astonish some people to learn how extremely little accurate knowledge we possess even of the Malay Peninsula itself. Fortunately we have before us what will give us a very clear understanding of the limits of our acquaintance with this region, which lies at our very doors. The uncompleted map which is displayed on this wall, is one that is now being carefully prepared under the able direction of Mr. Skinner. I hope when these remarks of mine are concluded, that Mr. Skinner will himself correct me if, in the few words I have to say upon his important work, I unintentionally convey a wrong impression; and that he will give us any additional information respecting it, which he may think it desirable to communicate now. And I may mention that he has promised the Council of the Society a paper upon the subject, in which he will no doubt state very much more clearly than I could do, what is the present condition of our knowledge of the Geography of the Peninsula.

But I will ask you now to look at that map: observe the immense spaces which are entirely blank, or have merely the name of the native Government to which they are supposed to be attached written across them, such as Kelantan, Patani, Tringganu; and compare them with the few districts, almost entirely on the Western Coast, in which the mountains are sketched in, the course of the rivers traced, and the names of towns and villages inserted. Does it not remind some of us of what the map of Africa used to look like in our school days, before the discoveries of Livingstone and his successors? Yet it is not of a vast continent like Africa, upwards of 2,000 miles in breadth, that we are speaking, but of a narrow peninsula which, at its greatest breadth, only extends to about 200 miles, from the Straits of Malacca to the China Sea. This Peninsula has been known to Europeans for just 370 years, and that map shews you all, or almost all, that Europeans have learned about its geography in that time. But the map is also a sign that a great effort is being made to bring this state of ignorance to an end. It is, as you see,

little more than a skeleton map at present, drawn to a large scale, but it is getting gradually filled up as information comes in.

And information does come from many sources. The other day I saw a map which had been sent in by the Siamese Government, which I considered a great curiosity, so much so that I hope it may be exhibited in the Raffles Museum. This was to show an important piece of boundary line far up in the north. Then there is another map being made by the Maharaja of Johor in the south. Trained surveyors are clearing up old puzzles in various parts between these extremes. And every officer in the English Colonies, or in the Native States, who is called by duty or curiosity to travel beyond the limits of the well known and well surveyed districts, has an opportunity of adding something to the knowledge of the country which is already possessed. All new facts, thus acquired by officials or private individuals, are made known to the Government here, and, after being verified as far as possible by comparison with existing data, are recorded on the map. So that there is reason to expect that those great blank spaces will be filled up in time.

And think of what we know those great blanks must mean. We know there are great mountain ranges, the back-bone of the Peninsula, clothed with all the diversities of vegetable life, which the lowered temperature of elevated lands in the tropics makes possible. Then there must be a great water system, carrying off the moisture deposited on the high lands through the plains below. One of the latest discoveries is, that the great river Pahang, running up from the south, is but a branch of a much larger stream running from the north, and uniting itself with the Pahang at upwards of one hundred miles from its mouth.

In the dense Equatorial forests, which cover the greater part of these hill-sides and plains, forests, which are now only entered here and there by a few individual natives, to cut down the gutta producing trees, or to collect the few other natural products, of which the commercial value is known to them, and perhaps by charcoal burners for the purpose of turning some small portion of those glorious forests into portable fuel, what a hoard of wealth there is for the Botanist and the Naturalist; and what splendid possibilities for the Planter and the Merchant. Mr. Wallace tells us that, during the six years he was collecting in these latitudes, his Natural History specimens reached the enormous number of 125,660, of which a very large proportion were entirely new to Science. With such an example as that in view, it is not easy to over-estimate the gains to every branch of natural science, that might be expected from a thorough

exploration of those parts of this region, which, being far from the coast, have been seldom or never visited by any European. And if we look at the question from the utilitarian side, the strong opinion which has been recently arrived at by practical agriculturists, that the slopes of hills in this Peninsula are admirably adapted to the growth of both tea and coffee, added to the actual successes of the Dutch and other planters of tobacco on the other side of the Straits, gives one a very high idea of what might be done by capital and enterprise in so vast an extent of country, which has hitherto been profitless, for want of human inhabitants possessed of those resources by which alone the tyranny of nature can be overcome.

And this brings us to another set of subjects upon which accurate knowledge is very much needed. I mean the present human inhabitants of Malaya, their history, their manners and customs, their religion, and their language and literature. I shall however treat the whole subject very generally.

I think no one who has lived among them can be satisfied with what is generally said in books about the character and habits of the Malays. For instance, they are constantly spoken of as if, throughout the length and breadth of the countries where they are to be found, they were, in character and disposition, and in their ways of living and thinking, one and the same. But we know that this is very far from being the case. The Malay of the coast, who is best known to travellers, is quite a different being, in a hundred respects, from the Malay of the interior. And again, the inhabitants of one island, both the dwellers on the sea board, and the peasants inland, differ from those in another island, or in a distant part of the same island. Take as an example a case in which most of us can make the comparison from our own experience, and appreciate the points of difference. Contrast a peasant of Malacca or Johor with one of the Boyans, who enter our service in various capacities in Singapore; they are both Malays, but they are almost as unlike one another as a Hindoo and a Chinaman. The one is lively, courteous, and communicative; the other is dull, boorish, and shy. The one is idle and fond of sport, the other is plodding and methodical; the one is very fond of talking, and little given to reading; the other has not much to say even to his own people, but keeps his master awake at night by reading or reciting, in a loud monotonous voice, long poems or stories, or chanting chapters of the Koran, which as a child he learned to read, but of which he does not understand a word. If it is said that we only see the Boyan out of his natural sphere, as an

emigrant, and a servant to a foreign master, I should reply that that is another strange mark of difference between him and the peasant of the Peninsula, whom it is very difficult to persuade either to leave his house, or to become a servant. I think it is important that these differences between the several Malayan races should be more clearly noted than they have been hitherto.

Then again in the matter of Religion there is the same want of accurate observation. Nearly all Malays are Mohamedans, and people seem to consider that when they have said that, they have said all that need be said on the subject, and that they have told you all there is to be told. But there are Mohamedans and Mohamedans; and I expect there is as much difference in the ideas of Religion held by a Mussulman of the West and an average Malay, as between those held by Mr. Spurgeon and the Pope of Rome. There could hardly be a more interesting study, than that of the special developments of Islam that are to be met with among the Malay race, both as to religious belief and moral practice. I remember that some years ago at Malacca, I was much interested in listening to a Malay relating to me the traditions of the Patriarchs, which had come down through many generations of Malays, having, doubtless, originated from Arab sources. It was quite evident, in many cases, that the narrative had in course of time assumed a distinctly local form and colouring. I intended to have made a collection of such traditions, but my removal to Singapore interrupted the study, and I have never had leisure or opportunity to return to it.

A careful study of the religious opinions and practices of the people would be not interesting only, but directly useful. Useful of course to the Missionary, as shewing him what ground he has in common with the man whose spiritual life he hopes to benefit, what are the real errors to be eradicated, and the real defects in faith and morals that have to be supplied. And useful to the governing class too, as discovering the true character and nature of the people to be governed, for as Carlyle says, "A man's religion is the chief fact with regard to him; "a man's or a nation of men's." And he goes on to explain: "By religion I do not mean the Church-creed which he pro- "fesses, the articles of faith which he will sign, and, in words "or otherwise, assert; not this wholly; in many cases not this "at all, * * * * * But the thing a man does practically be- "lieve; the thing a man does practically lay to heart concern- "ing his vital relations to this mysterious universe, and his

"duty and destiny there, that is in all cases the primary thing "for him, and creatively, determines all the rest. That is, "his religion; and I say, if you tell me what that is, you tell "me to a very great extent what the man is, what the kind "of things he will do is."

Then there is a great want of a good account of Malayan Literature. And in order that that may be given, it will be necessary to make a good collection of Malay writings. Great help may be rendered in this matter by persons possessing Malay manuscripts sending them in to the Library which this Society proposes to form, either as gifts, or as loans to be copied. I suppose there is no really good collection of Malay books in existence. We all know how the large one which Sir Stamford Raffles made was unfortunately burnt at sea on the way home. I know of none out here. I thought it likely that there might be such a thing in the British Museum; and when I was in England the year before last I went to see. They told me that there were Malay books but they were undescribed, and their contents and value were unknown. However the Librarain kindly gave me every facility for examining them myself. I found that the whole collection amounted so some thirty volumes most of them purchased from Mr. Crawford in 1842. I hope that the Museum did not pay a very large price for them. The manuscripts were chiefly *Shair* and *Hikayat*, poems and romances, many of them incomplete, some bearing evident marks of having been copied for European reading, and more or less adapted to European ideas. There were several examples of the *Sual Jawab*, or Religious Catechism, and some printed books in the inferior style of typography, which may be seen any day by the curious in the book-shops in Kampong Glam. One cannot call this a good collection, but I rather doubt if there is a much better one to be found. If one is ever to be made it should be done at once. For Malay manuscripts are becoming more and more difficult to obtain. The introduction of printed books has not at present tended to preserve the older literature. The Educational works which have been published for the use of schools, and the weekly newspapers, will probably, for some time to come satisfy a not too keen appetite for reading; and the manuscripts (never very numerous) are likely to be less prized, and more rarely copied; and many will no doubt be lost for ever, unless an effort is made to discover and preserve them.

About the non-Malayan aboriginal races I will only say that, though much has been written about them, there remains much

to be written. Probably they are not all known. Those unexplored regions of which we have been speaking are the very places in which one might expect to find them, driven back into the jungle by the advance of even the Malay notion of civilization. And the fortunate man who discovers anything about them should learn all he can at once, and put it down in writing at once, before an irruption of the "orang putih," * or, as I have heard M. Maclay call them, the "semut putih," † coming into their retired haunts has the usual effect of causing them to dwindle more and more, and get more and more absorbed among the most sympathetic of their native neighbours, till in a little time, they and all their peculiarities of speech, of manners and customs, and ways of thought, disappear from off the face of the earth.

I have only mentioned a very few of those paths along which the Society hopes to go in pursuit of knowledge. There is no doubt about the fact that there is plenty of work to be done. It remains for me just to indicate the means by which we hope that some of it may get done.

The first is by Association. The weak point in Mr. Logan's brave attempt was that he was alone responsible for the management of the Journal. He seems to have been most heartily supported at first, and he had a brilliant success; but any one may see from the table of contents that, as time went on, the burden began to fall on him with a weight which no man out here would be likely to sustain long. I do not know what it was that made him give up the undertaking in 1862, but I should think, from the look of the thing, that the want of sufficient co-operation had something to do with it. And, as must happen to an undertaking which depends, in the main, upon the energy and enthusiasm of a single individual, when he gave up the work it came utterly to an end. It is to be hoped that this danger will be averted by our uniting ourselves in a Society. A Society, if it starts with a good stock of vital power, and has a definite end to accomplish, may expect to be long-lived. Individuals are removed, and some lose the little interest they ever had in the matter and drop away. This is to be looked for. But others remain; and new members are constantly enlisted to fill up the ranks. I think we have every reason to consider that we do make our start with a considerable amount of vitality. The number of members, as we have just heard, is now nearly a hundred; and considering how short a time has elapsed

* "White men." † "White ants."

since the matter was first mooted, I think that fact alone shews that a great deal of interest is felt in the objects which those who first moved in it had at heart.

And the time is a propitious one for many reasons. I will only mention one. The opening of the Native States has placed a small band of Englishmen within reach of some of the least known parts of the Peninsula. I am happy to say that every one of the Residents has joined us, and several of the other officers who are stationed with them. Some of these gentlemen are already well known for their extensive research in some of the questions that are most interesting to us. And every one of them has a grand opportunity of acquiring large stores of information, and of facilitating the acquisition of it by others. I should think it must be an encouragement and a solace to men living in the isolated positions in which they are placed, to feel that the results of their labour and observation need not be consigned to the respectable oblivion of blue-books, but may be communicated at once to a sympathizing and appreciative public.

Another means by which the Society is to work is by the monthly General Meetings, of which this is the first. At these meetings some of the papers communicated to the Society will be read, and the subjects of them discussed. Gatherings of this kind, for purely intellectual purposes, are rather a new feature in our Colonial life, and I think a most desirable one; and we may hope that the conversations we shall have here will tend to keep up an interest in the proceedings, and perhaps set some of us upon studying subjects which we have neglected before.

The Journal is of course the chief instrument by the help of which the work we have in hand is to be attempted. It is proposed, for the present, to publish a number every six months, beginning in July next. The number of contributions already promised shews that we are not for the present, at all events, likely to be short of matter; and if the supply should continue as abundant as it promises to be the Commitee may think it right to try a more frequent issue. But that of course must depend very much upon the reception which the first number meets with. For however learned, and however enthusiastic the Society may be, it will not be able to express its learning, or give vent to its ardour in paper and printer's ink without funds.

The last feature of the scheme is the Library. It is proposed to make a small and very special collection of the books which are the best authorities upon these countries, and which will be guides to students, and helps to collectors. It may perhaps be

asked whether the Raffles Library is not sufficient. It is in fact a great deal more than sufficient in one way, but insufficient in others. I need not say that a very large number of the attractive looking volumes on those shelves would not be of much use to such a Society as this. And, on the other hand, a great many books, &c., required for the purposes of the Society, would not be necessary in a general collection. As I have said before, I hope that one important feature of the Library will be as complete a collection as possible of the books that have been written in the Malay and kindred languages. In the Library, too, will be found, I hope, many M. S. communications to the Society, such as notices of short Journeys, which though not of sufficient importance to be printed, yet deserve to be carefully preserved for reference.

This then is the Society, its work and its *modus operandi*. I cannot but regret that your choice of a President for this year has not fallen upon some one who would have done better justice to a great subject. But the objects we are aiming at speak for themselves, and I think we have every reason to be sanguine in our expectation that the Society may take a worthy and honoured place among those institutions which are conferring benefits upon mankind, by removing a part of the ignorance and misconception, which hide from our view some of the most wonderful works of God.

NOTES ON THE DISTRIBUTION OF THE USEFUL MINERALS IN SARAWAK

BY

A. HART EVERETT,

RESIDENT OF BINTULU, SARAWAK.

AMONG the numerous works that have appeared during the last forty years having reference to that narrow strip of the N. W. Coast of Borneo now known as the Sarawak Territory, there occur suggestions that this portion of the island will be found wealthy in mineral resources at some future day, when the progress of exploration and a larger influx of European enterprise, shall have indicated their extent and led to their full development.

In point of fact these ideas are not of recent birth. From the day when the companions of the hopeless Magelhäens, cast anchor off Brunie, now some three hundred years ago, up to the early part of the present century, when Hunt presented his report on the island of Kalamantan to Sir S. Raffles, the "great and rich island of Borneo" has been encircled with a fictitious halo of reputed wealth in precious mineral deposits.

It has been the office of time, remarks Temminck, to dissipate these golden fancies, and whether they will ever be realised, or even seriously revived, is problematical; but, nevertheless, there does exist a certain amount of solid foundation for the idea, that Borneo is well furnished with the useful metals and minerals, although for the most part these are not such as would have attracted the attention of the early voyagers in the East. And it is in connection with this wider field—the mineral resources of Borneo as a whole—that the following notes on the minerals of Sarawak are offered.

Before proceeding to enumerate the various minerals of economic value heretofore observed in Sarawak, and to note their modes of occurrence, distribution &c., it will be advisable to glance at the geological features of the district of Upper Sarawak (Proper), both as being the only locality in which *workable* deposits of mineral ores have been discovered, and because it furnishes us in a greater or less degree with an epitome of the geological structure of the major part of the Territory.

Briefly described then, this district consists of an ancient compact blue Limestone (Paleozoic?) on which is superimposed unconformably a thick series of sandstones, conglomerates, and clay-shales, constituting the most extensive series of beds in this part of Borneo; and on these last lie strata of clay-shales, alluvial clay, river gravels, &c., of very recent origin. Piercing the limestone and sandstone, we find granite and a variety of igneous and trappean rocks—basalt, porphyrite, greenstones, &c., these latter being developed in great abundance in the Antimony districts, where they are in immediate contact with the limestone. The latter formation, in which the lodes of Antimony are seen in *situ*, is locally rich in fossil organic remains, but I am unable to say whether they have been examined by a competent paleontologist with a view to approximate the age of the rock; the planes of stratification can seldom be made out with any approach to certainty, but where they are evident, they show that the originally horizontal beds have been up-tilted almost on end and much denuded; and there is abundant proof that a very considerable interval in time elapsed between the close of the limestone formation, and the commencement of the succeeding sandstone series.

The sandstone shales have also undergone much disturbance all over this portion of Borneo, although, like the limestone, sometimes retaining their horizontality. They are generally impregnated with per-oxide of iron, and as is so often the case with such rocks, seem quite barren of fossils, except in the coal-measures. It is in this formation that the cinnabar deposits of the country occur.

Both limestone and sandstone have been enormously denuded, the latter rising in isolated tabular mountains, or short peaky trends, with an altitude above the sea varying from 1,500 feet and separated by undulating valleys, in which the limestone appears, sometimes in low hilly tracts varying from 200 to 1,200 feet in elevation, sometimes in solitary crags, but invariably with long lines of old sea-cliffs and bald scarps. When accident removes the veil of dark green jungle from their faces, they present to view surfaces fretted by a thousand deep rifts, and fissured and jointed in every imaginable direction.

In the intervening lowlands we have uniformly a deposit of dark yellow felspathic clay, apparently unstratified, and varying in depth from a few feet to 80 feet or more, which is derived from the degradation, and, I think, decomposition *in situ*, of the clayey sandstones, clay shales, and, especially, the felspathic

intrusive rocks of igneous origin, so abundant in the district. Associated with this clay, and mostly of more recent date are superficial deposits of puddingstone, river-gravels, &c.

The intrusive igneous rocks appear indiscriminately all over Upper Sarawak as mountains and hills, and very commonly in the form of dykes, which, with some few reefs of siliceous veinstone, seam the country in great numbers between the more elevated masses. They consist for the most part of varieties of porphyrite, very decomposable, and more seldom of basalt. The volcanic action which caused their eruption would seem to have been in operation at a period subsequent to the formation of all the stratified sedimentary rocks of the district, and antecedent to only the most recent of superficial deposits. It is in immediate connection with these rocks that we find the deposits of antimony, arsenic, and cinnabar; and as there is reason to believe that they occupy fissures caused by the eruption of the volcanic rocks, and that their deposition took place after the cessation of volcanic action, we arrive at a remarkably recent date for the formation of the mineral lodes at Upper Sarawak.

Such in outline are the geological features of Upper Sarawak. Other formations and many other varieties of rocks, are to be met with in the Territory, but it is not necessary to particularise these, as they are not connected with the mineral deposits of the country, so far as we know, and are therefore foreign to the subject of these notes.

The minerals and mineral ores of Sarawak, in relation to their local distribution, may be summarized as follows, the names of those which have only been observed in traces being italicized.

District of Sarawak Proper (including Lundu and Samarahan),—Gold, Antinony, Arsenic, Argentiferous-Arsenic, Cinnabar, *Cobalt, Nickel, Manganese, Copper,* Iron Diamond, Aquamarine, *Coal.*

District of Sadong.—Gold, Coal, *Diamond, Iron, Cinnabar.*
District of Batang Lupar.—Gold, Coal, *Iron, Antimony.*
District of Rejang.—Coal, Iron, *Arsenic, Antimony, Nickel, Gold.*
District of Mukah and Bintulu.—Coal, *Antimony.*

In the districts of Saribas, Kalakah and Oyah, I have no reliable information of the occurrence of useful minerals. A number of the above mentioned species are known to have been detected in other parts of N. W. and W. Borneo beyond the limits of the Sarawak territory, viz., Gold, Antimony, Arsenic, Copper, Cinnabar, Iron, Diamond, and Coal, some in work-

able quantities and some in traces; and in addition platinum molybdenum, petroleum, catseyes, and spinelle ruby have been observed. In Sir J. Brooke's "Private Letters" mention is made of a large stone called the "Brooke diamond" which on examination proved to be a white topaz, but the precise locality whence it was obtained is not specified, although we may surmise that it was a genuine Sarawak stone.

I find also in a work on China entitled "The Middle Kingdom" (1848) mention of Corundum being imported from Borneo for the use of Chinese lapidaries; no authority, however, is cited for the occurrence of this mineral in Borneo: the note probably refers not to Corundum, properly so called, but to diamonds, brought from Landak and Sarawak.

In the above enumeration it is noteworthy that Sarawak Proper exhibits all the minerals of which traces have been detected in the other districts, and several others besides. When we consider that it is the only portion of the Territory in which a systematic search has been attempted (generally by amateurs) and that there is a close general similarity in geological constitution over the whole of the N. W. coast of Borneo, there is fair ground for conjecture that available deposits of one or more of the above mentioned minerals, will be discovered in some other localities in which traces only have been detected as yet.

Gold occurs in the form of fine sand, or minute flattened plates in alluvial deposits over a great part of Sarawak. Washings are carried on in Upper Sarawak at Bau, Paku, Gumbang, &c., in Samarahan at Sirin, in Sadong at Malikin, and in the Batang Lupar at Marup. The operations are wholly superficial, although at Marup and Bau, the principal Chinese washings in the country, the stratified clays belonging to the Sandstone formation, and containing at the latter locality decomposed porphyritic dykes have been cut into to some extent. The precious metal has never to my knowledge been regularly mined for in Sarawak, nor indeed has it been discovered *in situ* it its original matrix, except in the case of the gold contained in the veinstones and quartz-reefs of the Antimony district, and that associated with a lode of argentiferous arsenic at Bidi. The alluvium of the limestone caverns and fissures, and especially the sands in the beds of streams have yielded sufficient to induce the natives to work in such spots. The washing is carried on partly by Malays, who are usually gamblers and work only at intervals, but chiefly by country-born Sambas Chinese. Their mode of operation has been fully described by Crawfurd, Horsfield, St. John, and others, and it will therefore be unnecessary to enter into any details here.

Nuggets are of extremely rare occurrence and I have never seen one of any size, but if the Chinese are to be credited, some of very considerable weight have been met with in the adjacent Sambas District. St. John mentions having seen one of 7 oz., taken from the auriferous clay at Krian near Bau, and this is the largest which I have heard reported on credible authority to have been found in Sarawak. The gold dust is usually in a state of the finest comminution, but I have seen samples from Kumpang, near Marup, composed of fine dust intermixed abundantly with thin flat plates of the metal of from $\frac{1}{8}$ to $\frac{1}{12}$ inch diameter—a form which has been ascribed to some original laminated structure in the present matrix. I am informed that similar plates have been detected in the siliceous veinstones of the antimony lodes; but where I have had the opportunity of seeing the gold in these veinstones it appeared in very minute sparsely scattered specks without a sign of running into plates or veins. The veinstones are now and again found to contain a very profitable percentage, according to the estimate of the Chinese, who quarry the stone in a superficial way, and pounds it in wooden mortars with iron rammers. One block of siliceous matrix (about 15lbs.) at Paku containing some 20 per cent of grey antimony, when thus crushed yielded about $12 worth of gold, but this result was quite exceptional. At Jibong both the white quartz and the black amorphous siliceous veinstones are crushed, and of these two the latter is considered to yield the higher percentage of metal. Both in crushing the stone and in washing the alluvial clays and gravels the find is very uncertain, and good "hauls" seem few and far between. Marup, Bau, and Paku have afforded remunerative washings, and Sirin in a less degree. The succession of the superficial deposits in the last locality are as follows:—

1. Vegetable mould.
2. Unstratified Felspathic clay.
3. Clayey Gravel.
4. Uptilted indurated clay-shales.

The whole section to the basement-rock of clay is only 5 or 6 feet in thickness, and it is in the stratum of gravel that the gold is found, associated with small rolled fragments of cinnabar and the clay-ironstone which abounds all over the gold and antimony districts of Sarawak. The components of the auriferous gravel are granite, quartz, sandstone, impure-agate, porphyrite, &c. The surrounding country is made up of steep low hills of indurated clay-shales and clayey sandstone with yellow felspathic clay overlying, and is seamed with dykes of hornblendic trap-rocks; and a short distance to the S. and W. limestone hills appear.

The quality of Sarawak gold varies with the locality in which it is found. Thus Marup gold at $32 to $34 per bongkal according to the supply, Sadong gold at $26, whilst Paku gold is quoted at $28 per bongkal, the difference being estimate by the whiteness of the metal which is dependent on the amount of silver existing in natural alloy with it. No scientific analysis has been made of Sarawak gold so far as I am aware, but it would doubtless be very similar in result to the analysis of Bornean gold given by Crawfurd, which I have taken the liberty of transcribing below, as his valuable work has long been out of print.

Name of gold taken from the district which produces it.	Country where situated.	In 100 parts. of gold dust.		Gold.	Silver.	copper	Silver and copper
		Dross.	Metal.				
Gold of Ombak ...	Borneo.	3.75	96.25	88.19	8.51	3.30	11.81
„ Sanga ...	ditto.	4.96	95.04	90.97	3.65	3.38	9.03
„ Lara ...	ditto.	3.83	96.17	86.11	5.90	7.99	13.89
„ Banjar Laut ...	ditto.	2.66	97.34	90.45	4.34	5.21	9.55
„ Pontianak ...	ditto.	14.05	85.95	82.99	16.14	0.87	17.01
„ Jambi ...	Sumatra	5.47	94.53	91.84			8.16
„ Sambas ...	Borneo.	9.00	91.00	83.68			16.32
„ Palembang ...	Sumatra	2.11	97.89	93.75			6.25
„ Montradok ...	Borneo.	12.02	87.98	84.09			15.91

The dust brought to market in Kuching is generally unadulterated, as the mysteries of galvanic gilding are as yet unknown there. There is little risk in purchasing if ordinary care be exercised.

With regard to the annual produce of gold in the Territory, there are no reliable data for even approximating the total amount produced. Mr. Low of Labuan—whose work, in spite of its being somewhat out of date, is the most trustworthy yet written on Sarawak—places the yearly export of gold from the Territory at 7000 ounces. Although nominally all gold carried out of the country must be declared, it is beyond doubt that quite as much leaves Sarawak in a private way as is declared to the Export Office in Kuching, while a still more considerable portion of the annual out port is bought up and remains in the country, without in any way showing in the trade returns. The same remark will apply to the produce of diamonds; and in the "Summary of Exports" given below it must be borne in mind that the figures are purely nominal, and represent amounts certainly far below the minimum value of even the annual export of these two minerals—much more so of the net annual produce.

In connection with the consumption of gold in the Territory, it may be remarked that none of the savage tribes of this part of Borneo seem ever to have made use of this metal notwithstanding their intercourse with Malays, and in a less degree with the Chinese, during at least several centuries past. I have never known an instance of a Sea-Dyak or Land-Dyak, a Kyan or Bakatan seeking gold on his own account, and manufacturing it into any description of ornament, however rude.

When we endeavour to trace out the origin of the gold in Sarawak, we find the immediate source of the metal, in the gravels and alluvial clays and in some of the clay-shales, which so thickly mask the older formations in N. W. Borneo, and out of these beds it is being swept continually by running water. It is evident however, that so far we have traced the source but a single step back; and the conclusion at which I have arrived, from observation of a considerable number of sections in different parts of the country, is that the auriferous strata of Sarawak Proper are derived immediately from the waste of siliceous and porphytic dykes, associated with the system of antimony and arsenic lodes developed in that locality. Similar strata however in other localities (the Batang Lupar washings for instance) appear rather to have been rearranged more than once; so much so, in fact, that the original home of the gold they bear can no longer be guessed with any approach to certainty: and the only clue to the problem is to be found in the circumstance that invariably in these latter districts there is evidence of considerable metamorphic action among the constituent rocks of the several localities. It is highly probable that much of this gold originally lay in quartz rock, as is the case in many places in Sumatra and in the Malay Peninsula, and *may* be the case to a limited extent in the less known parts of Sarawak; but even if auriferous reefs are discovered at a future day in accessible situations, it is more than doubtful whether they will afford a field for the European speculation, especially since an analysis of a quantity of the auriferous veinstone at Bau, by a competent European metallurgist, has failed to give such a result as to tempt further operations.

SILVER AND ARSENIC:—Some years ago a lode of native arsenic was worked at Bidi in conjunction with the antimony at the same spot, but the mine was subsequently abandoned as the ore scarcely repaid the cost of export. Realgar and Orpiment were observed, but not in quantity; the former is found in traces in the Upper Rejang, a district wholly unexplored by Europeans, and in the Baram. Argentiferous arsenical ore also occurred at Bidi, and an attempt was made to extract the Silver and gold

contained in it; but this project was also abandoned as unprofitable, the precentage of the precious metals in a ton of the residuce left up smelting out the Arsenic being too small to repay the cost of their extraction.

Silver is unknown in the Territory, except in the connection here stated, or naturally alloyed with the gold. It is not improbable that the argentiferous arsenic at Bidi may be found richer in silver than has yet appeared, but the analyses made heretofore have discouraged this hope. A ton of the ore being calcined, yielded the following result:—

	oz	dwt.	gr.
Silver	5	16	8
Gold	1	11	4

This was considered an average sample, although slightly higher precentages were obtained by another trial.

MANGANESE, COBALT AND NICKEL:—The first of these minerals is found in small quantities in the Bidi mines, but is not, I believe, sufficiently abundant to be of any practical value. Cobalt and Nackel I have not met wiuh myself, but Mr. Low has the following passage in his "Sarawak" on their occurrence:—"Nickel in found over the whole Territory of Sarawak, particularly in the gold and tin *(sic)* districts; in the former it is very abundant, combined with iron and Cobalt:it has not yet been worked."

IRON is disseminated throughout the whole Territory, and all the clay-shales and sandstones are more or less ferruginous; those in the gold districts being often impregnated with the peroxide. No dedosits of iron-ores are known in this country of any commercial importance. The richest specimens come from the Upper Rejang. Tne Kayan tribes inhabiiing this district smelt their own iron, using charcoal only, in their own rude furnaces, and the steel they manufacture is preferred to that of European make. The ores I have seen brought down from Balui, the right-hand branch of the Rejang, are (1) a very pure oxide with metallic fracture and strongly magnetic, and (2) a botroidal argillaceous ironstone, not magnetic, with dull purple clayey fracture, very hard, and much worn and rolled. This latter ore is said to be dug out of alluvial clays.

A clay-ironstone having a peculiar scoriaceous appearance is scattered though the alluvial clay of Upper Sarawak and is especially abundant in the gold and antimony districts—indeed

one meets this ore all over the country. It is frequently rich enough to show a metallic fracture and bears a close resemblance to the ironstones described by Horsfield es appearing in such profusion in the tin-mining districts of Banka. I have never observed this ore, however, in Sarawak in the extensive veins and reticulations mentioned by him; but, if one may be allowed to form and opinion from the written descriptions only of Horsfield and Logan, these iron ores belong to the same class as the Ironstone of the former writer, and the Lateritic iron-ores of Logan's writings on the Malay Peninsula.

COPPER LEAD AND TIN.—The first of these minerals has been detected in very unimportant traces in Upper Sarawak on the Dutch border; the two latter, though often reported, have not been discovered even in traces. Galena is *said* to have been obtained in the vicinity of Bidi, but I am not in a position to vouch for the accuracy of the report. Copper occurs in minute quantities in the form of green and blue carbonate in connection with the antimony lodges at Busan, but there is no evidence at present to lead us to suppose that any workable deposit of Copper ores will be discovered in Sarawak. As to Tin, on the contrary, there is reasonable ground for expecting that it will be found to exist; having regard to the close similarity in geological constitutions between certain parts of the Territory, and the richly-stanniferous localities of Banka and Malacca.

ANTIMONY has long been known as the staple mineral export of Sarawak. It ores are distributed over the whole of the Territory as well as being found beyond the frontiers in Brunei and in Dutch Borneo; but they have not been ascertained to be in workable quantity in any part of the island except in the district of Upper Sarawak (Proper), where, however, all the more accessible deposits are exhausted.

The most productive localities worked have been the Busan veins, the Jambusan, Busan, and Pjat surface ore and the Bidi lodes and surface ore. At all these places, with perhaps the exception of Bidi, the out-put has either ceased altogether, or has greatly decreased during the past three years, but a great deal of inferior ore is still turned out. Bearing in mind the history of the mining operations as Jambusan, a new find may yet be heard of even in the abandoned working—so easy is it in a country densely covered with jungle, like Borneo, to go on working for months and years within a few yards of a valuable deposit which is revealed at length by mere accident. In addition to the above-mentioned localities, antimony has been marked

at Grogo and Sikunyit; and it has been observed in traces between Ahup and Gumbang, at Sirin in the Samarahan, in the Sadong district, at Marup in the Batang Lupar, and in the Intabai and Poi tributaries of the Rejang river, and one good specimen of sulphide has come under my notice from the Kagan districts of the Upper Rejang.

These wide-spread traces cannot be referred to a single centre of dispersion such as it might be supposed the Upper Sarawak field would present. They point to the presence of one or more undiscovered accumulations of antimony ore to the east of Sarawak Proper, though whether within the boundaries or at a short distance beyond, cannot now be said. In Kanowit the traces are tolerably abundant, but their great distance island renders it vain to hope they will be followed up for many years to come, if at all.

The ores commonly worked are native antimony; gray sulphide, and the "oxide" or "red ore" (oxy-sulphide). Native antimony occurs in the form of worn rounded pebbles in alluvial flats in the immediate vicinity of the vein-bearing limestone, and especially in the gullies and crevices so characteristic of this rock which are always more or less filled with a debris of clay and fragments of veinstone and ore. My brother—to whom I was indebted for many of these notes—informed me that he once observed native antimony forming part of a vein, and in this single instance it was scattered throughout a small horizontal lode of the sulphide. The ore in this form is not found in large quantities, but as it contains a minimum of impurities, approaching more nearly to regulut of antimony than any of the other varieties, and therefore requiring no preparation before being exported, it is always secured where met with. The Busan hills have proved the richest depository of this ore.

The oxide, like the foregoing ore, is generally obtained in rolled fragments and pebbles which are often seen to be only blocks of sulphide, partially oxidized, and preserving their original lamellar structure. It is found in the same situations as the native antimony, but in much larger quantities. It has been hitherto exported in its rough state, and is the least valuable of the ores of antimony owing to the difficulties it presents in reduction. The largest boulder of which I have heard weighed some 8 cwt., but the fragments are almost invariably small, weighing from a pound to thirty or forty pounds. The chief supply has been obtained from Boan, Piat, and Paku localities around the base of the Busan hills.

By far the principal part of the antimony, however, is afforded by the sulphide or common gray antimony, which occurs both in the form of lodes in the limestone rock, and in deposits of rolled boulders in the valleys contiguous to the hills bearing these lodes. These latter sources of the ore are now worked out, and the supply is dependent almost wholly on the vein-mining. The percentage in ores werked, runs from 18 to 80 per cent. The Ahup ore, of which only a few boulders hav ebeen met with is the richest known, giving a percentage of 80 per cent of pure sulphide. But this is exceptional; in practice the ores if very rich or very poor are mixed with stuff of average quality (No. 2.) preparatory to smelting. The bulk of the ore has a distinctly lamellar structure, and commonly has a shining steel-gray lustre when freshly fractured; sometimes it is iridescent, presenting a rich play of blue, violet and crimson hues like variegated copper-ore. The poorer varieties exhibit a starry pattern of needless radiating through the white veinstone; or the antimony will traverse the matrix in long slender spikes, or be disseminated in specks in the poorer sorts. More rarely one finnds masses of tangled acicular crystals which are now and then endomorphous in hexagonal prisms of quartz crystal. The gangue is generally siliceous, sometimes amorphous, sometime crystalline, or, less commonly calc-spar (rhombic); and when a vein of white siliceous gangue is followed into the rock, in invariably runs into a dark gray amorphous siliceous veinstone, of extreme hardness and with little or no oer in it. This dark-coloured veinstone appears with the antimony in all situations and the oer is always intimately mixed with it, the stone itself when magnified being seen to be thoroughly impregnated with the sulphide in the form of minute needles. As a general rule vein-ore is rich, but runs poorer as the lode is worked in, the block spar gradually preponderating and ultimately replacing the antimony altogether. Lodes in which the matrix is calc-spar are rarer those in which the gangue is siliceous.

The arrangement of the contents of a vein often differs entirely in portions only a few feet apart: calc-spar, black-spar, crystalline white quartz, and antimony being intermingled confusedly one with another—each one running for a few feet or inches in a narrow ill-defined band and then being lost in some other; but in other lodes uniform bands of calc-spar or quartz will be found coating the walls of the fissures, with a single rib of ore running between. Instances have occurred of large masses of sulphide rich on the surface being found, when worked down to the limestone, to terminate in an insignificant vein of very poor ore; exactly as if there had been a continued overflow-

ing and accumulation of ore from a kind of top-hole, which is represented by the small vein.

The veins are natural fissures in the limestone, having their walls usually clear and well defined, and the adjacent rock is seldom metamorphosed to any noticeable degree. In the Busan hills the lodes have a general N. W and N. S. and strike and dip at angles varyiug from 20° to 50°, the amount of dip not being a constant in the same lode; but in the Jambusan valley, about a mile distant, a lode was found striking almost due E. and W. and this was at a considerably lower level than the Busan veins, of which a series of four or perhaps five distinct lodes is to be observed cropping out in one spot, each above the other, with short intervals. The lodes at Bidi are said to dip at a very high inclination, but I have had no opportunity of examining this locality. The working face ranges from six feet to a few inches in depth, and the vield of any single vein is very intermittent.

The adventitious minerals, found associated in the vein with the sulphide, are gold and copper in the gangue, and gold, silver, native arsenic and realgar in the ore. The last-mentioned sometimes spots the sulphide of antimony with small pockets of orange-red crystals, and the ore at Bidi is not unfrequently stained red from the same source. The existence of quicksilver also in some form or other is attested by the presence of globules of metallic mercury in the flues of the reverberatory furnaces, where it has condensed after sublimation in the smelting chamber, and has been deposited together with the white oxide of antimony.

In seeking to decipher the geological sequence of events which resulted in the produce of the system of antimony veins in upper Sarawak, the observer is at once brought face to face with rival theories of the production of mineral veins as a whole. There is no evidence to indicate that the antimony lodes derive their metallic contents by any process of segregation from the rock in which they lie, although portion of the gangues may have been locally so derived; and the true interpretation of the phenomena they present is therefore limited to the inquiry, whether the various minerals were injected in molten state into the including fissures, or were deposited gradually and from solution, by the passage of hot spings through the limestone rock. I do not feel competent to give an opinion on a theoretical matter of this kind, which, to be at all reliable, must be founded on a wide knowledge of strictly chemical geology; but I may here state that M. Gröger, a geologist and mining engineer employed by

the Borneo Company to report on the antimony mines, is decidedly in favour of the aqueous, as against the igneous theory of the origin of the antimony.

QUICKSILVER. The mineral was discovered *in situ* about seven years ago, by the indefatigable exertions of Messrs. Helms and Walters of the Borneo Company Limited, who prospected over the whole of Sarawak Proper, and ultimately succeeded in tracking the small fragments of cinnabar that are scattered over the district, to a hill on the right bank of the Staat river, and between it and the Sibugoh mountains.

During the progress of the exploration, a rough but serviceable sketch-map was executed, embracing Sarawak Proper and the Upper Samaraham, on which the positions of the principal deposits of antimony and cinnabar will be found accurately marked.

The Hill containing the cinnabar—for it is in this form as usual that the quicksilver occurs—is known by the name of Tagora, and is, or rather was, a steep twin-peaked mass of semi-metamorphic rock, rising to an elevation of about 800 ft. above the sea-level, in the upper parts of which the ore is found deposited capriciously in strains, pockets and strings, with now and again a little metallic mercury.

The component rocks are argillaceous shales, with sandstones interbedded; these have been very extensively disturbed and contorted, and the former are as I have said, partially metamorphosed into an impure state, glittering with cubical iron pyrites, and, in the higher portion of the hill, full of cutters of carbonate of lime. Nodules of black shale occur here and there in the state which is, in appearance, amygdaloidal, through being often thickly spotted with calc-spar, baryta, and pyrites. Some layers of sandstone which I observed cropping out at a very high angle on one of the peaks, did not seem to have been affected in the same degree with softer shales by the metamorphic action, and still retained their normal structure, though hardened to such a degree as to be most refractory in working.

The ore is found in the slate, rarely in the sandstone, and, as is the case with all known deposits of Cinnabar, is distributed with great irregularity in the matrix. Hence the yield has proved extremely variable, and at times the ore has seemed to be lost altogether. No such thing as a lode can be said to exist, though short strings are met with. One of these attained a face of six inches, and was traced down to a depth of many fathoms.

The most considerable quantity of ore has been gained, not by vein-mining, but by washing in the felspathic clays flanking the western aspect of the hill. These clays afforded pure stream Cinnabar in great abundance, as well as hundreds of rich boulders of ore-bearing rock that had been denuded from the upper parts of the hill. This source of wealth, however, was limited, and may be regarded as exhausted.

A search for fresh deposits has been instituted from time to time. Traces of Cinnabar have been detected behind the Sibugoh mountain and in the Samaraham and Sadong districts; and traces of metallic mercury have been reported on good authority at Marup in the Batang Lupar; and at Gunong Gading, a few miles to the west of Tagora, ore has been discovered *in situ*, and is being worked. The Gading deposits are altogether smaller and much poorer than those at Tagora. The general geological features of the two hills are similar, but the matrix at Gading is more siliceous and more highly metamorphosed, though at the same time decomposing rapidly on exposure to atmospheric influences, as is also the case with the Tagora rock. The character of the Cinnabar differs from that of the Tagora deposits, being soft and crystalline, and the ore in the stream-washing is small and very friable, and so abundantly mixed with iron-pyrites as to make it impossible to separate the two minerals by simple hand-washing.

As with the antimony there is evidence of the association of minute quantities of quicksilver, so too, antimony (sulphide) has been observed in juxtaposition with the Cinnabar in the same fragment of veinstone at Gading.

With regard to the origin of these deposits of Cinnabar, it is almost certain that they were produced by the passage of heated vapours bearing quicksilver and sulphur in a state of sublimation, which were deposited by the cooling of the vapours as they approached the surface of the earth. The peculiar and irregular mode of deposition of the Cinnabar, and the facts that the lower the miner goes the less abundant the ore becomes, and that no definite "run," or fissure vein, is observable, all point in this direction. It is confirmatory of this view, that the surrounding shales and sandstones are all more or less highly impregnated with peroxide of iron, whilst in the metamorphic ore-bearing rock, iron is scarcely visible except in the form of pyrites, i.e. in combination with sulphur, which can only have risen from below in a state of sublimation, and has seized on the iron and collected it in this form. Assuming a large proportion of sulphur in the

local subterranean exhalations containing quicksilver, the formations of both pyrites and cinnabar may be readily explainod.

COAL is found in many localities on the N. W. Coast of Borneo and crops up in the Sarawak Territory at Simunjan, at Lingga and other spots in the Batang Lupar district, in the Rejang, and in the Mukah and Bintulu rivers. It was formerly worked at Sadong, and the mine has recently been re-opened by the Government, and now supplies regularly a small quantity of fair steam coal. For the past two years an exploration of the Lingga seams has been in progress, and it is hoped that this field will be shortly worked on a large scale. The other outcrops of coal of importance are those of Mukah and Rejang: both in such inaccessible situations as to be for the present quite useless, although, so far as is known, of good quality and considerable extent. The varieties of the mineral found are anthracite and cannel coal, both of which appear to be remarkably free from pyrites and sulphur. The Cannel coal has been found to give a very small percentage of ash (1.20 according to an analysis by Dr. Stenhouse) but this advantage is counterbalanced by the presence in it of considerably more Nitrogen than is generally exhibited by such coals. The ordinary Lingga coal is very nearly identical in composition, as regards the proportion of carbon and hydrogen, with the Hartley-Newcastle coals, as Dr. Stenhouse has lately shown by the following analyses conducted in duplicate.

	Carbon	Hydrogen	Sulphur	Oxygen & Nitrogen	Ash
Sarawak Coal	81.41	5.40	0.68	4 47	8.04
S'wak Cannel Coal	72.21	5.43	0.85	20.31	1.20
W. Hartley Main	81.85	5.29	...	...	...
Newcastle Hartley	81.81	5.50	...	...	...

It would be premature to take these analyses of small samples, however exact, as affording reliable data on which to base an opinion as to the value of the bulk of the Sarawak Coal. Nevertheless the trial of the Lingga coal lately conducted on board S. S. "Delhi" and Baroda" (Peninsula and Oriental Company), go rather to confirm, than to throw discredit on the laboratory analyses. Two 40-ton samples were burned under ordinary conditions of wind and speed, on board these vessels, and the coal was found with no more than the usual care from the stokers, to burn clearly with little smoke, and leave a residuum of only some 16 per cent in the furnaces, consisting of light and easily broken clinker. It would seem, however, that under severer test-conditions the coal would be found to burn a good deal faster than the best North Country Coals, unless mixed with good ordinary steam-coal. I should add that

these samples being procured under difficulties as to working appliances and carriage, did not fairly represent the condition in which the mineral would by put into the market after mining operations had been regularly opened, and therefore the results obtained are all the more encouraging.

DIAMOND: AQUAMARINE.—There is some reason for believing that the diamondiferous deposits of Sarawak are more valuable than has yet appeared to be the case. No systematic operations in the search for these precious stones have ever been carried on in the country. The only people who pursue diamond-washing as a means of livelihood are the poorer Malays, who are mostly gamblers, and carry on their work in a way very desultory and imperfect. Mr. Gray, who arrived in Sarawak last year with all necessary appliances for this kind of mining, and who had three years previous experience at the Cape fields, commenced operations in the Sentah river, but relinquished the attempt as unprofitable after an essay of ten days' or a fortnight's duration. I have been informed that in the opinion of the native diamond-washers, this gentleman never reached the true gem-bearing stratum; which may or may not have been the case. However this may be, a two weeks' exporation cannot be considered very satisfactory. One frequently hears of stones of good size and water being disposed of in Singapore as coming from Sarawak, and some are to be seen in Kuching now. They not seldom exhibit a pure lemon-yellow tinge, which is different from the straw colour of the Cape, and more valued. The large dimond (76½ carats), brought over from M'rau in the Sikaiam dirtrict of Dutch Borneo a year or two ago, is proof that stones of very considerable size are to be found in the island.

The Sentah is a tributary of the Penriseen branch of the Sarawak river. It is from this branch that Aquamarines are brought to Kuching. They seem to be very rare, and the only one which has come under my own notice was a mass of flaws, and useless as a gem.

To sum up the preceding notes. Of the known minerals of Sarawak, Antimony and Cinnabar are the only ores that have been explored on a large scale; of these, the difficulty of obtaining the first in remunerative quantity is daily increasing, while the yield of the second, at no time extraordinary, is capricious in the extreme. Arsenic, Gold, and Diamond have either proved failures, or do not tempt European capital. Coal has been tried and found wanting; but later discoveries with respect to its extent and quality, justify a some what confident belief that the

indubitably large deposits of this mineral in Sarawak, will shortly be re-opened on a scale not heretofore attempted in connexion with mining operations in this part of the East.

As the evidence stands, therefore, Sarawak cannot be looked upon as a mineral-producing country. What discoveries may be made in the future it is of course impossible to foretell; but it is not unreasonable to anticipate fresh discoveries of Antimony and Cinnabar; and, judging from the geological analogies existing between the N. W. Coast of Borneo, Banka, and the Malay Peninsula, of ores of tin and lead also. Such discoveries would be of much importance to the material welfare of Sarawak, and if made in any of the Sea-Dyak districts would be doubly beneficial. It is a regrettable circumstance that the Borneo Company—who hold a monopoly of all minerals in Sarawak, with the exceptions I believe, of coal, gold, and precious stones—have never instituted any system of prospecting the country beyond the limits of Sarawak Proper. It is true that their officers have now and again been despatched to look up traces of minerals, and have spent a few days in so doing, when weeks would have been insufficient for the fulfilment of the object in view. A superficial examination of a district in which strong traces of a mineral have been observed is, if unsucessful, worse than no examination at all, for it operates as a preventive against more thorough search being undertaken at a future day. The exploration for minerals in an open country is a sufficiently protracted and laborious affair—how much more so in a land like Borneo, densely clothed with a luxuriant vegetation.

In conclusion, whatever minerals may be awaiting discovery in the Territory, their importance can only be relative in comparison with that of the coal fields of N. W. Borneo. If these coal seams are available as a source of good average steaming fuel—and the partial statement of evidence which I have given above is most favourable to the idea that they are so available,—the probability is that they will be worked in Sarawak; and in that case their proximity to the great commercial emporium, and perhaps future naval arsenal of Singapore, will invest with a new interest this country, which, although playing a useful part in the gradual civilization of Borneo, and in the protection of trade on its coasts, has not otherwise any strong claims at present on the attention of the outside world.

COMPARATIVE STATEMENT OF THE ANNUAL EXPORT OF MINERALS AND MINERAL ORES FROM THE SARAWAK TERRITORY

Years.	Antimony Ore.		Sulph. Antimony.		Oxide Antimony.		Cinnabar Ore.		Quicksilver.		Gold.		Diamond.
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Flasks.	Value.	B'gkals	Value.	Value.
1864	488$\frac{1}{10}$	$ 9,762	.. ...	$	.....	$	.....	$	.....	$	309$\frac{1}{2}$	$ 9,482	$ .....
1865	463	„ 9,260	.....	„	.....	„	.....	„	.....	„	192$\frac{1}{2}$	„ 5,394	„ 1,960
1866	438	„ 10,100	150	„ 3,750	.....	„	.....	„	.....	„	75	„ 2,250	„ 300
1867	147$\frac{8}{20}$	„ 3,000	.....	„	.....	„	.....	„	.....	„	233	„ 6,998	„ 500
1868	1,710$\frac{16}{20}$	„ 34,209	.....	„	.....	„	25$\frac{14}{20}$	„ 2,547	.....	„	29$\frac{1}{2}$	„ 890	„ 355
1869	1,444$\frac{14}{20}$	„ 61,385	.....	„	.....	„	125	„ 47,125	.....	„	574	„ 14,228	„ 1,360
1870	1,699$\frac{12}{20}$	„ 61,730	.....	„	.....	„	33	„ 8,396	732	„ 22,692	193$\frac{1}{4}$	„ 5,879	„ 662
1871	978$\frac{17}{20}$	„ 41,190	300	„ 10,500	.....	„	.....	.....	776	„ 24,992	165	„ 4,952	„ 1,050
1872	1,788$\frac{8}{20}$	„ 86,926	533$\frac{7}{20}$	„ 25,351	.....	„	.....	.....	1,733	„ 71,583	226$\frac{3}{4}$	„ 7,485	„ .....
1873	.....	.....	1,667	„ 88,197	342	„ 10,672	.....	.....	1,505	„ 86,355	189$\frac{1}{4}$	„ 6,262	„ 50,700*

* Including the large U'rau Diamond.

BREEDING PEARLS

BY

N. B. DENNYS PH. D.

Read before the Society on the 28th February, 1878.

MANY residents in Singapore, and more especially Members of this Society, have heard of "Breeding Pearls," or Pearls which, as alleged, have under certain conditions the power of reproducing fresh specimens. My attention having been drawn to the subject shortly after my arrival in the Colony, I made enquiries in all likely quarters, and propose to lay the results before this meeting. When I commenced these enquiries I had no particular theory to support either in favour of, or opposed to, this apparently incomprehensible matter. And what I now intend to do is to shortly state (1) What is known of the origin of these objects by their possessors, and the process by which they are held to reproduce themselves; (2) The evidence I have been able to collect respecting their existence and a description of what I have myself seen; (3) The objections raised against the possibility of such an alleged reproduction and, (4) Some concluding remarks regarding certain other natural occurrences which may be held to confirm the possibility of an event as yet inexplicable by even advanced scientists.

The Pearls in question are reputed to come chiefly from Borneo and Java, although found in nearly all islands of the Archipelago, and even in Singapore; there does not appear to be any specific native name for them as distinguished from ordinary pearls. As regards appearance, those shewn me resemble the ordinary jeweller's pearl in look, though slightly more irregular in shape. The largest of regular shape I have yet seen is something over three sixteenths of an inch in diameter, though an irregularly formed one is over $\frac{1}{4}$ inch in length, by $\frac{3}{16}$ths. in width, while the smallest is a mere pin-point of microscopic dimensions. As regards substance, they are alleged to present exactly the same laminated section as the ordinary pearl when cut, and a lady, resident in this Colony, informs me that

Professor Huxley examined one at her request, and subjected it to numerous tests, of which he reported the result to be that it was absolutely indistinguishable from the ordinary pearl used for jewelry.

The process by which reproduction takes place involves only very simple preparations. Four or five large sized pearls (most people have begun with three) are placed in a small chip or other box with as many grains of uncooked white rice as the experimenter chooses—from 15 to 30 are usually used. Absolute freedom from disturbance is, by some, alleged to be necessary for the formation of the new pearls, while others deny that this makes any difference if they are not unduly handled or shaken. If examined at the end of a certain period (about a year) objects resembling small seed pearls will be found strewn about the bottom of the box, while in many cases the original pearls themselves will be found to have increased in size. If again left untouched for a further period of six months or a year, and then examined, some of the seeds will be found to have become larger, while fresh seeds will have formed. Each grain of rice now presents a curious appearance. A small circular *bite* seems to have been taken from the end of each, the number of seed pearls agreeing with the number of grains thus affected.

The lady resident above referred to having kindly offered to shew me her collection, I saw it at the end of December last. It consisted of about five large or medium sized pearls and, as nearly as could be estimated, about 120 small sized pearls, varying from the most minute speck to a size large enough for use in certain descriptions of jewelry. Every grain of rice was, so far as I could see, marked as before described—looking in fact as if some beetle had gnawed away a portion of its end. She informed me that the larger pearls she shewed me had been in their present box for about 20 years; that she had only put four or five into the box when it was just closed; that, except to shew to persons interested, the box had always been kept shut; that any tampering with it had been impossible—to say nothing of the fact that no one was likely to have strewn seed pearls in it for the purpose of playing a practical joke which might not even attract attention for a lengthened period.

Shortly after seeing the pearls above mentioned, good fortune led me to enquire of Dr. Rowell, the principal Medical Officer of Singapore, what he knew about the matter. It so happened that I could not have applied to better authority, Mrs.——having for some years possessed and bred the pearls in question. I give her experience in her own words, her kindness in furnishing the

account being most generously supplemented by her sending the box containing the pearls for my inspection. Mrs.——writes as follows:—"I had three 'Breeding Pearls' given me in June or "July 1874. On the 17th July I shut these three up with a "layer of cotton wool above and below them and some few "grains of a very fine rice, (called here "Pulot" rice?) On the "14th of July 1875, we opened the box in the company of two "or three friends and we discovered *twelve* of sizes—the three "original ones standing out distinctly by their greater size; "though some of the newly bred ones were by no means insig- "nificant to look at. One or two were about the size of a pin's "head and perfectly round. The rice looked crumbly and worm- "eaten.

"The size of the three breeding pearls both my husband and I "thought considerably larger. I had made a rough drawing "of their appearance and size, and you can see the boxes for "yourself.

"I have started afresh again with five big ones lately given "me, three of the old originals, and I think the fifth is one of "those bred in my box. But this I could not vouch for.

"I send the two boxes and shall be glad to have them back "when you have done with them."

I may add that the rice in the boxes sent was all "bitten away" as in the other case. I feel certain that the "bite" has been produced by some living agency, and that it could not have been produced in any other way.

Having been informed that, Mrs.——of the local Girls' school, could give me some information on the matter I called on that lady and she kindly told me all she knew. This was exactly to the same effect as above described, with the further item that "breeding pearls" were in all cases originally taken from pearl oysters, and that when about to "breed" a small black speck made its appearance on some portion of the pearl, which speck continued to be visible so long as the breeding process continued. I then wrote to a gentleman who I was informed had himself bred a considerable number—Mr. H. B. Woodford—who very kindly furnished me with a series of notes which I transcribe in almost his own words:—

Breeding pearls are found in several of the oyster and clam species, including those known as Tridacnæ with a fan shaped shell. The shells yielding them abound chiefly on the coast of Borneo, but they are also found throughout the Malayan Archipelago and even in Singapore. I found one at Tanah Merah

Kechil beach. Many people believe that they come to better perfection if kept in sea water. I have reared mine in closed boxes, with Pulot rice strewn losely around them and the whole covered with a layer of cotton silk, though Mr. L. J. Scheerder has successfully reared some in fresh water. I am not able to say what is the average percentage of these pearl-producing shells, but out of 15 or 20 I picked up at Tanah Merah I only came across one. Mr. P. Marcus tells me he has extracted them from all descriptions of bivalve shells, the larger the shells the larger being the pearls. In one case he took a very large one from the *Tridacna gigas*, or giant clam, (of which a specimen may be seen at the foot of the stairs leading to the Raffles Library.)

The pearls when discovered are usually found embedded close to the valves of the shell, though in some cases found adhering to the fish. There appears to be no certainty as to size, the breeding pearls varying like the ordinary ones, though the rule as to the largest being contained in the largest shells does not in the latter case hold good. They are almost invariably spherical when found, but, when commencing to breed, change their shape to a more or less irregular oval; with layers of scales on them visible to the naked eye. In some cases the scales are themselves spherical.

As regards the time occupied in "breeding," Mr. Woodford names a very much longer period than that specified by the other correspondents who have so kindly answered my enquiries. He states that it usually takes eight years for a seed pearl to increase to four times its original diameter, i. e. about $\frac{1}{8}$th of an inch, though he has seen one over $\frac{1}{4}$ inch in measurement produced in that period.

After a certain time (which appears to be *uncertain*) "breeding pearls" die and change their lustrous colour to a dirty flake white, the outer scales appearing to have peeled off. Mr. Woodford attributes their formation to insects, though this otherwise feasible theory is at variance with all received beliefs as to the formation of the pearl within the oyster.

Several other residents have informed me that they have seen breeding pearls and their young (if the term be admissible) under circumstances which left no doubt as to the *bona fides* of their exhibitors. I have however doubtless given names enough to help us to a dispassionate discussion of this curious freak of nature.

The evidence *against* the existence of "Breeding Pearls" may be classed under two heads, viz; the results of positive experiment; and a scientific demonstration of the absolute impossibility of Pearls breeding Pearls. As regards the former, Dr. Robertson, well known to all members of this Society, allows me to use his name in stating the following facts. Having been informed that not only would pearls breed, but that a resident in Singapore had actually added to her income by selling the pearls thus produced, he obtained four or five specimens which were carefully sealed up at the Singapore Dispensary in a box, with grains of rice, as directed by the donor. This operation was performed by Dr. Robertson in the presence of Dr. R. Little and Mr. Jamie and the box was then put away. At the expiration of the period directed, the box was opened in presence of those gentlemen (the seal being intact) and the result was—nil. No trace appeared either of pearls, or of anything which could form a nucleus around which a pearly growth might in time take place. So far as it went, that experiment was conclusive and others have related to me a similar experience. Mr. C. K. E. Woods, Solicitor to whom I had written for a book supposed to contain a notice of these pearls answered as follows:—

"I have not found the book you want, but I have heard from "several natives and also from a few Europeans that pearls do "breed when packed in a box or bottle. I tried the experiment "once but did not succeed in increasing the stock."

So far as we have yet got then we have the positive testimony of residents, whose words are beyond cavil, that these pearls *do* breed. I have seen with my own eyes a collection of pearls which either "grew," or were put where they are by human hands. To say nothing of the fact that none of my witnesses would invent a gratuitous falsehood, I am able to cite six cases, in three of which the parties, without any previous communication on the subject, certify to the same occurrence. Against this we have the equally reliable testimony of others that in their own cases attempts to "breed" such pearls have been downright failures. Negative evidence is, however, always weaker than positive. Some year or two ago, for instance, I and some other friends imported a selection of English flower seeds. Not one of 32 varieties in my own case (and in the majority of others) came up, but one recipient was more fortunate. Now all our negative evidence that the seeds would *not* grow was of course set aside by the simple fact that in one case they *did* grow. Flower seeds are of course supposed to grow, and it may be urged that flower seeds and pearls can hardly be classed together as regards reproductive qualities. But the incident may serve as an illustra-

tion of the difference between negative and positive evidence. I must confess that twenty failures to breed pearls would, to me, be quite set aside by one successful experiment—and so, I suppose, they would to the other members of this Society.

The scientific objections to the possibility of pearls "breeding" cannot however be overlooked. The oyster or mussel pearl is, as everybody knows, usually the result of a mucus secretion deposited by the animal on some (it may be microscopic) foreign substance, though I believe this foreign substance is not always to be detected by analysis. Now under no conceivable circumstances can mucus *breed* mucus when it has once hardened into the lustrous nacre of a pearly surface. Without, as I have said, wishing to support any specific theory, I should be inclined to suspect that the pearls produced result from the labours of some insect which existed in the original oyster, and as a foreign irritant body caused the deposition of a pearly secretion; and it may be that this insect exists and breeds in rice under certain circumstances: and that the original pearls have very little, or perhaps nothing, to do with the production of new ones.

Finally it may be worth while to cite another instance of an apparently incomprehensible freak of nature in a somewhat similar way. Mr. Frank Buckland, the well known naturalist, in the 2nd Volume of his "Curiosities of Natural History," relates (p. 128), that his attention was excited by an advertisement setting forth that an old China dinner-plate, which had been in the possession of its owner's family for nearly 300 years, had broken out in an eruption of crystals, the forms of which resembled shrubs, flowers, &c. It was put on exhibition at one shilling a head, and Mr. Buckland went to see it. "On examination with "a magnifying glass," he says, "I observed numerous excres- "cences of a whitish opaque substance, apparently growing or "extending themselves out of the centre and rim of the plate, "each supporting upon its surface a portion of the actual enamel "of the plate. The largest eruption (if it may be so called) is "about the size and shape of a fourpenny bit, and it has raised "up a portion of the enamel above the surface of the plate to "about the height represented by the thickness of a new penny "piece" Mr. Buckland then gives further particulars of this singular growth, concluding with the remark "I have not the sligh- "test doubt that this is a natural production; that the material "is of a mineral parisitic growth resulting from some chemical "decomposition of the clay of which the plate was originally "formed." Now, it will, I think, be allowed on all hands that the idea of a China plate 300 years old producing a "growth" of any sort is as unexpected and unexplainable a phenomenon as

can well be imagined. I have cited it simply as a parallel to the subject under notice—the apparently spontaneous production of pearls. Further information on this latter subject will doubtless be acceptable to the Society. Granting the truth of all that is alleged respecting Breeding Pearls, we have not at present got beyond Topsy's "'Spect they growed."

I may add that I have been informed that both Sir J. Brooke and Admiral Keppel have made mention of Breeding Pearls in their published works. I can only say that a tolerably thorough search through the Raffles Library has not enabled me to find the notices in question, and the present Raja Brooke of Sarawak told me he did not know of them. It is of course possible that, amidst the hurry of more important avocations, I have missed them. If so I shall be greatly indebted to any one who will point them out.

N. B. DENNYS.

DIALECTS OF THE MELANESIAN TRIBES IN THE MALAY PENINSULA.

(Being Extracts from two Letters to H. E. Otto. Böhtlingk, Member of the "Imperial Academy of Sciences at St. Petersburg.")

BY

MIKLUCHO-MACLAY.

[TRANSLATED FROM THE GERMAN.]

Read at a Meeting of the Society, held on the 6th May, 1878.

[Extract from Letter I.]

"MY desire to know something about the inhabitants of the interior of the Malay Peninsula, and to ascertain their position in relation to Anthropology, induced me to undertake this journey into the Peninsula. It also appeared to me of importance not to delay it, for I know from my own experience that the solution of this problem will become more difficult as time elapses, and we shall only reach what is likely to prove less and less reliable as a *point d'appui* for satisfactory conclusions. For example, the original language of the *Orang Utan* (1) of Johor, is constantly becoming more and more displaced by Malay. Not only is it disappearing year by year, but the death of every old man (acquainted to some extent with the language of his forefathers) creates a fresh gap never to be filled up.

This decline of the tongue, which precedes the gradual modification of the anatomical type, induced me to collect what does remain very carefully, in order to secure it before its complete destruction.

During my excursion in the Peninsula whenever I came across a number of men I gathered them round me, and listening attentively to them I took down as many words as possible that were *not* Malay. In order to collect the following scanty vocabulary I always held quite a "Council," for *only a few old*

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1 *Orang Utan* is the usual expression among the Malays in speaking of the wandering tribes in the interior of the Malay Peninsula.

men remembered any of the words of their fast-disappearing language. (2)

These I have shewn to several Malays who know their own language well. All declare that they *are not Malay words*; I, myself, am incompetent to decide this question, and, I should like therefore, to hear your opinion, as this may be of great importance in its bearing upon the question of the origin of these vanishing tribes.

Purely anthropological observations and considerations lead me to accept the supposition of a *Melanesian* element (a remnant of the original race) which, through intermixture with the Malays, is being more and more supplanted.

Three words in this Vocabulary (3) I find similar to three in my notices of the Papuan dialects, *Dak* (Sea), *Koi* (Head), *Tal* (Hut).

This similarity struck me as curious but I must point out clearly that from this circumstance no further positive conclusion can be drawn.

If the old language be not quite forgotten or lost, we have to thank a superstition which has favored its retention. A belief prevails that people who visit the camphor trees in the jungle in on the search for camphor, must always use the old tongue if they are to be successful in their search. If they speak Malay, the tree will either disappear before their eyes, or their eyes, will become incapable of seeing the it. For this reason the dialect is also called the "Bhâsa Kâpor" or the "*Camphor language!*" Some of the Malays who live in the jungle, endeavour on account of this superstition to learn the "Camphor language.*

It it not difficult to explain how this superstition arose. It is certain that the old stock of the race, who lived a roving life in the jungle, were peculiarly qualified to appropriate the jungle produce. Later on, when the primitive race mingled with the

2 Thus for example, the numerals of the langage of the *Orang Rayet* of Palong (tributary of the River Moar) were only known by one very old man, and by him only up to 4; none of his tribe companions knew even these. The old man further explained that in earlier days he knew the other Numerals also, but he had now forgotten them. Most of the young people satisfied themselves with the declaration that "the elders knew the old tongues, but they only spoke Malay."

3 *Dak*, used to express "Sea" by the Papuans of Mt. Limai in the island of Lüçon which I visited in 1873.

Koi and *Ooi* meaning "head," also in use among the Papuans of Mt. Limai.

Tal'—"House," used by the Papuans of the Maclay-Coast in New-Guinea.

* [Mr. Logan also refers to the "Camphor Language" in his description of these Tribes (I.A. Journal vol. 1. p. 263), but his account of the matter is a little different, and suggests a comparison with the "Krama," or ceremonial language of Java. He says:

Malays, and, in consequence of this, more or less modified their habits of life, it was, again, these same people who attached themselves to the manners and occupations of their fore fathers, and became in their turn the best qualified to trace out the various products of their own home-jungles. Wandering isolated in the forests, they had but few opportunities to hold any dealings with the Malays; and naturally kept more exclusively to their own language than those who trafficked with the Malays more frequently, and lived in their neighbourhood. Thus it happened that in preserving the old language (going as it did hand in hand with primitive habits of life) they found a secret means of bringing to their homes a rich booty from the jungle. This superstition is believed in various parts of Johor, and will, for a long time, protect the ancient language from total extinction; and even if the signification of many words is wholly forgotten, yet will they still remain as the true rudiments of the language, and serve as a monument of the original race of the "Orang Utan."

I found it impossible to ascertain sufficiently the number and limitation of the different dialects. That more have existed is probable. I have arranged, somewhat arbitrarily, the following words in two dialects. I have only noted down (as said before) those words which appeared to me *not* Malay. (4)

"While searching for Camphor, they abstain from certain kinds of food, "eat a little earth, and use a kind of artificial language called the Bhâsa "Kâpor (Camphor language). This I found to be the same on the Sidili, "the Indau and Batu Pahat. From the subjoined specimens it will be seen "that most of the words are formed on the Malayan, and in many cases "by merely substituting for the common name one derived from some "quality of the object, as "grass-fruit" for rice, "far sounding" for gun, "Short-legged" for hog, "leaves" for hair &c.

(Here follow 80 words of which 33 are Malay, and of the rest none resemble in the least those given by M. de Maclay.) "It is believed that if "care be not taken to use the Bhâsa Kâpor great difficulty will be experienc-"ed in finding Camphor trees, and that when found the Camphor will not "yield itself to the collector. Whoever may have been the originator of this "superstition, it is evidently based on the fact that although Camphor trees "are abundant, it very frequently happens that no Camphor can be obtain-"ed from them; "were it otherwise," said an old *Benua*, who was singularly "free from superstitions of any kind, Camphor is so valuable that not a "single full-grown tree would be left in the forest. Camphor is not col-"lected by the Bermun (Negri Sembilan) tribes, at least on the Western "Side of the Peninsula, and they are unacquainted with the Bhasa "Kapor."]

Dialects of the Orang-Utan of Johor.

Sun	Matbri	Tunkat
Earth	Atei	Atel' (†)
Sea	Dak	Dak
Mountain	Benum	Benum
Forest	Bri	.....
Stone	Gmu	.....
Fire	Us', Ul'	Us.'
Smoke	Dilok ul'	.....
Water	Dak, diao	Diao
Hut	Dol'	Tschendejia
Road	Swag	Prokn
Plantation	Glokul'	.....
Tree	Delokn	.....
Banana	Kei-kei	Diok
Ratan	Drein	.....
Dog	Tiau, Tchiau	Diaun
Tiger	Diagign	Tiasma
Pig	Kumo	Kumokn
Fowl	Kampokn	.....
Man	Limo	Simo
Woman	Kodol'	Kodo, amai
Father	Ita, Mbai	Mba
Mother	Gado	Gado
Wife	Kompotn	.....
Child	Knon	.....
Son	Limon'	.....
Daughter	Kodo-kanit	.....
Brother	Piatn	.....
Head	Koi	Bubon
Hair	Suk	Suk
Eyes	Mot	Padingo
Nose	Mu	.....
Mouth	Bibir	Snut
Tongue	Lipes	.....
Ear	Ntokn	.....
Arm	Tein	.....

(4) As the Orang.Utan are Nomads it appears to me quite immaterial to specify the place in which I have taken down the words.

† ..... 'Shows that the end of the word must be pronounced *soft*.

‡ ..... 'Shows that the word of the original language is supplanted by Malay.

Finger	Tü	Raan
Neck	Marokn	.....
Breast	Gno-Kampotn	.....
Stomach	Lopot	.....
Back	Bahoi	.....
Leg	Ano-kompo,	betit, lutat
Foot	Diokn	.....
Toe	Tschere-Diokn	.....
Cold	Tkat	.....
Hot	Khob	Gohom
Dead	Kobs	.....
To Eat	Intia, ntia	Ndia
To Drink	Diao	.....
To Sleep	Ietek	.....
To Go	Swag	.....
To Run	Palo	....
To Cut	Nako	.....
Sumpitan	Blahan	.....
Arrow	Dama	.....
1.	Moi	Moi
2.	Npotn	Dua
3.	Npe	Npe
4.	Prui	Npun
5.	.....	Massokn
6.	....	Pru
7.	.....	Tempo

According to the statements of the Malays, the Orang-Utan of Pahang, where I am now going to travel, speak their own language, which is quite unintelligible to the Malays, and so these poor wild men are cruelly treated; and on this account become more isolated than those who live here in Johor. I hope to make further and fuller contributions towards the knowledge of the language of this people."

The Istana, Johor, 28th May, 1875.

[Extract from Letter II.]

"Before receiving your answer to my last letter, which I await with much interest, I find myself in a position to anticipate it in consequence of my second Journey into the Malay Peninsula. In the Mountains of Pahang and Kelantan as far as Singora and Ligor, I have discovered a *Melanesian* population. This people, which is probably the primitive race of these parts undoubtedly belongs to judge from its physical "habitus" to the *Melanesian* stock. Leading a nomadic life, these people retire

before the influx of Malaydom into the mountains and forests of the Peninsula, and have thus kept themselves free from intermixture, still retaining their *own* language.

I had the good fortune to find these people in many other places, and I have not failed during my Anthropological studies to collect as many words as possible of their dialects, although a naturalist can do little with the materials of language. I undertook this small task (which nevertheless required no small amount of patience and attention) for the reason named in my first letter; viz, that these languages are disappearing, partly because the tribes intermingle with other races and partly because they die out. Although I can draw no conclusions as to the various relations of these dialects to other Papuan tongues, this small collection has nevertheless given me some interesting and not unimportant facts.

Firstly as to the connection between the various tribes of the Orang Sakai, living quite cut off from one another, in Pahang, Kelantan and Singora.

Secondly, and what astonished me still more, as to the relation in point of language between the very mixed and distant-dwelling Orang-Utan of Johor, with the Orang-Sakai in the north of the Peninsula.

It is undoubtedly an interesting result to have ascertained that these tribes, isolated and ignorant of each other, are throughout the whole peninsula, from Johor to Ligor (South of Siam) thus closely connected in speech. This circumstance gives me a fresh conviction that my opinion expressed in the beginning of this year* and before my second journey, is correct, viz: that the *Orang-Utan* of Johor, notwithstanding their great intermixture, undoubtedly show traces of a *Melanesian* blood. I send you herewith a small Comparative Vocabulary of the dialects collected. I hope the result I have arrived at will coincide with your opinion upon the origin of the language of the Orang-Utan of Johor.

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* N. Miklucho-Maclay. Ethnologische Excursion in Johor. Natuurkundig Tijdschrift, 1875.

	Dialects of the *Unmixed* Tribes of the Orang—Sakai of the Interior.		Dialects of the *Mixed* Tribes of the Orang—Utan of the Interior.	
	Ulu Kalantan.	Ulu Patanis.	Palon (Rumpen.)	Ulu Indau.
Sun	Kirkto	Merkets, Kirkto	Matbri	Tunkat
Moon	.....	* Kitchi	.....	Bulatnah
Heaven	Kte	Karé	.....	.....
Earth	Kliet	Tei	Atei	Atel' Ate'
Water	Tom	Bateu Tom	Dak	Diau, Dak
Sea	Tambŭ	.....	Dak	Dak
Stone	Tmu	Kula, Balu	Gmu	Gmu
Fire	Oos	Oos	Us'	Us,' Ul,'
Smoke	Assin—oos	Ayei, Eieioos	.....	Dilok—Us'
Mountain	Benum	Butjak Tul'	Bnum	Benun
Forest	Kĭb, ghi	Dagib, Daven	Bri	Bri
Hut	Digos	Dign	Tol,' Dol	Tschendeya dol
Road	Harbau	Tib	Swag	Prokn
Boot	Kupon	Diahu	.....	.....
Man	Timkal' (†)	Timkal'	Limo	Limo, Simo
Woman	Jalu	Badonn, Kogn	Amai	Kodól Kodo,
Father	äh	äh	Mba	Ita: M'bai
Mother	Nah	Nau, bŭ	.....	Gado
Brother	Tuh	Tuh pah	.....	Piatn
Sister	Tuh-jalu	Nau	.....	.....
Husband	Gai	Késsïj	Linio Simo	Limon'
Wife	Knie	Kne	.....	Kompotn
Child	Auva kanit	Wogn, Tanganet	.....	Knon, Knotsch
Daughter	.....	.....	.....	Ko o-Kanit
Head	Kui	Kui	.....	Koi
Hair	Sok	Sogk	.....	Suk
Brow	Pti	Woos' pti	.....	.....
Nose	Mo	Moh	.....	Mu
Eyes	Med	Med	.....	Mot
Nostril	Hajan—moh	.....	.....	Annmannmno
Mouth	Tiaim	Han' nis	.....	Nut
Teeth	Han'	Nis	.....	Limon'
Tongue	Lentek	Lentek	.....	Lipes
Ear	Anten	Anten	.....	Ntokn

(*) ' Shows that the word is supplanted by Malay.
(†) ' Shows that the end of the word is pronounced *soft*.

MALAY AND ENGLISH

SPELLING.

[A recent Circular Despatch of Lord Carnarvon directed attention to the want of uniformity in the spelling of Native names. A Committee was appointed to consider the subject, and the report they presented discussed very fully the difficulties surrounding the question, and proposed a complete system of spelling Malay words in English. It is most desirable that in all information contributed to our Society, the names should be spelt on some uniform system, and as that recommended by the Committee is now adopted by the Government in the *Gazette*, the *Council Papers*, the *Government Maps &c.*, it is reprinted in the first number of our Journal for easy reference.

Hitherto the practise in the Straits has resembled that described by the famous traveller Dampier 200 years ago, who explained in his Preface "I have not been curious as to the "spelling of the names of Places, Plants, Fruits, Animals &c. "which in any of these remoter parts are given at the pleasure "of Travellers, and vary according to their different Humours."]

REPORT OF THE "SPELLING" COMMITTEE.

1. The Committee appointed to consider the subject of the correct spelling of Native Proper Names are of opinion that they cannot deal with the subject completely or satisfactorily, unless they take into consideration the whole question of writing the languages spoken in these Settlements in the Roman characters. These languages are practically two, viz., Chinese and Malay. Of these, Malay is the most important; first, because it is the common medium of communication between all the different races; secondly, because the names of places throughout the Settlements are Malay; and thirdly, because in the course of political events, Malay names of persons are likely to occur in public documents in far larger numbers than Chinese names.

2. The task of correctly rendering Chinese names, and other words, in the Roman character is an impossible one. Chinese, as it is well known, is not an alphabetical language, and consequently there is no question of finding equivalents in the Roman alphabet for Chinese letters. All that can be done, therefore, is

to endeavour to represent Chinese sounds in Roman letters. The great difficulty in doing this arises from the fact that in every dialect of Chinese there are sounds which no combinations or modifications of Roman letters are able to express adequately; so that the best system must be imperfect, and can only approximately represent Chinese words. Those members of the Committee who are most conversant with the Chinese language, are, however, of opinion, that the system suggested below is satisfactory as far as it goes; and further, that no additional modification of the Roman letters would be of any substantial advantage. But they strongly recommend that to secure identification in all important documents, Chinese names should be written in the Chinese as well as in the Roman character.

3. The difficulties in the way of writing Malay in Roman letters are not so great: still there are difficulties which everybody who has attempted to deal with the subject has felt. The chief of these is to be found in the circumstance that in Malay, more frequently than otherwise, the vowels are not expressed; so that here also as in Chinese, it is sounds and not letters that have to be represented. It should, however, be observed that the Malay writing is so far phonetic that the Roman characters, according to the system recommended by the Committee, will in the main give the spelling as well as the sound. Again, in order to help persons unacquainted with, or possessing but little knowledge of the language, it has been found absolutely necessary to mark the difference between short and long vowel sounds by accents of some kind, and great care is required to make these as intelligible as possible: and for simplicity's sake, as few as may be. Moreover, some of the consonants in Malay have no single equivalent, and others in certain situations have a special and peculiar use.

4. Hitherto no one system of spelling has been generally recognized and adopted, which has led to several absurd mistakes, such as *Selángor* being spelt as *Salengore*, *Lárut* as *Laroote*, *Krían* as *Carreean*; but the various authorities in Malay, however they may differ on other points, have with one consent adopted the Continental or Italian system of vowels as best suited to the requirements of Malay; and the Committee have no hesitation in following them so far.

The following system they believe to be sufficiently accurate, and as simple as the circumstances of the case permit.

I. The Vowels.

5. The five vowels when used in writing Malay and Chinese words have the *Continental*, or, more strictly, the *Italian*, sound.

They sometimes have a long sound, and are then written with a circumflex accent over them, thus â, ê &c.; and sometimes they have a short sound, when they are written a, e &c., without any accent. This is more fully explained in the subjoined table. The Committee consider that the labour of writing the accent over the long vowels will be far more than compensated for by the accuracy in pronunciation that will be secured, as the accent will point out the accentuated syllables. If "*Sarâwak*" and "*Sembîlan*" had always been so written, Englishmen would have been saved the absurd mistake of pronouncing them *Sarahwhack* and *Sambilan*, as if the accent were on the first syllable in each case instead of the second.

6. But in addition to those vowel sounds which may be fairly represented by the five vowels marked as long and short, there is another of exceedingly frequent occurrence in Malay which is so vague and indefinite that no natural representative at once suggests itself, and Malay scholars have given different renderings of it. After long and careful deliberation the Committee have come to the conclusion that there will be the least danger of misunderstanding if this sound be uniformly expressed by the letter e so written. The mark of shortness (ĕ) is very important to distinguish it from the common short *e* as sounded in the English words "pen," met," to which it bears little resemblance. The sound which we wish to express by this character (ĕ) is that of *e* in such words as "lateral" "considerable."

The Arabic letter ع (ain), which is found in a few Malay words, takes the sound of all the vowels, long and short, in turn And its presence will be indicated by a dot written underneath thus ạ ẹ &c., or ạ ẹ &c.

8. There are two dipthongal sounds which will be written *au* and *ei*, pronounced as in the table below.

9. Tables of Vowels.

The Vowels.	Their sound in English.	Examples in Malay.
â	Soprano	lâma, kepâla
a	Diploma	The second *a* in mâkan
ê	Fête	Pêrak, krêta
e	Ten	sendok, preksa
î	Pique	tîdor, pîsau
i	Tin	pintu, bintang
ô	Those	kôrek, tôlak
o	Proportion	tongkat, sarong
û	Truth	bûka, gûrû
u	Full	tumbok, tunjuk
ĕ	As the e in "lateral" "considerable"	kĕbûn, pĕrampûan, pĕng-lima, bĕtul
au	Faust (as in German) with the sound of *now*	bâkau, kĕrbau
ei	Height	Sûngei, bâgei
ȧ. ė. i̇. ȯ. u̇. or a. e. i. o. u.	The dot indicates the presence of ع (ain.)	

II. The Consonants.

10. A table of Consonants is given below with their respective sounds, and their Malay equivalents. It will be observed that "c," "g" soft, and "q" are omitted, and they should never be employed in writing Oriental languages in Roman characters, as their sound is better represented by "s," "j," "k," respectively, and the use of them has led to strange mistakes. An instance of this is the name of Kedah, which having been spelt "Quedah," has come to be pronounced "Kwîdah."

11. It is important to remember that whenever the letters "*ng*" occur together they represent one letter only, and that letter has uniformly the sound of "*ng*" in "singing," not that of "ng" either in "single" or in "singed." Whenever it is intended that the "*g*" should be sounded hard, as in "single," the word must be written with a second "*g*" as "Sûnggoh" "Trenggânu." The letters "*w*" and "*y*" are only used as Consonants.

12. The final "*k*" in Malay words is usually silent in the Straits Settlements and the Malay Peninsula; or rather it is only partially sounded, being begun and then stopped suddenly.

13. The apostrophe (') represents the Malay mark "hamza" (ʼ). When it occurs in the middle of a word, as in "sa'orang," it serves as a mark of separation between syllables; at the end of a word it has the same effect as the final "*k*."

14. Some of the Consonants are written, like the vowels representing ع (ain), with a dot beneath. This is the case where two or more letters in the Malay Alphabet are represented by one Roman character. Almost all the characters bearing this mark are confined to words of Arabic origin, such as a certain number of proper names, and words connected with Religion. Their use therefore will be limited, the great bulk of words in the Malay language being written in the simpler characters.

15. We can now give the table of Consonants which will actually be used. Whenever nothing is said respecting pronunciation the letter has the ordinary English sound.

TABLE OF CONSONANTS.

Consonants.	Pronunciation.	Malay name.
b		Ba
ch	as in "church"	Cha
d	as in "day"	Dal
f	often sounded like "p"	Fa
g	always hard as in "gain"	Ga
h		Ha
j	as in joy"	Jim
k		Kaf
kh	Like "ch" in "loch"	Kha
gh	"Kh" intensified	Ghain
l		Lam
m		Mim
n		Nun
ng	as in "Singing"	Nga
p		Pa
r		Ra
s		Sim
sh		Shim
t	soft, tip of tongue against teeth	Ta
th	as in "thick"	Tha
w		Wau
y		Ya
ny	as 'ni' in "Spaniard"	Nya
z		Za
	In the middle of a word it marks the division of syllables as in sa'orang: at the end of a word it has the same effect as final *k*.	Hamza.

16. The following Arabic consonants marked with a dot beneath, occur occasionally and must also be borne in mind:—

Consonants.	Pronunciation.	Malay name.
ḍ	Hard	Da
ḥ	in back of throat	Ha
k̇	Hard K. When used at the end of a word it is only partially sounded being begun and then suddenly stopped.	Kof
l̇	Like Welsh Ll.	La
ṣ	Hard like ss.	Sod
ṭ	Hard against roof of mouth	Ta
ṯh	as in "this"	Tha
ẓ		Zal

17. * A list of proper names is attached, carefully spelt according to the system here recommended.

H. A. K. WHAMPOA.
W. A. PICKERING.
G. F. HOSE.
A. M. SKINNER.
D. F. A. HERVEY.

[* This list is too lengthy to be published in this Journal, but copies of it can be obtained at the Colonial Secretary's Office.]

GEOGRAPHY
OF THE MALAY PENINSULA.

By Mr. A. M. Skinner.

* PART I—CARTOGRAPHY.

Read at a Meeting of the Society held on the 8th July (*see also p.* 5)

Some of the most interesting and valuable contributions to the Journal of the Indian Archipelago, more especially during the earlier numbers were upon the *Geography* of the Peninsula. Mr. Logan himself frequently returned to the subject during the years 1846-53. Those papers contain a fund of minute topographical details, the itineraries of at least six important journeys in the interior, and, in short, much of the rough material for a Map of the districts which lie nearest to our Settlements. To a fuller consideration of these records I will presently return; but first as to the Maps of the Peninsula. Unfortunately at that period of activity no such Map was compiled. Prior to Sir A. Clark's time, as far as I can discover, but one official map was produced—if a mere outline sketch can be so called. This was first published in 1862, apparently for the use of the Political Department of the Indian Government in connection with the publication of the "Treaties and Sunnuds (1863.)" It is now better known as the map bound up with our first Colonial Blue-Book (C.—465,1872) on the Selângor bombardment. Mr. Moniot, at that time Surveyor General of the Straits, prepared it; but he made little or no use of the information obtained ten years before. I was puzzled at first to discover what guide he had followed on the subject, much of the detail in his sketch being in express contradiction not only to that collected by Logan, but also to the notorious facts of the case. I think I have now discovered the original in an old Dutch Map of Sumatra, the Peninsula and the Straits of Rio, stowed away in the Survey Office, and bearing two dates, 1820 for the Straits of Rio, and 1835 for Sumatra. There is nothing to show to what date the "Peninsula" portion of it should be referred; but it may

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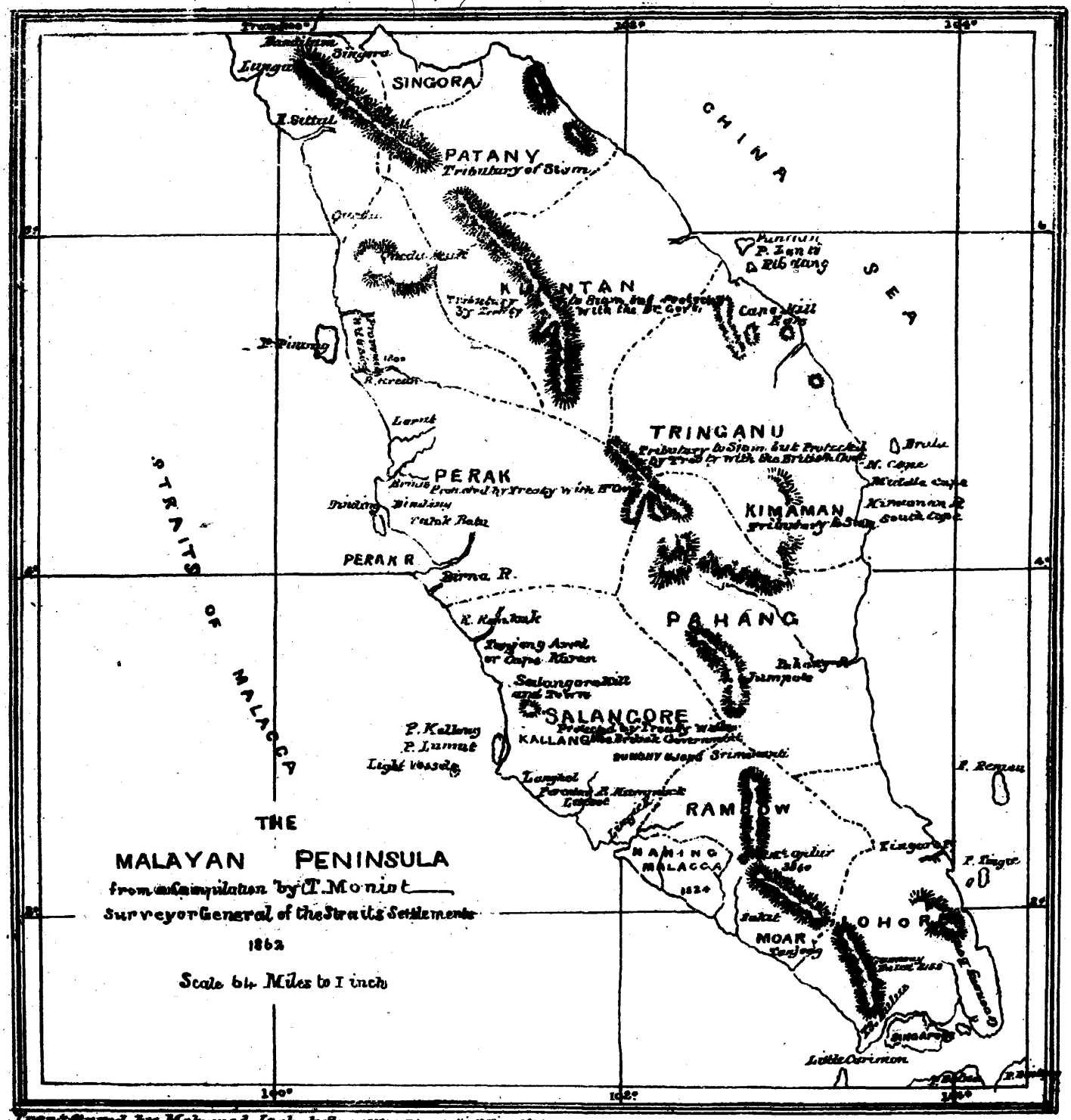
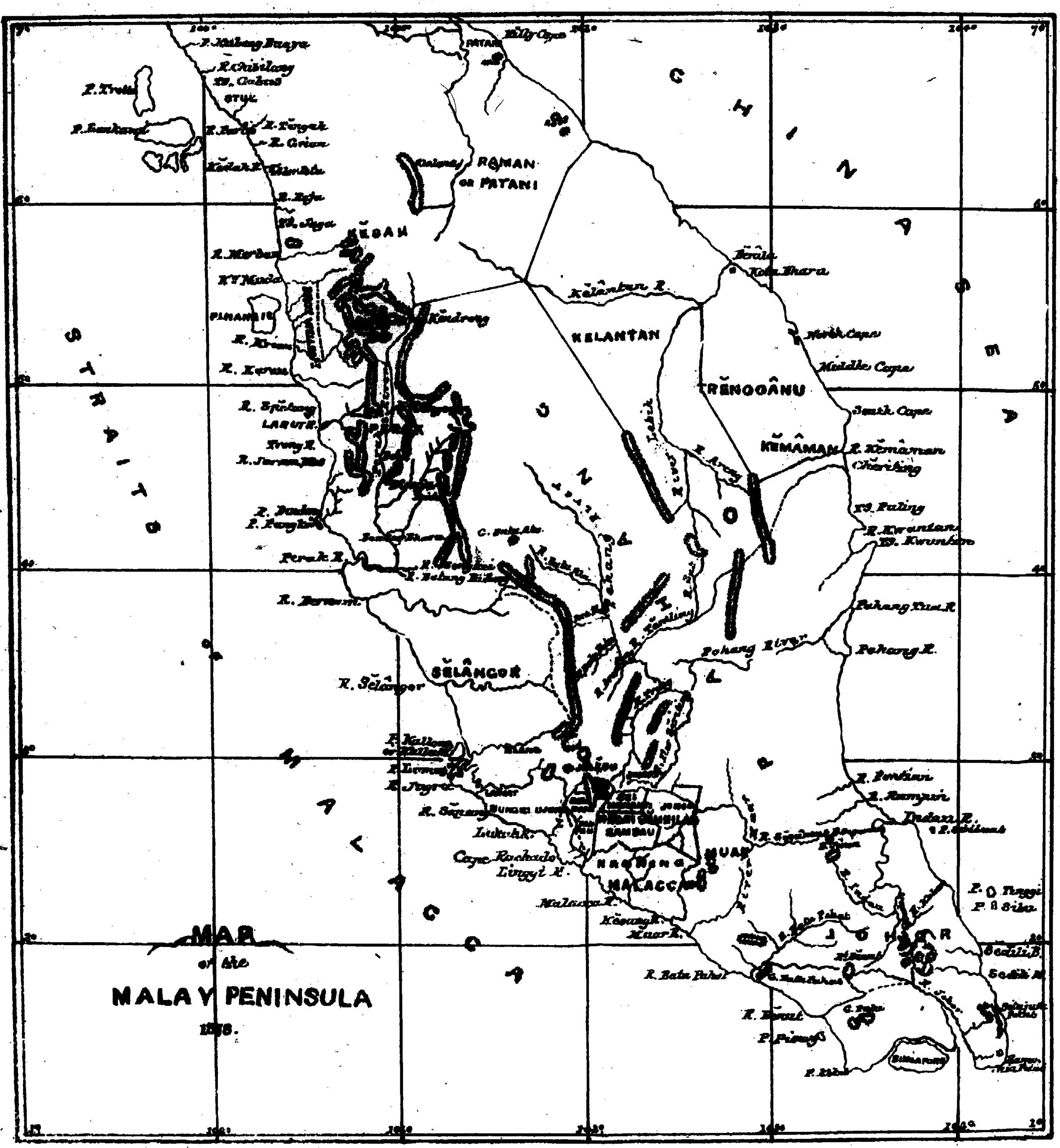
* It was my intention to have dealt with the whole subject in a single paper, but so much fresh information is being collected in various quarters that I find it advisable to postpone dealing with the Geographical details till the next number.—A. M. S.



Transferred by Mohamed Ishak Surveyor General's Office 1974.


MAP
of the
MALAY PENINSULA
CHINA SEA
STRAITS OF MALACCA
KEDAH
RAMAN
or PATANI
PATANI
KELANTAN
TRENGGANU
KEMAMAN
SELANGOR
MALACCA
JOHOR
LARUT
PINANG
SUNGEI UJONG
NEGRI SEMBILAN
RAMBAU
MUAR
P. Trotia
P. Lankawi
Kedah R.
R. Merbau
R. Krean
R. Kurau
Perak R.
R. Bernam
R. Selangor
Kalang
R. Jugra
Lukut R.
Cape Rachado
Linggi R.
Malacca R.
Muar R.
R. Batu Pahat
R. Kemaman
Chukai
R. Kwantan
Pahang River
Pahang R.
Pahang Tua R.
R. Rompin
Indau R.
R. Endau
Kelantan R.
Kota Bharu
North Cape
Middle Cape
South Cape
Kindrong
Kesang R.
P. Pisang
Sedili R.

be gathered, from the boundaries assigned to Province Wellesley, that it was compiled by the Dutch authorities between 1800 and 1828—probably during their brief re-occupation of Malacca. This map is almost exactly reproduced, though on a smaller scale and with fewer particulars, by that to which Mr. Moniot's name is attached; a fact which will sufficiently indicate how inadequate such a sketch must be at the present time. But it was not till after the Perak War (June 1876) that any better, or indeed any other map of the whole Peninsula was to be obtained; and I have therefore had a copy made of it, as well as a copy reduced to the same scale from the large map now under preparation. I had intended to contrast them in one and the same sketch; but on second thoughts it will be simpler to keep them separate; and the later, and certainly more correct map, though too small to give many names, may perhaps be useful for reference. It marks roughly the outlines of the Malay States, the mountain-chains, and the river systems, as known up to the present time (1878); and also the routes of the principal journeys in the interior of which we have any record.

Having described at some length the only official map published during the ninety years our Government had been paramount in the Straits, prior to Sir A Clarke's intervention in the Native States of the Peninsula, I may here refer more briefly to what has been done since that time. Immediately after the Pangkor Treaty (January 1874) a party explored the route from Larut to Kwala Kangsa, and thence down the R. Perak to the sea. This may be considered the key to the geography of Perak in the *North*, just as the common source of the R. Muar and the southern branch of the R. Pahang is the key to the geography of the *South* of the Peninsula, and the knowledge of the country between the Northern branch of the R. Pahang and the R. Kelantan, is the key to the geography of the *Interior* of the Peninsula. On both these latter districts much light was thrown in 1875 by the journeys of Messrs. O'Brien and Daly and M. de Mikluho-Maclay respectively. Thus within 18 months of the Pangkor Treaty, our Government had obtained more important information than had been collected during the ninety years prior to that event. I will refer to these journeys at greater length presently; I only mention them here in explanation of the two official maps published in 1876, which mark a great advance in our knowledge of the country. The first in point of date, and, strange to say, the most accurate in every respect, is one which apparently owed its existence to the Perak war. It was published by the Home Authorities in Blue-Book C. 1512 (June 1876) and was "compiled from sketch surveys made by Capt. Innes,

R. E., Mr. J. W. Birch and Mr. Daly"—scale 15 miles to 1 inch; and it was "Lithd. at the Qr. Mr. Genl's Dept. under the direction of Lt.-Col. R. Home C. B. R. E." It is much to be regretted that no separate copies of this excellent map were procured. The similar but less correct map published on the part of the local Government, and received out here towards the end of 1876, met with a rapid sale, the whole issue having long since been disposed of. Many applications have been made in vain for further copies, especially during the present year; and I feel little doubt that, apart from the crying want of a good map on a large scale for educational purposes, there will be numerous private purchasers to recoup any expenses of publication which may thus be incurred by Government, or by the Society if disposed to venture on such an undertaking. And even if copies could still be procured of either map of 1876 I should recommend a re-publication; so many of the inaccuracies having now been corrected, and no small portion of the blank spaces having been filled in with fresh particulars.

Before I turn to the explorations, extending over a period of half a century (1825-75), to which such knowledge of the Peninsula as we possess is mainly due, I will briefly refer to the charts of the old Navigators, so far as I know them. But I must here state that our Raffles Library is extremely deficient in old "Travels," and that I cannot hope to give anything like a complete view of the *growth* of our knowledge. The earliest accounts of the Peninsula, as a whole and accompanied with Maps, are those of the French traveller de la Loubère, and the English navigator Captain Dampier,* who appear to have been in these parts at the same time (1686), though without meeting or even hearing of each other. I have not succeeded in finding a copy of Loubère's Map, but Major McNair, who saw a copy in England, thus refers to it in his book "Sarong and Kris" (p.345):—"In De La Loubère's book is a quaint but very correct Map of the Malayan Peninsula, prepared by M. Cassini, the Director of the Observatory of Paris in 1688, from which is gathered the fact that Perak then continued to be looked upon as second only to Malacca on the Western coast. The River Perak is not very correct in its representation, being made more to resemble

* Our English Cosmographer Hakluyt, who, like Barros, never travelled himself but devoted his life to promoting the discovery of unknown lands, was probably the first Englishman to map out the Straits in his "very rare Map" of 1599, a copy of which is in the British Museum. In the second volume of "Navigations," published the same year, he refers to "the isles of Nicubar, Gomes Polo, and Pulo Pinaom" (Pinang?) to the maine land of Malacca, and to the kingdom of Junsalaon." (Jurk Ceylcn?)

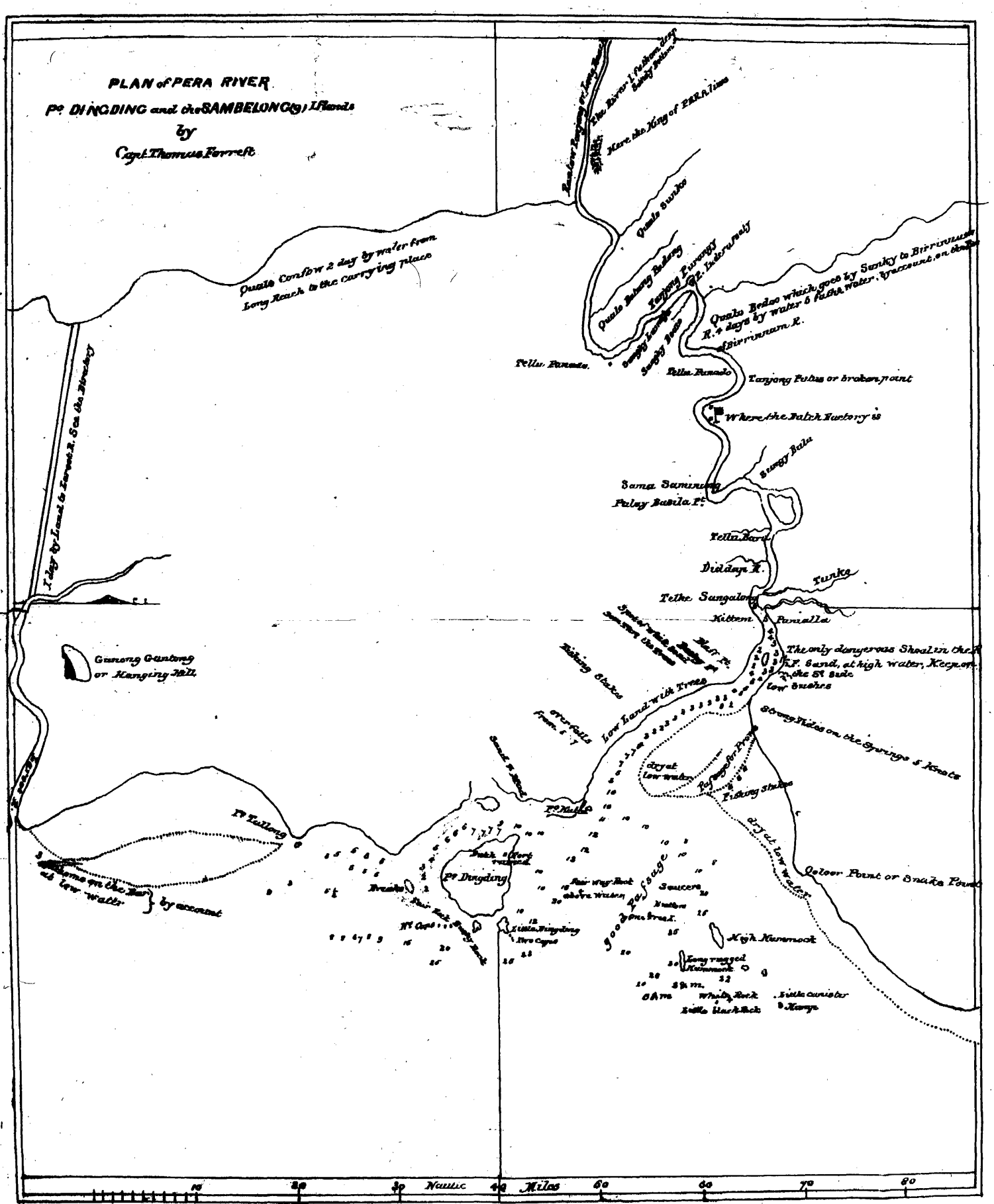
a tidal creek. This is doubtless due to the information received that the rivers to the north joined the Perak, which, in the case of the Juru Mas and the Bruas, is very nearly correct." In Dampier's Voyages (Ed. London, 1729) I find three sketches of the Peninsula. Two of these (vols. I and III) are introduced in general maps. But the sketch in vol. II is on a larger scale and is confined to the Straits. It is curious that while both the former represent the Peninsula as widening towards Malacca and Johor, the latter, though ten years earlier in date than the map in volume III, yet gives its true shape. But the names on this sketch are most perplexing, there being indeed but five that can be safely identified,—*R. of Quedah, R. of Johore* (the only Native States shewn) *Malacca, R. Formosa* und *Straights of Singapore* (round St. John's). The R. Perak is marked, without being named, as a great estuary some 5 or 6 miles wide, running for a distance of 30 miles N. E., with islands lying in it of a larger size than Penang and the Dindings. It may be conjectured that this is intended to represent the whole water-system, including R. Kinta and Batang Padang. There is also the same confusion with regard to a supposed connection between the R. Perak and the rivers to the North, that Major McNair noticed in Loubère's map; the river *Songi-bacoas* (Baroas ?) is represented as joining the Perak about 30 miles from the sea. The later Dutch map, already referred to, makes the same mistake, probably through copying these older maps. It is at the same time possible that the *Bruas* was once connected, artificially or naturally, with the R. Perak; and this supposition is to some extent supported by the unusual quantity of mud silted at the "Kwala" of that river, which is out of all proportion to the size of the present stream of the Bruas. It is more probable however that the supposed junction of the Perak and Bruas was intended to represent the old connection between Larut and Kwala Kangsa; as represented in the map I come to next, that of the R. Perak by Captain Forrest compiled from his own surveys 100 years later, in 1783, (voyage to the Mergui Archipelago, London 1792.) This tracing gives the lower part of the river very correctly. Col. Low who was sent to Perak on a political mission in 1826 acknowledges that it was by the help of this chart alone that H. M. S. "Antelope," 20 guns, got into the river (I. A. Journal vol. IV. p. 499). Above the Dutch Factory, which Capt. Forrest refers to as being "re-established" at Tanjong Putus, the plan of the river gets much confused. This portion of the journey was performed "in a country covered boat in which the writer went up "to pay his respects to the King of Perak;" and from this point Capt. Forrest evidently found it more difficult to take correct observations. He seems to have met the King at Sayong, unless he

has mistaken the situation of K. Kangsa, which he writes "Qualo Consow," and marks as an extensive tributary having at two days' distance a "Carrying Place one day by land to Larut River." I am inclined to think there has in fact been some confusion between this supposed tributary, and the bend to the North which the main stream takes near this point. If this surmise is correct the residence of "the King" was probably at Alahan, where Col. Low found the Court 43 years later. The only name given in its vicinity is Rantau Panjang, probably Pasir Panjang. But this tracing of Perak, before the Siamese invasion, is so interesting that I have had it copied, and readers can form their own judgments on these points. It will be seen that the lower part of the river is given very correctly, and that most of the names can be identified. All reference to the Bruas, as connected with Ulu Perak, has now disappeared; and it is curious that the mistake, as it undoubtedly was then, should have reappeared many years later in the Dutch Maps already referred to. Mr. Moniot might have have been warned by this to distrust so unsafe a guide. Col. Low, it may be remarked, also overlooks the importance of this portion of Forrest's sketch. The only reference he makes to the route from Kwala Kangsa to the sea is in the following passage from his account of Ulu Perak as "described to me by Natives, and by the Chinese;"

"From Quallah Kangsan there is an elephant road to "Trong. The first March is to Padang Assun. The second to "Pondok, chiefly across rice grounds. Here the population "may be rated at 1,000."

It is possible that Col. Low. here speaks of the Kwala Kangsa, which he has referred to just before as near Kendrong; and that there is some confusion between the Trong near Larut and the Trong to the north of Kedah.

Between the date of Capt. Forrest's engraving (published in 1792) and Mr. Moniot's (published in 1862), no map with which the Malay Geography is specially concerned was published. There are however two M. S. drawings to speak of, Low's and Burney's, which have also been preserved in the Survey Office, originally at Penang and of late years at Singapore. The former bears date 1824; the latter is undated, but was probably compiled at the time Captain Burney negotiated the Siamese Treaty of 1826. Col. (then Lt.) Low confined his sketch almost entirely to the northern provinces of Siam. Captain Burney's tracing includes Kedah, Singora, and Patani; and the care with which he compiled it may be gathered from the "memorandum" at the side, from which I quote the following passage:—



Drawn & Corrected by Mohamed Isahak Surveyor General's Office 1878

"The Coast and Islands between Pah Phra and Prince of "Wales' Island are set down after comparing Horsburgh's, "Forrest's, Blair's, Heather's, Inverarity's, Martin Lindsay's "and Dupres de Mennevillete's Charts with maps and descrip- "tions obtained from several Malayan and Siamese Pilots, as "well as with what was observed by ourselves during our pas- "sage to and from Pungah. Of all the European Charts, the two "oldest, Duprès de Mannevillite's and Martin Lindsay's, appear "by far the most correct. Some information also respecting "the towns on the Gulf of Siam and the country round Pungah, "was received from Padre Juan, a Native Catholic Priest "residing near that town; and it is but just to acknow- "ledge that very great assistance was derived during the pro- "gress of the Mission, from the descriptive sketch of the Malayan "Peninsula compiled by Mr. John Anderson, Malay translator "to Government."

What Capt. Burney says about the superior correctness of th e older charts, now holds good about the older maps; for nothing has been produced since his date that can vie with his own sketch in practical usefulness or careful execution. Indeed the old Navigators, the Dampiers and Forrests of the 17th and 18th centuries, appear to have been succeeded of late years by the Indian Officers, until recently stationed or employed in these parts,—Col. Low, Capts. Burney, Newbold, Begbie, &c.,—to whose eagerness for knowledge we owe so much of the little information we possess about the Malay Peninsula.

From the time when Logan's Journals ceased to appear a long night settled down upon the Straits, lasting some twenty years. It is difficult for those who were not here before 1874 to realise how little was then known of the Peninsula. Kwala Kangsa and Selâma were names unknown; S. Ujong and Sri Menanti were little better; Muar, Birnam, Perak, and Kurau could not then be named without an affectation of special, not to say pedantic knowledge. I do not believe that any person then knew of the true course of the R. Perak, or of the short route from Larut to Ulu Perak, which I have already called the key to the geography of that part; and as to which it has been seen that Captain Forrest ninety years before had possessed some information. But within two years of the Pangkor Treaty, thanks to Sir A. Clarke's initiative and the development of events, this state of things was entirely changed. Information had been collected in many districts. The journey from Larut to Perak, and down the latter river, which was performed in 1874 by Messrs. Dunlop, Swettenham and Pickering, effected for

that part of the Peninsula, what the journey by Messrs. Daly and O'Brien, up the Muar and down the Pahang, effected for the true understanding of the relations, whether physical or political, which exist between the States of Johor, Pahang, and the Negri Sembîlan, in the South of the Peninsula. The journey of M. de Maclay in 1875 must also he mentioned, as throwing light on the unknown Central regions. Of these three journeys, so important to our Cartography, some record should here be made; more especially as no account of them has ever been published in a permanent or generally accessible form. I have therefore selected the most striking feature of each account to conclude this paper. But it would be invidious not to refer also to certain earlier journeys, viz: that of Mr. Charles Gray (viâ Malacca, Naning, Jumpol and Pahang in 1825, I. A. Journal vol. VI, p. 369); of Mr. Logan (viâ Singapore, Indau, Semrong, Blumut, and Johor in 1847, I. A. Journal II, p. 616); and of the Rev. Le Favre (via Johor, Benut, and Batu Pahat in 1846; and again viâ Malacca, Rambau, Sungei-Ujong and Jelebu in 1847, I. A. Journal vols. I & II). I hope to avail myself largely of these accounts in Part II of this paper, when I treat of the geography of each State; but it is the less necessary to quote from them here, as they are already preserved in an accessible form.

I will however take this opportunity of recommending their careful perusal to all those who are good enough to assist in rendering our new map more complete. I find that a good deal of the information furnished from time to time obviously lacks the advantage of having undergone comparison with the local details collected by earlier writers, and this is a grave loss when the writers are such as l'abbé Favre, and the late Mr. Logan.

I. (Extract from the Journal of Messrs. Dunlop, Swettenham and Pickering, during the crossing *from Larut to K. Kangsa* February 12, 1874.)

"We started at 1.30 p.m. and within half an hour, got into the finest jungle we have yet seen, crossed incessantly by a beautiful clear stream. This jungle was filled with the brightest scarlet and yellow flowers; there were numbers of orchids. After continually ascending till we came to the source of the stream, we began to descend again, following the course of another stream running in the opposite direction. All this time we had been going through a narrow valley, Bukit Berapit forming one side of it, and as we came out into the open, we stood in front of one of the most extraordinary rocks I have ever seen, called Gunong Pondok.

"We had just come out of a narrow valley, filled with dense jungle and not very high hills on each side. Coming out of this, the valley now level and comparatively clear, widened out abruptly, so that it became an extensive plain. Close in front of us, rather on the left, rose as it were straight out of a plain as level as the sea, a large rock, some 800 feet high, partly covered with trees, partly bare rock in sheer precipices."

"The rock itself is formed of limestone, and it is that curious looking hill, commonly called Bukit Gantang which, when seen from the sea, forms the chief land mark for entering the Larut river. The only hill I have seen at all like it is "Elephant Mount" in Kedah, and we could see that Gunong Pondok resembles the mount, in the fact of its being full of caves. On our right was Bukit Berapit and this stretches away to the right, in a range of gradually lessening hills. Right in front of us, a beautiful valley, some twenty miles long, almost all cultivated or partly so, shut in the distance by the hills in the interior of Perak."

* * * * * *

"February 14th at 11.45 a. m. we arrived within 150 yards of our destination, only to find we were on the wrong side of a wide and deep river. It is no use attempting to argue a point like this, so we undressed and swam across. The others came up and had to go through the same performance. The river we came across was the Kangsa, which here runs into the Perak river, a stream about 200 yards broad; and we are looking forward with considerable pleasure to a three days' journey down it."

II. (Extract from Mr. Daly's Journal during the crossing *from Ulu Muar and Jumpol to Pahang*, 1875.

"I cannot get even *one* man to accompany us, although we have offered very high wages,—so we are starting by ourselves. This is a drawback to me, as I always like to get some man who can give me the native names of rivers, hills, and kampongs, wherever I go."

"They say, as one of the objections to our going to Pahang, that we cannot find our way through the lake (Tassek Berâ) which we have to cross to strike again the stream that runs into the Pahang river. I apprehend more difficulty in getting the boat over the shoals and snags of the "Ilir Serêting."

"The Malays of this place won't go with us, as they say that they are sure to be killed by the "orang utan" (wild men) of the jungle of Pahang."

"Got the boat cleared out, freshly caulked, and got galas (poles), kajangs, and rudder, and floated her. She seems too large for the work, but "beggars etc."

"*August*, 16*th*.—Unable to persuade any one even to help us in getting the boat under way, we started on our journey to Pahang. The party consists of O'Brien, the three police and myself—and provisions for 10 days, viz: rice, tea, a few tins of sardines and powder and shot—relying upon shooting a few pigeons now and then for fresh meat."

"At starting from Kwala Jumpol had great difficulty in getting the prahu over the sandy bars, and, though the distance from the Kwala up the River Jumpol to the place where the boats are taken overland at Penarri is only about 1 mile, we took over three hours dragging the boat. It is a very narrow steam, choked with fallen timber and sand banks overhanging with the much dreaded thorns, called "unas" by the Malays, that resemble tigers' claws and tear everything they lay hold of. Nearly all the time we were in the water dragging the boat along."

"On arriving at Penarri we took everything out of the boat and carried the things across to the River Ilir Serêting, and in the evening we managed to get fourteen men at ten cents a head to pull the boat across the dividing land from River Jumpol to River Ilir Serêting. I measured the distance from one river to the other,—it is 24 chains or a little more than a quarter of a mile; There is a rise of 25 feet from the river bed up the first bank, and we were a long time pulling the heavy boat up to the level land. Long bamboos were lashed to the fore thwart of the boat and all hands hauled at the bamboos—the knots on the bamboo giving good holding power. It was a fine moonlight night and the excitable Malays worked with a will, making a great noise.

"When we had got the boat across, after two hours' work, and safely deposited in the other river, I sent up a couple of rockets to their great delight and paid them. Gave quinine to a great many who had remittent fever and ague.

"It is a great relief to have got so far, and away from the Kwala Jumpol people who are foolish and suspicious from ignorance, and who were threatening mischief.

III. (*From Ulu Pahang to Ulu Kelantan.* A short Itinerary, compiled from the note book kept by M. de Maclay, 1875.)

I took about 69 to 70 hours to arrive at the river *Tamileng* up stream from Kwala Sungei Pahang. The journey was made in a tolerably large flat-bottomed boat, which four Malays pushed forward with long poles, two and two by turns. This kind of transport, which I have met with here, in Johor, Kelantan and almost all over the Malay Peninsula, is used partly on account of the slight depth, but chiefly because of the notable force of the current. In this respect it has a great advantage over the oar, for each new push with the pole, holding as it does to the ground, hinders, or at least reduces to a minimum, the backward flow of the current. If, under these circumstances, one reckons the rate of advance at 1 to 1½ miles per hour (which reckoning in any case is not at all too high) then the distance of Kwala Sungei Tamileng from the estuary of the Sungei Pahang (all bendings of the stream included) is about 70 to 80 English miles. Not far from the Kwala Tamileng I found the river Pahang, though somewhat narrower than in its lower stream, was about 40 fathoms wide, or about as broad as in its middle course. At the mouth of the Tamileng on the right bank of that river, lies an important village called *Kampong Roh*. Here I found it necessary to transfer my rather large covered boat (in which all my baggage, two servants and five Malays had found room) into two small open canoes.

The bed of the river Tamileng is, it must be allowed, in many places rather narrow, and forms numerous rapids (Jeram); whilst in others, owing to the silting of the sand, the water is very shallow. Following the course of the river Tamileng, we passed the sixth rapid, and I reckoned that at this spot we were 250 feet above the level of the sea.

Near the sixth rapid, at the kampong of Pengulu Gendong, I noticed at some distance a remarkable mountain, which was pointed out to me as Gunong *Tahan*. I believe that from here the mountain could be reached in 2 or 3 days. The bank of the river Tamileng appeared to be tolerably well—peopled, mostly by Malays, but I also remarked several Chinamen among them.

* * * *

The unexpected visit of an "*orang puteh*," never seen here before, filled the people with such misgivings that they stood quite dumb, and to all questions that were put only answered "*tra tau*" "*baru datang*" or "*bulum tau*." It was often difficult not to take people, who became thus suddenly dumb, for regular "mikro kephalen." After I had followed the Tamileng up its course for 22 hours, I came to the

mouth of a still smaller stream, the River *Saat* or *Sat*. From here Kwala Sat there are two ways further up the river Tamileng; eastward, a way to Tringgano (arrived at after a journey of 3 or 4 days.) The stream Sat, flowing in a northerly direction, marks the way to Kelantan. From Ulu Sat it took me 6 hours more to reach the small Kampong *Chiangut*, consisting of two huts. Further, the water of the Sat proved too shallow even for the smallest canoe, such a one as is only fit to carry two men and some baggage. From Chiangut there is a footpath of only 8 or 9 hours walking to Kwala *Limau*, which belongs to the water-system of the river Kelantan. From Chiangut following the course of the streamlet *Preten* (a tributary of the Sat) and always keeping in a northerly direction, one reaches further up to *Batu Atap*.

This hill forms the political frontier of the territories Pahang and Kelantan, and at the same time the watershed of the two river systems (R. Pahang and R. Kelantan). A second hill must be crossed, of much the same height, about 400 feet above Chiangut. From here, still going northward, I reached the small river Limau at the point where it becomes navigable, and where the travelling further up the stream is usually done in a "raket" or "dug-out," made of bamboo. Kwala Sungei Limau lies about 400 feet lower than Batu-Atap. From Kwala Limau it takes 5 hours to follow down the small river Trepal, to its mouth in the river *Badokan*, which like the first two is still very narrow and full of rapids. After eight hours more in the rivers *Badokn, Ko, Reton* one reaches the embouchure of this latter into the *Lebe*, from which point a convenient water-way is again reached.

Not far from *Kwala Reton* the *R. Areng* also empties itself into *R. Lebe*, on the banks of which I met a considerable number of Orang Sakai.

Upstream on the R. Lebe one comes to Kwala *Siko*. The Siko, which at its mouth is wider than the Lebe, comes from W. S. W. and forms the water-way to Selangor, and also to Ulu Pahang; but it takes a greater round than the way I followed (Ulu Tamileng to Ulu Lebe.)

The stream thus formed by the junction of the Lebe and Siko is called the *Sungei Kelantan*. In nine hours one comes to the considerable settlement of *Kota Bharu*, the residence of the Raja of Kelantan; and an hour and a half further down, to Kwala Sungei Kelantan.

CHINESE SECRET SOCIETIES AND THEIR ORIGIN.

BY MR. W. A. PICKERING.

Read at a Meeting of the Society, held on the 6th May, 1878.

ALTHOUGH the numerous branches of the great Chinese Secret Society Thien-Ti-Hui, have, since the foundation of the Colonies, by their riots and quarrels, forced themselves on the notice of the public of the Straits Settlements, very little seems to be generally known as to their origin, history, and objects. To Europeans, an almost complete knowledge of the working and ceremonies of the Society, has been to a certain extent attainable, by the publication in 1866, of M. Gustave Schlegel's "Thian-Ti-Hui, or the "Hung League," which treats very exhaustively of the subject of this great Chinese brotherhood.

Amongst the Chinese themselves, unless a man be a member of the Society, he seldom or never knows anything at all about the always suspected, and often dreaded "Hui." In China, to be found in possession of any of the books, seals, or insignia of the Triad Society, would render a person liable to decapitation, or subject him to a persecution to which even death would be preferable. Schlegel, in his preface to the book above-mentioned, says:

"We do not suppose that the present work contains all possible information. Notwithstanding all our endeavours, we could not induce a single Chinaman in this place, whom we supposed to be a member (of the Thian-Ti-Hui) to confess this.

"But even if this had been the case, not much benefit would probably have been derived from it. The greater part of the members, consisting of the lower orders of the population, are not sufficiently versed in their own language and history, or initiated into the Secrets of the League, to be able to give any explanation as to the meaning of the symbols, &c."

"A second difficulty is found in the unwillingness of Chinese *literati* to investigate any book treating of the subject. If they are members, and are initiated into the secrets, they are afraid to tell them, for both in China and the Colonies (Dutch?) the League is forbidden by severe laws. In the other case, they

are prejudiced against it by education and example, as the League is always represented in its blackest colours; and a Chinese not belonging to the League, cannot be induced to take up a manual or book treating of its rites; the looking on it being deemed already contaminating."

In the Straits Settlements, we do not experience these difficulties in gaining information; as the Society, with its numerous branches, is recognised by the Government, and the names of tens of thousands of office-bearers and members are registered, there is no difficulty in speaking with the initiated Chinese on the subject of their League; the outside Chinese population, (which includes the more respectable portion of the community) are, and will always remain, as the Society is now constituted, in total ignorance of its working and rules.

In registering the various Lodges of the Hung-League, in Singapore, Penang, and Malacca, I have had many opportunities of gaining an acquaintance with the organisation of the Brotherhood, by conversation with the Sin-sengs or Masters of Lodges, and by perusal of the numerous manuals or catechisms which have passed through my hands, and of which I possess one or two ancient copies. It is, however, my opinion that any European who will take the trouble to thoroughly digest M. Schlegel's invaluable work on the subject, will know more of the origin, ceremonies and ostensible objects of the Thien-Ti-Hui, than nine out of ten of the Masters of Lodges in the Straits Settlements. As the book in question is now very scarce, and not accessible to the general public, I considered that to the members of the Straits Asiatic Society an account of the establishment of the Society as stated in the introductions to the manuals used by all the Lodges in these Colonies, might not be uninteresting; and if my surmise prove correct, I would in future Numbers of this journal continue a translation of the Manual itself; and endeavour to trace the Society from its establishment as a political society in 1674, to its present existence as an association of, at the best, very questionable characters, the objects of which are, combination to carry out private quarrels, and to uphold the interests of the members, either by means of the law, or in spite of the law, and lastly to raise money by subscription, or by levying fees on brothels and gambling houses, in the districts controlled by the different branches.

The Society is called "Triad" because of the Chinese name often given to it, Sam-hap or "three united,"—Heaven, Earth, and Man; when these three principles are in unison, there is

produced a complete circle, or globe, of peace and harmony. In the political stage of the Thien-Ti-Hui, which, according to the history given in the various manuals, commenced during the latter part of the 17th century, under the reign of Kang-hi or Sun Cheng the 2nd and 3rd Emperors of the present dynasty "Ching"* or "pure," the happy results expected upon the union of Heaven, Earth, and Man, seem to be merely the restoration to Imperial powers of the Chinese Ming† or "Bright" dynasty, which in the person of Tsung-Cheng was cut off by the Manchus in about 1628. In these Colonies, it is difficult to imagine what are the aims of the numerous lodges, which having departed from even a political status, though nominally branches of the original Society, are to all intents and purposes rival Societies.

However degraded the Society may have become in its present hands, there is great reason to believe that originally in the long past, it was a system of freemasonry, and that its object was to benefit mankind by spreading a spirit of brotherhood, and by teaching the duties of man to God, and to his neighbour. The motto of the Thien-Ti-Hui whether acted upon or not, is "Obey Heaven and Work Righteousness," and the association which could adopt this principle as its fundamental rule, must have been composed of individuals raised far above the ideas of mere political adventurers.

Oppression which "maketh a wise man mad," may have forced the Society to become a political association, and the rites and ceremonies already in use were utilised as means to screen the operations of the Society from the government officials, and also to unite the members, from all parts of the vast Empire. In the Tai-ping rebellion, the League played a conspicuous part, and there is no doubt that, "when Heaven shall have changed its intentions," and the present reigning family of China shall have accomplished its destiny, the Thien-Ti-Hui, will be at its post, and the members of the "Hung" family will be ready to take advantage of the general upheaval which must take place, and at least will attempt to fulfil one of their avowed objects, viz: the overturn of the "Ching."

As before remarked the professed objects of the League have, been in the Straits to a certain extent lost sight of. But at the same time it must be recollected that some years ago the leader of the "Sio To" or "Small Knife" rebellion at Amoy, was a Straits-born Chinese, and that there are doubtless now in the

* Hokkien dialect, Chheng.
† Hokkien, Beng.

Straits, several old Tai-ping rebels. The class of Chinese who flock to these Colonies, is certainly not composed of men, who, either by position or education, can be expected to cherish very deeply the higher principles inculcated by the teaching of the Society; and as there are no patriotic aims to be attained under our gentle and liberal Government, the only objects for which they can strive, are those lower interests which are only too dear to the average Celestial mind, such as intrigue, assistance in petty feuds, combination to extort money, and to interfere with the course of justice.

It must be borne in mind, that amongst the Chinese, as with the Irish in times not very remote, law has been so long associated in their minds with injustice, that it has almost become a virtue in their eyes to hamper and obstruct the execution of the laws of their country as administered by the Mandarins. The Secret Societies as at present constituted, though declining in power and influence, and occasionally useful, are, take them all in all, a nuisance to both the Chinese and the Government, and are continually interfering to prevent justice being done, if it tells against any of their members.

After the above remarks, no person will suspect me of partiality towards Chinese Secret Societies; it is nevertheless a question whether the Thien-Ti-Hui might not with some radical reformations, be made conducive to the order and tranquillity of a country inhabited by a large Chinese population. The various Lodges, instead of being in a constant state of feud and jealousy should be cordially united in one Grand Lodge, and, as while enjoying the protection and fostering care of a civilised Government, there can be no excuse for perpetuating the political element of the Society, this should be eliminated, leaving only what is really good and benevolent in the manual of instruction. If, as at present, the branches of the Thien-Ti-Hui, persistently ignore and walk in opposition to their great motto, "Obey Heaven and Work Righteousness," they can neither expect that "Heaven will protect Hung," nor that any firm and strong Government will endure their intrigues, or allow them to exist to the disgrace and inconvenience of a civilised community.

The following narrative is a compilation from several manuals of instruction, used by different branches of the Secret Society in Singapore and Malacca. As, for reasons stated at the commencement of this introduction, the members of the "Hung" League have never dared to put into print the rules and ceremonies of their association, the manuscripts have been subjected to much change and interpolation at the hands of transcribers, and

each manual is marked by colloquialisms, and a bias in favour of a peculiar Province or District according to the origin of the Lodge. Most of the books which have come under my notice seem of great age, and many are blackened with use, and much dogs-eared; none are exactly alike, but what is deficient in some, is supplied by others.

I have chosen for my groundwork a copy which, although differing considerably from that used by M. Schlegel, and less correct in point of dates, gives I think a more thoroughly Chinese account of occurrences, which as far as our present knowledge goes, are but hypothetical. While endeavouring to put the whole into readable English, I have preserved as much as possible the peculiar Chinese style of expression, which I trust will not diminish the interest of the story. For the benefit of readers not conversant with Chinese Chronology it may be necessary to state that the facts narrated in the story are supposed to have taken place during the reign of Kang-Hi, the 2nd Emperor of the present Manchu, or "Ching" Dynasty.

In 1644 Tsung-Cheng or Chuang-Lieh-Ti, the last monarch of the Chinese dynasty "Ming" (which had held the Empire since A. D. 1361) was driven from his throne by Shun-Chi the father of Kang-hi.

THE ORIGIN OF THE THIEN-TI-HUI.

In the reign of the Emperor Kang-Hi, in the year Kah-Yin (A.D. 1664) the Western Eleuth Tatars invaded the boundaries of the Flowery Land, bringing trouble and devastation into the Middle Kingdom.

To avenge these injuries, the Provincial Government sent several large armies to subdue the Barbarians, bnt all was in vain, and, after losing several battles, the defeated General Koeh-Ting-Hui presented a memorial in person to the Emperor, humbly begging his Sacred Majesty to send an army to the relief of his people.

The Emperor held a consultation with his nobles, but for some time could not arrive at any decision; when a high Minister suddenly came forward, and humbly bowing said: "By the memorial of Koeh-Ting-Hui, the situation seems tru'y alarming. I would earnestly recommend compliance with his memorial, and beg your Majesty to at once send an army to recover the territories of our Sovereign Lord, and to protect the people committed by Heaven to your charge."

The Emperor acceded to this suggestion, and demanded of the assembled nobles, which of the Ministers they could recommend to take command of the army and lead it forth? The nobles thus replied: "At the present time it will be impossible to find amongst the court officials, an able Minister who dare undertake this heavy responsibility. We would therefore recommend Your Majesty to issue an Edict, and order it to be circulated and posted in every province, country, and district of the Empire, to the effect that whoever will obey the proclamation and subdue the Eleuth Tatars, no matter whether they be officials, common people, women, children, Buddhist or Taoist priests, they shall receive 10,000 taels of gold, and be appointed Earls over 10,000 families; this will certainly have the effect of bringing forward men of the highest talent to respond to the call of our Sovereign Lord."

The Emperor was exceedingly pleased with the proposal, and at once issued an Imperial Edict, which was speedily distributed throughout the whole Empire. There was no place under Heaven which the proclamation did not reach. Now, in a range of mountains called Kiu-Lien, in the district of Toan Leng in Hok-Kien, there was a monastery, named Siau Lim Si, containing 128 priests, who on hearing of the above edict, went to the place where it was posted, and finding that it was genuine, they, after consulting together, took down the copy of the proclamation. Some person informing the Imperial Commissioner of this, he called all the priests, and they being assembled, he addressed them as follows: "Are talent and ability to be found amongst you priests, are there amongst you any who dare to comply with the Emperor's edict, and come forward to conquer these Western barbarians"? All the priests respectfully replied, "Let there be no doubt in your Excellency's mind on this subject. The old saying is: 'Talents and ability dwell amongst the priesthood.' Our brethren are in all 128 persons, and without the assistance of an Imperial soldier, we will conquer these Eleuths; even if their camp be 100 li * in extent, we will destroy it, and not leave as much as an inch of straw remaining."

The official on hearing these words was exceedingly delighted, and ordered the priests to return to their monastery, and pack up their baggage, preparatory to a start on the morrow towards Peking, where they would be permitted to behold the sacred person of the Emperor.

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* About 30 miles.

Having received this order, they went back to their monastery, and each of them having packed up his things, and buckled on his weapon, the whole body started next morning in the train of the Commissioner.

In a short time, they arrived at the capital, and were accommodated by the Commissioner, at the Hall of the Military Board, where he told them to stay till next morning, when they would have an Audience of his Sacred Majesty.

In the 5th watch, about 3 A. M. † the Emperor being seated on his throne, the Commissioner approached, and prostrating himself, said, "your servant having reverently received your Majesty's command to summon together brave heroes from every place under heaven, he, in circulating the Edict, fortunately found, in the Kiu Lien Mountains, a monastery containing 128 Buddhist priests, all of whom are perfect in the Civil and Military arts and exercises, and they boast that without using the Imperial soldiers, they will at sight exterminate the Eleuths, as easily as a person can wave his hand; your minister has brought them to the gate of the Palace, where they are now awaiting your Majesty's decision."

The Emperor ordered the priests to be brought before him, and on seeing their manly and robust appearance, he was much pleased; while they were yet in the Palace, His Majesty appointed them to the rank of generals, and presented them with a sword, on which were engraved the characters Jit, and San, ‡ the inscription being of triangular form.

His Majesty also appointed the minister Ten-Kun-Tat to act as Commissary General, and Commissioner to accompany the Army.

On the day following, having sacrificed to the standards, the army was set in motion, having received the Imperial command to march forward.

Now at this time, the barbarians were besieging the frontier town of Tung-Kuan, and when the army of relief arrived, the beleaguered generals Lau and 'Ng were on the walls; they suddenly saw a body of Imperial Soldiers approaching, which they knew must be a force sent to their assistance, so at once

† The official business of the Chinese Court and cabinet is usually conducted at a very early hour in the morning, the Emperor frequently taking his seat at 3 or 4 A. M.

‡ Sun and mountain.

throwing open the gates, they went forth to meet and admit the army into the city.

After being entertained by the generals, the abbot questioned them as to the position of the Eleuth Camp, and asked if any engagements had yet taken place. The generals replied; "The Eleuth soldiers are indeed fierce and brave, and their entrenchments are strong; daily have they attacked this city, and it is only by our exceeding watchfulness, and owing to the strength of our walls and the depth of our moat, that we have been able to defend it; and our only hope was, that our Sovereign Lord would send troops to save us. We trust that the abbot has discovered some excellent scheme, and brought brave soldiers with whom we may yet subdue these barbarians. Any movement on our part must be undertaken with the greatest wisdom and foresight, or it will be impossible to contend against the Eleuths." The abbot said: "You generals have been here some time, so of course you possess a knowledge as to the position of the enemy's camp and the means of approach thereto." General Lau-King replied "I have here, a map of the position, and if the master will look it over, he will see at a glance the whole situation in every particular." Having examined well the chart, the abbot said that he understood perfectly how he was placed; "to-morrow we will lead out our men, and find out what these barbarians are made of. I have a scheme for attacking them."

The next morning the gates were opened, and the army marched forth. On this being reported to the Eleuth general Phen Leng Thien, he buckled on his shield, and mounted his horse; but on seeing nothing but a crowd of shaven priests, he laughed, and mockingly said: "I little thought during the years the Emperor of the Middle Kingdom has claimed my obedience, that he was supported by an army of priests. If you really intend to retire from the world, why do you not keep your vows; how dare you measure yourselves against me?" The abbot in a loud voice replied; "Dog of a barbarian! the Chinese have nothing in common with you Eleuths, any more than with the lower animals; why will you rush into strife, and run blindly to your own destruction?" Phen Leng Thien, was greatly enraged at this, and shouted: "Will no one lay hands on this bald-headed priest"? One of the surrounding chiefs responding to the call, and being armed with a long sword, galloped forward with a shout; but from behind the abbot, Choa-Tek-Tiong appeared like a flash of lightning, and with a knife in each hand, closed with thehorseman. After thirty cuts and thrusts on either side, the issue was

still undecided, but Tek-Tiong hitting upon a scheme, turned his horse and fled.

The Chief not seeing that this was merely a feint, pursued hotly; Tek-Tiong drawing forth a copper bar, turned round suddenly, and struck the Eleuth on the left arm, on which he fell from his saddle with a terrible yell

Png-Toa-Ang seeing that Tek-Tiong was victorious, waved the colours, and the whole army cheered lustily; this made Phen-Leng-Thien almost burst with rage, so spurring forward his horse, he rushed at Png-Toa-Ang; their horses met, and a terrible fight ensued between the two men. The Abbot perceiving that Phen-Leng-Thien was one of Heaven's own heroes, and fearing that Toa-Ang would be overmatched, sounded the trumpets to recall the army. Now just at this time, Toa-Ang was anxious to exhibit his prowess to the utmost, but on hearing the trumpet, he obeyed the signal, and retired with the rest; on seeing the Abbot, he said, "I was just going to put into effect a stratagem, why did you recall the troops? The abbot replied;" I perceive this man is a phenomenon of bravery, and I feared lest you would not be able to withstand him, for this reason I recalled you; this man must be attacked by strategy, it is hopeless to resist him by mere force. To-morrow I will carry out my schemes, and we shall certainly be victorious."

The next day the Abbot called together all the brethren, and instructed them as follows.

"I find that there is a ravine called the Hu-Tek valley, in which we can place an ambuscade, by which means we shall gain a complete victory. O-Tek-Te must take 30 of the brethren, and lie in wait on the left side of the valley; Ma-Thiau-Heng will take 20, and place them on the right side, of the same valley. Each man must be provided with plenty of dry wood, straw, sulphur, gunpowder and other combustibles, and mines consisting of shells and fireballs must be set in the pathway; Chhoa-Tek-Tiong, and Chhoa-Seng-Tso, with Low-Keng, will with 3,000 of the troops, attack the enemy opposed to him; Ng-Su-Tsuan, Png-Hui-Ho, and O-Sun-Hiang, will also take the same men, and attack the Eleuths, while Png-Toa-Ang will, by pretending to fly, allure the enemy into the Hu-Tek valley; and when the signal guns shew that the Eleuths are entrapped, O-Tek-Te, and Ma-Thiau-Heng, with their men will spring the mines, and our whole force will at once fall to kill and exterminate the barbarians.

At the time appointed, the abbot took the brethren of his monastery with their horses, and stationing them in front of the whole army, cried with a loud voice "Phen-Leng-Thien, I, the old priest, adjure you to respond to the command of Heaven, and to follow the advice of men; if you do this, you will be allowed to return home, and avoid calamity and disgrace. If you will not listen to my words, then truly I fear you will run to destruction, and I should be grieved that such a brave hero should perish miserably in this place."

Phen-Leng-Thien being enraged, cried; "What is the advantage of so many words? Bring on your men and horses; I will this day see which of us is to gain the victory, or perish."

The words were scarcely uttered, when he saw Chhoa-Tek-Tiong and Lau-Keng riding forward, flourishing their swords, and shouting the war cry; Phen-Leng-Thien in great wrath spurred on his horse, and engaged both men. After several encounters had taken place, Png-Toa-Ang galloped up, crying, "Here I am, I will take Phen-Leng-Thien." On hearing this, Leng-Thien left Chhoa, and, Lau, and rushed on Toa-Ang, who after a few passes turned his horse, and fled towards the mouth of the Hu-tek ravine. Phen-Leng-Thien being deceived by this stratagem, gave chase, and waved his whip for his men to follow.

When the abbot perceived that the Eleuths had entered the trap, he ordered the signal guns to be fired, and immediately, the two priests, O-Tek-Te, and Ma-Thiau-Heng, with their men, discharged incessantly their fire-arrows and sprung their mines; Heaven and earth were obscured by the blaze and smoke, and at one blow, more than 30,000 soldiers and 1,000 officers of the Eleuth army were annihilated.

Of the whole army, the General Phen-Leng-Thien alone escaped with his horse, and galloping into the mountain, he soon found the road so rugged and difficult, that he was obliged to dismount, abandon his horse, and walk like a common soldier, being only too happy to save his life, and comfort himself by thinking his time had not yet come.

The Eleuth little knew that by the Abbot's commands, the Generals Chhoa, Ma, Ng, and O were lying in ambush in the road; when these men saw Phen-Leng-Thien coming along, they could not help saying; "this excellent scheme of the Abbot is truly worthy of a spiritual being"! they then rushed forward, and under a discharge of their fire-arrows, the brave and heroic Phen-Leng-Thien succumbed to his fate, and perished miserably at their hands. The above event took place on the

12th day of the 7th moon of the 13th year of the Emperor Kang-hi.

Having divined by lot for a propitious day, the army celebrated the victory, and marched back to the Capital, On the day of their return, the Civil and Military Officials went outside the city to receive and welcome the conquerors, and as the brethren passed the gate of the fifth Court, a man came forward, and in a loud voice addressed the 128 priests :

" Behold the invincible heroes of the highest rank.
" Their courage and valour have never been equalled.

At the proper time, the priests were presented at Court, and passed in review before their Sovereign Lord. The whole army received rewards, but the Emperor specially called before him the brethren, and wished to invest them with titles of nobility; but on hearing of this intention, all the priests excused themselves, and the Abbot on behalf of the brethren humbly addressed His Majesty as follows

" Your servants having left their families, and retired from the world, do not desire an illustrious worldly reputation; they only pray that they may be allowed to return to their monastery, and pass their lives in the cultivation of virtue by the performance of good works; this being granted, they can never be sufficiently grateful for your Majesty's kindness and condescension."

The Emperor hearing this, could not but accede to their request, but at the same time he presented them with 10,000 taels of gold, and having entertained them at a feast, gave permission for the priests to return to their monastery. Kang-Hi appointed the Minister, Ten Kun Tat, (who as before narrated accompanied the army as Commissioner), to the Military Command of the O-Kong Province, and ordered him to proceed to his new post on the same day as the priests were leaving the Capital.

Having thanked the Emperor, the priests withdrew from the Palace, and the Civil and Military Officials returned to their respective Yamens. Ten-Kun-Tat entertained the priests, his late comrades, at a farewell feast, where they talked over the dangers lately undergone while subduing the Eleuths, and congratulated each other on the splendid results of their labours. In view of separation, they could scarcely find words to express their thoughts, so after taking a solemn oath of mutual brotherhood, they bade farewell, and each party went its way.

Who would have imagined, that during the feast, two old ras-

cally Officials who had not returned with rest to their Yamen, had introduced themselves amongst the company, and heard everything. The names of these Officers were Tiun-Kien-Chhiu, and Tan-Hiong, both were of the highest rank of Prefect, and were on very bad terms with Kun-Tat, whom they had for a long time wished to ruin. Ten-Kun-Tat, was however a most honourable and much respected man, and as yet they had not been able to bring any charge against, him. The two Officials had now seen him pledge himself to the priests by a solemn oath of brotherhood, so full of the affair, they returned to their Yamens, and concerted a most treacherous scheme.

The next morning they obtained an Audience of the Emperor, and petitioned His Majesty as follows.

"In your servant's opinion, the priests of the Siau-Lim monastery, by thus subduing the Eleuths, as easily as one could put on a suit of armour, have covered themselves with glory, and deserve to be handed down as heroes to thousands of generations. Truly these men are as fierce as wolves, and courageous as tigers; if their hearts only remain unchanged, then the Government will be safe and we may rest in peace; but on the contrary, if their minds should change, then indeed the State will be endangered."

"Besides this, Ten-Kun-Tat a man full of craft and intrigue, has cherished schemes of ambition and rebellion, but not having resources or power, and being also without confederates, he has not as yet dared to shew openly disaffection."

"Now, however, he has obtained an oath of life and death, from the priests, and your Majesty has given him command over, and the power of 10,000 soldiers; truly he is now as a tiger with the additional strength of wings, and as a fierce fire increased by oil;—he will immediately carry into practice his ambitious schemes, and the priests will respond to his call without fail. With all these auxiliaries, who will be able to oppose a man of such wolf-and-tiger-like disposition ?"

"Your ministers having pondered over this matter, are most anxious, and at the risk of their lives, must represent the state of things to your Majesty; they beg that you will carefully enquire into the case, and avoid the necessity of repenting when it shall be too late."

The Emperor being deceived by the specious words of these two men, praised their zeal and fidelity in representing the affair, and immediately demanded of the nobles if they had any good scheme

to propose, by which the band of conspirators should be utterly exterminated.

Kien-Chhiu repressing his joy at the Emperor's intentions, made his proposal as follows :—

"Your Minister has a plan; if it be followed out, though they make themselves wings, they will not be able to escape.

"Wait till the feast of the new year, and then send an Official with a proper escort of soldiers, to pretend that Your Majesty has sent an Imperial gift of wine with which the priests may keep the festival. At the same time, let the escort be provided with sulphur, saltpetre, gunpowder, and all kinds of combustibles. Depend upon it, the priests will take in this scheme — At the same time, a Minister should be sent to Kun-Tat, with the red scarf.* as a punishment for his heinous crime of conspiracy to rebel. By thus doing, at one cast of the net we shall secure the whole party."

Kang-hi joyfully expressed his approval, and ordered the scheme to be carried out according to the suggestions of the two men.

These two officials having received the sacred commands, on the morrow arranged their troops, and having put all things in order, each proceeded to his separate Province. Kien-Chhiu went straight to Hok-Kien, towards the Siau-lim monastery; on arriving at a place called the "Yellow Spring," he met on the road, a carter named Ma-ji-hok. Kien-Chhiu availing himself of the opportunity, employed the man's carriage, and quietly questioned him as to the most important road to the monastery. By gradual and careful enquiries, Kien-Chhiu got the most complete information from Ji-Hok, who replied to his questions in a most straightforward manner, and kept nothing back; and besides this, he was quite glad to act as informer and guide, in order to avenge a blow he had received some time before, from an inmate of the monastery.

Kien-Chhiu was extremely pleased to find this out, and he felt very happy at seeing everything progressing so favourably; on approaching the monastery, the priests having received intelligence of his arrival, came forward to pay due respect to the Imperial Envoy, and to reverently receive His Majesty's Sacred Commands. The Abbot brought Kien-Chhiu into the Hall, and having invited him to take his seat in the most honourable

* To strangle him.

place, they treated him every way in accordance with the rites and ceremonies, offering him tea and tobacco.

The priests addressed Kien-Chhiu as follows. "We were guilty of some disrespect in not proceeding a sufficient distance to meet Your Excellency, but we humbly beg you will pardon our fault." Kien-Chhiu replied "How dare I call you disrespectful! On the contrary your behaviour has gratified me very much. His Majesty fondly remembering your nobility of character, regrets his inability to visit you in person, but to shew clearly the benevolent intentions of his sacred mind, he has specially deputed me to present you with this gift of Imperial Wine, with which you may celebrate this feast of the new year."

On hearing this, the priests were filled with gratitude for this act of condescension on the part of His Majesty. All took their proper seats in the large Hall, and taking the Imperial gift, were pouring out the wine, and about to drink, when a certain odour caused suspicion to all;—so the Abbot taking in his hand a magic sword bequeathed to the brethren by the founder of the monastery, and dipping it in the jar of wine, immediately there arose a mephitic vapour which forced itself on all present, and made them fall to the ground with terror. After recovering themselves, the priests broke the jar of poisoned wine in pieces, and cursing the treacherous minister, cried: "What ancient grudge have you against us, or what present injury have we done, that you should deceive His Majesty, and turn him against us to our destruction? Truly it is without cause that you have done this thing, and there is nothing for us but to defend ourselves with the force we have at our disposal; why await further injury?" After again cursing him, they seized Kien-Chhiu, and struck off his head, but at the same moment, they saw the mountain above, and the monastery within and without, illuminated by fire, which blazed up to heaven; everywhere, they were surrounded by the flames, and there appeared no way of escape. The conflagration continued for two hours, and it is hard to say how many perished in the flames, but only eighteen priests were seen, and they carrying the seal and magic sword of the founder, ran into the inner-hall, where they cast themselves before the Image of Buddha, and piteously, with tears, implored his protection to save them. Suddenly, the Celestial Spirit, Tai-lo, exercising his Buddhistic powers, ordered his assistants Chu-khai and Chu-kang to open out black and yellow roads, by which the eighteen brethren were enabled to make their escape from the burning monastery.

At the break of day, these priests saw afar off, Ji-hok guiding

a troop of Imperial soldiers, and pointing to the East and West; it immediately struck them that it was this man who had led the soldiers to the attack on the monastery, in revenge for the blow he had received some time before. The brethren determined that whatever should befall, they would at once take the opportunity of revenging themselves on Ji-hok, and this being done, they would consider what further steps to take.

Having made this decision, the priests rushed into the midst of the Chheng* soldiers, dragged out Ji-hok, and cut him in pieces; but the soldiers cried "kill these wicked priests," and as they had no weapons, and most of the priests had been wounded or burnt, they could do nothing against a body of armed men, so had no resource but to escape if possible by flight. They fled, till they arrived at a place of safety called the Long-Sandy Beach, outside the district of the Yellow Spring, and here they nearly perished of hunger and cold. As they were all on the river bank, two men, Chia Pang Heng and Go-teng Kui, fortunately came up, and rescued the brethren in their boat, where we will leave them for the present, and relate how Tan-Hiong having received the red scarf, proceeded on his Mission.

Tan-Hiong having received the Imperial Command, left the Capital, and went direct to the Military District of O-Kong, where Kun-Tat came forward to meet him; and Tan-Hiong seizing the opportunity, while in the road, read the Emperor's warrant, and, upbraided Kun-tat for conspiring to raise rebellion; he told him that excuses could be of no avail, and throwing around his neck the red scarf, Kun-tat was strangled, and his body dragged to a place called E-Kang-Boe. After this, Tan-hiong recalled his troops, and they returned with him to the Capital, where he reported the success of his mission.

The murder of Kun-tat caused great consternation to his followers, and deep was the grief of his relations when they saw their head taken from them by a violent death, for no cause whatever; they returned home, and carried the sad news to Kun-tat's father, wife, and children.

The whole family were at first stunned with grief, heaven and earth seemed to have deserted them; but after the first grief was over, the wife née Koeh-Siu-Eng, her son To-Tek, and her Sister-in-law Giok-Lien, with her son To-Hang, went with all their household, and recovering Kun-Tat's corpse from E-Kang-Boe, buried it peacefully in the family grave

* The present dynasty is called Chheng or pure.

at San-Kong. After this, they performed the funeral ceremonies, and went into the deepest mourning.

We will now return to the five priests, Chhoa, Png, Ma, O, and Li; after shewing their gratitude to their preservers Chia, and Go, they proceeded to the Black Dragon Mountain, where they arrived at dusk, but found no place of shelter; after consultation, the brethren determined to go to the Ko-Khe Temple, and beg hospitality there.

The keeper of the Temple, Ng-Chhang-Seng, and his wife *née* Chiong, being persons of compassionate and just dispositions, listened to the prayer of the priests, opened the gates of the Temple, received them reverently, and gladly admitted the brethren, treating them in a most hospitable manner. During the night, the host and his wife conversed with their guests, and of course the priests related the sad tale of all the injuries they had received; the husband and wife being moved with pity, invited them to take up their abode at the temple, until they could devise means of avenging their wrongs.

Who could have imagined, that in half a month's time, the news of the priests' escape, and place of refuge, would get to the ears of the Mandarins? it however did reach them, and they sent troops to the temple, to arrest the brethren; luckily the priests received early information of the intentions of the officials, so, having expressed their gratitude to Chhiang-seng and his wife, they left the Ko-Khe temple, and escaped to the Province of O-Kong, to a temple called that of the "Spiritual King," where they entered a monastery, and dwelt there.

For some time everything went quietly, and one day the five priests went for a stroll to E-Kang-boe; coming to the bank of the river, they suddenly espied a censer floating down the stream; taking up the vase, they saw inscribed on it the characters, "The precious white censer"; it had two ears, its base was a tripod, and the whole was composed of green-stone.

The brethren handed the incense-burner to each other, and in turning it about, they were exceedingly astonished at seeing on the bottom, the following characters engraved; "Overturn the "Chheng" and restore the "Beng."* When they had thoroughly comprehended the meaning of the legend, the brethren knelt before the censer and prayed. After this, they took up two broken pieces of coloured pottery, which were lying near the spot, and

* Hoan Chheng Hok Beng.

using these as divining blocks, threw them in the air three times in succession, and each time the pieces fell to the ground uninjured; this made the brethren still more astonished, so they again bowed before the censer, and prayed as follows.

"If at a future time we are to succeed in avenging our wrongs and oppression, grant us again three favourable casts in succession."

They again threw the two pieces of pottery three times in the air, and thrice was a favourable answer given. The brethren at once prostrated themselves in gratitude, and taking stalks of grass, used them as incense sticks, and inserted them in the censer; they then all imitated the ancients Lau-pi, Kwan-ü and Tiun-hui, and took a solemn oath of mutual fidelity.

Suddenly there appeared in the censer, a magic book of fate; all saw it clearly, and were extremely delighted. But as we know, "Walls have ears," and all this was overheard by the Imperial soldiers, who immediately surrounded the brethren, crying, "seize and bind these rebellious priests." The priests taking up the censer, with united strength cut away through the troops, and escaped. Now this affair took place near the spot where Koeh-siu-eng with her sister-in-law and their children were sacrificing at Kun-tat's grave, and while employed in this duty, they heard a voice, and suddenly there appeared rising from the earth a sword, on the hilt of which were engraved the characters. "Two Dragons disputing for a pearl" and on the blade, "Overturn the Chheng and restore the Beng-Just as they had deciphered the characters, they heard a cry of "save life." The sisters-in-law took up the sword, and rushing to the spot, saw the Imperial troops; so, making a trial of the sword, they rushed at the soldiers, and slaughtered a great number of them, thus rescuing the five priests.

The sisters-in-law called the brethren to the mound of the grave, and questioned them as to the circumstances under which they had been attacked; the five priests related their sad story from beginning to end, and told how much they had suffered from treachery and deceit.

After hearing their tale, the Lady Koeh knew that these were the men who had taken the oath of brotherhood with her late husband, and that like him they were victims of the treacherous minister; she was therefore moved with compassion towards the priests, and pointing to the grave, related in turn her story, from which the priests learned that they were before the tomb

of Kun-tat, and they immediately knelt down, and prayed for assistance, protesting with tears against the injustice they were suffering.

The Lady Koeh approached the kneeling priests, and exhorting them to calm their grief, said, "This is no place to linger. I invite you to come to my humble dwelling, and abide there a day or two before returning to the monastery; this will be safer, and will not delay you much."

It is unnecessary to say that the priests gladly accepted the invitation, and remained with the lady some days, until they could with safety return to the Temple of the "Spiritual King."

It is now necessary to bring to notice five men, named Go-thien-seng, Png-tai-iu, Li-sek-te, Tho-pit-tat, and Lim-eng-Chiau. These men were originally employed as horse dealers in the provinces Che-Kiang and Shantung; one day they were accidentally passing the temple of the "Spiritual Temple," where they met the five priests, Choah, Pung, Ma, Li, and Ho. The horse-dealers entered the Temple, and held a conversation with the priests, after which they united with them as brothers, swearing to assist them to the death in avenging their wrongs.

There was also a Taoist named Tan-Kin-lam, a hermit dwelling in the cave of the "White Heron." One day as he was visiting the surrounding villages, (where he had gained a great reputation by reciting the Taoist Scriptures, and was much honoured for his good deeds) he met four men, Tho-hong, Toleng, Ho-Khai, and Tan-phiau, who communicating with him by secret signs and ambiguous sayings, made known to Kin-lam that they wished to go to the Temple to meet with the five priests, Choah, Pung, Ma, Ho, and Li. They all proceeded towards the Temple, but on arriving there, found that the priests had been harassed and pursued by the Mandarin troops, who had forced them to escape.—The brethren had fortunately managed to get to a place called the Dragon and Tiger Mountain, where they met with the five Tiger Generals, Go-thien-seng, Png-hui-sing, Tiun-keng-Chiau, Iun-bun-tso, and Lim-tai-kang, who brought the priests up to the mountain, received them kindly, and hearing their story, pitied them exceedingly.

The Tiger Generals asked the priests to stay with them two or three months, and promised at the end of that period to go with them to the Flowery Pavilion of Hung,† where they would gather

† Ang-hoa-Teng.

together their soldiers and horses, and assemble brave heroes from every quarter, in order to exterminate the treacherous officials, and wipe out the grievances and wrongs suffered by the brethren. How excellent were their intentions!

The priests agreed with joy to the plan, and when the time arrived, the mountain camp was broken up, and all proceeded in order to the Hung Pavilion, where Kin-lam and his companions joined them.

Without further delay, the whole party, being arranged with the proper ceremonies according to rank, sat down, and the priests questioned Kin-lam as follows;

"What is the honourable surname and name of our honourable Taoist brother, who has this day favoured us with his prssence, and what instruction can be impart to us"? Kin-lan answered; "My unworthy surname is Tan, and my insignificant name is Kin-lam; formerly I was a high Minister at the Court of this "Chheng" dynasty, and having gained high honours at the Han-lim College, I was promoted to a seat at the Board of War. Seeing that the reins of Government were in the hands of a clique of treacherous Ministers, and worthless favourites, I retired from office, and entered the Taoist priesthood."

"Hearing that you virtuous and patriotic gentlemen, are about to raise the banner of justice and righteousness, I wish to join in your plans, and to assist in driving out the traitorous officials, and in avenging the foul injuries you have received."

All assembled were delighted, and cried with a loud voice; "Fortunate indeed is it, that the master is come to assist us; now certainly, the traitors must be exterminated, and our oppressions avenged; we beg the master will at once divine for us a lucky day, on which we may all renew our oath, and raise soldiers for the great work."

Kin-lam acceded to the request, and before the whole company assembled in the Hall, the 25th day of the 7th moon at the hour Thiu, was the date chosen for the renewal of the oath, by mixing blood.

The 15th of the 8th moon was selected, as the day on which to sacrifice to the standards, and put in motion the army.

As a sign that these were auspicious dates, the Southern Sky suddenly opened, and the characters Thien-yen-kok-sik: ("A pattern of the celestial Palace") were displayed. Kin-lam having

accepted this new omen as favourable, the whole assembly adopted these four characters for the Flag, around which to rally their adherents. On the same day, they also recruited one hundred and seven men, and besides these, there appeared a youth who offered himself; on the priests enquiring his name, he replied: "I am no other than Chu-hung-chok, the grandson of the late Emperor Chungcheng; the son of the concubine Li-sien."

On hearing this, all bowed down before the youth, and acknowledged him as their sovereign Lord.—Kin-lam was appointed Commander in Chief and Sin-Seng, or Grand master; Ho-Khai and Tan phiau were made Brigadiers, and Tho-hong with Tho-leng received commissions as Generals of the advanced guard and pioneers;—Go, Ang, Li, To, and Lim, were appointed Generals of the left wing; and Go, Pang, Tiun, Iun, and Lim, Generals of the right.

The five priests were appointed as Generals in Chief of the rear guard.

Having arranged the Pavilion, all the assembly mixed blood and took the oath of fidelity, when suddenly a man named So-Ang-Kong was announced. Kin-lam, seeing that the new-comer was a person of great ability, appointed him after casting lots, as the Sien Hong or Vanguard, to clear the way for the army by bridging over the rivers. As Kin-lam was making this appointment, a red light shone in the eastern heavens, and Kin-lam availing himself of the omen, and being filled with righteous intentions, changed the name of So-Kong to Thien-yu-hung or "Heaven will protect the "Hung." The brotherhood assumed the surname of "Hung" or "universal," and adopted the words 'Obey Heaven and walk righteously' as their motto.

On the appointed day, having sacrificed to the standards, the army was set in motion, and the first day they marched to the "Ban-hun" Mountain in Chet-Kang. On this Mountain dwelt a man, Ban-hun-lung, whose native place was Hu-po, in the prefecture of Tai Chhang.

This man's original name was Tah-chung, but having retired from the world, and entered the priesthood, he had taken the name "Ho-buan."

At home, he had left three sons, Heng, Seng, and Phiu, and the reason he had abandoned his family was, because about the middle of the year, he had killed a man. Ban-lung was nine feet high, his face was like a large hand-basin; his head was as

large as a peck measure, and his hair and whiskers were red.—In his hands, Ban-lung carried a pair of dragon maces, and his strength was equal to that of 10,000 ordinary men,—he was irresistible. On the day in question, he was sitting at leisure on the mountain, and beholding a body of men and horses passing, he discerned amongst them, the banner of the Buddhist priests; being at a loss to make out the meaning of the procession, he descended to ask the reason of such an assemblage. On approaching the Army, Ban-lung became moved by a spirit of justice and righteousness, and was forced to cry out; "Oh Princes, if you do not undertake the fulfilment of Heaven's decrees, and redress all the injustice that has been perpetrated against you, you are no true men. If you will not reject your young brother, I would follow in your train, and with you, rectify all the injustice under which you have suffered so long; I scarcely dare hope that you will deign to accept my poor assistance." The brethren seeing Ban-lung to be a man of such powers, were rejoiced to enlist him, and at once agreed to appoint him as Generalissimo, and obey him as their "Toa-Ko," or elder brother. Ban-lung accepted the post without hesitation, and conducted the Army to the "Phoenix Mountain," where they pitched their camp. Ban-lung then went forward, and led the brethren against the "Chheng" army; the metallic drums of either army were beaten loudly, and the soldiers closed with each other; great was the slaughter on both sides, and after several engagements, the "Chheng" army was utterly defeated. Having gained the victory, our army returned joyfully to their camp, but the proverb says, "the planning of an affair is with men, but the carrying of it out is with Heaven."† The Toa-ko, Ban-lung, again took out the army to battle, and before three encounters were over, his horse stumbling on the rocky ground, he fell, and uttering a single groan, died. The whole army, on seeing that Ban-lung had perished, exerted their utmost strength, and cutting their way through the enemy, carried away his body, and arriving at their camp, buried their general in peace. Truly this was a lamentable affair!

The Grand Master, Kin-lam, alone was aware by his powers of divination, that Ban-lung must perish about the middle of the 8th moon, and that it is impossible for a human being to escape his destiny; so going in front of the army, he exhorted them saying;

"It is impossible to elude the great account, and Ban-lung was fated to perish in this manner; our brethren must not give way to grief; it is next to impossible to restore the dead, the

best thing we can do, is to transform the body of our deceased General by cremation, and bury the ashes at the foot of this mountain. Let the place of burial be an octagonal plot of ground, facing the Jim and Sin points of the compass."—This was done, and in front of the grave was erected a nine storied Pagoda, behind was a twelve peaked hill. The whole army assisted as one man, and in a day the burial was accomplished properly.

The Sien-Seng, Kin Lam, erected a tomb-stone, and on this tablet were engraved six characters; to each character was added the character "Sui," or water.

After the funeral ceremonies were concluded, the Sien-seng Kin-Lam, addressed the army, saying; "Since Ban Lung's death, I have consulted the fates, and by divination, I perceive that the destiny of the "Chheng" dynasty is not yet fulfilled; if we from day to day contend with the Imperialists, we shall only be wasting our strength. The best thing to be done, is that the whole of our brethren disperse, each man to his own dwelling, and his own province, disguising his name and surname, and enlisting as many brave heroes as possible to join the good cause. We will remain quietly until the intentions of Heaven are changed, and then as easily as putting on a suit of armour, we will restore the "Beng" dynasty, and avenge our long standing grievances. The whole army agreed to this with acclamation, and all followed Kin-lam's advice; but before parting, they in public assembly, established the Thien-Te-Hui, and divided the Society into five banners or lodges, inventing verses, characters, and pass words, by which the members could be mutually recognised, until the day shall arrive when they will be able to overturn the Chheng dynasty, and fully restore the Beng to their rightful Empire.

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* Sun Thien, heng To.

† Bo su, tsai Jin; Seng su, tsai Thien.

MALAY PROVERBS.*

BY W. E. MAXWELL.

Read at a Meeting of the Society held on the 3rd June, 1878.

Some one has happily defined a proverb to be "the wisdom of many and the wit of one." As the embodiment, often in terse epigrammatic form, of certain shrewd bits of worldly wisdom, proverbs are generally popular with the peasantry of every nation; and to judge from the homely metaphors and illustrations to be found in many proverbs, it is from the peasantry that they have usually originated. They are the stock-in-trade of rustic *savans*, who, innocent of any book-knowledge, learn their wisdom from the sea, the sky and the heavenly bodies, from the habits of animals and the qualities of trees, fruits and flowers; or who gather lessons, it may be, of patience, thrift, or courage from incidents of their daily pursuits. To enable us to fully understand the national character of an Eastern people, who have no literature worthy of the name and who are divided from us by race, language, and religion, a study of their proverbs is almost indispensable. An insight is then obtained into their modes of thought, and their motives of action, and, from the principles inculcated, it is possible to form some estimate of what vices they condemn, and what virtues they admire.

In studying the manners and customs of a people, a knowledge of their proverbs is of great assistance. The genius of the Malay language is in favour of neat, pithy sentences, and it abounds, therefore, in these crystallisations, (if the expression can be permitted,) of primitive wisdom and humour, though in this respect it is said to be inferior to the Javanese. Some open up perfect pictures of certain phases of rural life, and indeed are scarcely intelligible except to those whose knowledge of the country and mode of life of the people enables them to appreciate the local colouring. As a proof of their popularity, I may instance the frequent quotation of proverbs in the Malay newspapers which were started in the Colony of last year, and of which no less than three in the native character are now published weekly in Singapore. One can seldom take up the

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* Only a small portion of the Proverbs are published in this Number of the Journal. The remainder will appear in January.

"*Jawi Perânakan*" without finding an argument clenched, or an adversary answered by some well known "*ibârat*" (proverb), or "*perupamaan*" (similitude), a dictum of some forgotten sage from which there is no appeal.

To any one studying the language, Malay proverbs are extremely useful, not only because they contain many homely words and phrases not usually to be met with in books, but also as examples of the art of putting ideas into very few words, in which the Malays excel; but which the student, whose thoughts *will* run in a European mould, finds it so difficult to acquire. Newbold, in his "Political and Statistical account of the British Settlements in the Straits of Malacca," which though published as long ago as 1839, is still by far the most valuable authority on Malay subjects in the English language, gives (vol. II, p. 335.) translations of a few Malay proverbs, but with this exception I am not aware that any collection in our language has hitherto been printed.

I began to collect Malay proverbs in 1874 while residing in Province Wellesley, where there is a large Malay population. The Malay and French dictionary of l'Abbé Favre, which was published in 1875, fell into my hands early last year, and I then found that I had been anticipated in my researches, not only by the learned and reverend author, but also by M. Klinkert, a Dutch gentleman, who, as early as 1863, published a collection of 183 Malay proverbs with a preface and notes in the Dutch language. M. Favre, in his preface, acknowledges his obligations to M. Klinkert's work in the following passage: "C'est ainsi M. Klinkert qui, dans un ouvrage spécial, nous a servi a compléter notre collection de proverbes Malais, extraits partiellement de divers auteurs: nous lui devons aussi les énigmes." The only copy of M. Klinkert's book which I have seen, a thin pamphlet of 51 pages, does not contain the enigmas mentioned in the foregoing quotation. It is probable therefore that later and more complete editions exist. In the very interesting and modest introduction which precedes M. Klinkert's collection of Malay proverbs, the author states that they are taken partly from the works of Abdullah bin Abdul Kadir Munshi, especially from his "Hikayat Abdullah" and his "Pelayaran," and partly, but more rarely, from other "Hikayat," from native "*pantun*," and from the lips of Malays themselves. For many proverbs in the collection he acknowledges his indebtedness to the late Mr. Keasberry of Singapore, "a man who, from his youth until he became an old man, "studied the Malays and their language, and who had the ad-

"vantage of having the above-mentioned Abdullah as his "teacher and assistant."

The author goes on to say that in publishing his small collection of proverbs, got together from these sources, he has a particular aim in view, namely, to encourage other students of the Malay language to complete the collection, by adding to it many proverbs which may exist unknown to him, "lest the study of "Malay be neglected for the study of the Javanese language, to "which the preference has been given rather too exclusively of "late years (in the Dutch colonies)."

As far as Malay authors are concerned, the labours of the Abbé Favre and M. Klinkert in collecting Malay proverbs and aphorisms have, I think, been exhaustive. But there is a wide field left for the student who cares to amuse and instruct himself, and perhaps others, by picking up quaint sayings from the natives themselves. One difficulty, in making a collection of this sort, lies in deciding what to admit as a genuine proverb, and what to reject as a mere sententious remark or as a common metaphorical expression. M. Klinkert admits to a doubt as to whether "a mere phrase" may not here and there be found among the proverbs he publishes. M. Favre certainly gives several specimens in his dictionary which can hardly be considered proverbs, notably those quoted from a "livre de lectures" published in Singapore, which are in some instances mere moral maxims. I shall not pretend, however, in the collection now published, to confine myself to a more rigid rule than that adopted by previous collectors.

In this paper I propose only to supplement previous collections of Malay proverbs, and I shall not, therefore, include any of those which are to be found in Favre's dictionary, (except perhaps in cases where my version of a phrase differs from his); though I am aware that this rule deprives me of some of the best known and most characteristic specimens. Those now printed have been collected at various times and places. Listening to the humble details of a rural law-suit, or the "simple annals" of a Malay village, I have occasionally picked up some saying alleged to have descended from the "*orang tuah-tuah*" (the ancestors of the speaker) or the "*orang dahulu kala*" (the ancients) deserving of a place here; others I have noted down in conversation with Malays of all grades, from the *raja* to the *ryot*, and have verified by subsequent enquiry; for others again I am indebted to the kindness of friends, Malays and others.

As it has been necessary, in order to avoid reprinting what

has already been published by others, to examine carefully the works of Favre and Klinkert, the compilation of the following pages has involved more labour than their number would suggest. That they have been put together during the very moderate leisure permitted by official occupations will perhaps be an excuse for errors which may be discovered by later students.

1. *Enggang lalu, ranting patah.*

"The hornbill flies past, and the branch breaks."

A saying often employed when circumstantial evidence seems to encourage suspicion against a person who is really innocent. The hornbill or rhinoceros-bird has a very peculiar flight, and the sound of its wings can be distinctly heard as it flies far overhead.

There are several kinds of hornbills in the Peninsula, and one variety with a very singular note is called by the Malay *tebang mentuak*, a nickname in justification of which the following story is told. A Malay, in order to be revenged on his mother-in-law, shouldered his axe and made his way to the poor woman's house and began to cut through the posts which supported it. After a few steady chops, the whole edifice came tumbling down, and he greeted its fall with a peal of laughter. To punish him for his unnatural conduct, he was turned into a bird and the *tebang mentuak* (feller of mother-in-law) may often be heard in the jungle uttering a series of sharp sounds like the chops of an axe on timber, followed by *Ha, Ha, Ha.*

2. *Ada bras, taroh didalam padi.*

"If you have rice put it away under the un-husked grain." An injunction to secrecy. An intention to injure any one should be kept secret, otherwise the person concerned may come to know of it and frustrate it.

3. *Ada hujan ada panas*
Ada hari buleh balas.
"Now it is wet and now it is fine,
A day will come for retaliation."

A proverb for the consolation of the vanquished. As sunshine and rain alternate, so the loser of to-day may be the conqueror of to-morrow. Quickness at resenting an injury has always been held to be a prevailing characteristic of the Malay nature. Newbold (vol. II, p. 186) says that he had seen Malay letters in which, in allusion to the desire of avenging an insult,

such expressions as the following occurred; "I ardently long for his blood to clean my face blackened with charcoal," the original Malay expression (a quotation from the *Sijara Malayu*) is "*membasoh-kan arang yang ter-chonting di-muka.*"

4. *Apa guna-nia merak mengigal di hutan?*
"What is the use of the peacock strutting in the jungle?"

The idea is that the beauty of the bird is thrown away when exhibited only in a lonely spot where there is no one to admire it. In Klinkert's collection there is a proverb conveying a somewhat similar idea, "*Apa-kah guna bulan trang dalam hutan, "jikalau dalam negri alangkah baikuia?"*

Why does the moon shine in the forest? Were it not well that her light should be bestowed on inha-bited places?

5. *Ada-kah buaya itu menolak-kan bangkei?*
"Will the crocodile reject the carcase?"
Is it likely that a good offer will be refused?

6. *Ayam beruga itu kalau di bri makan di pinggan mas sakalipun ka-utan juga pergi-nia.*

"Though you may feed a jungle-fowl out of a gold plate it will make for the jungle nevertheless."

This is one of many proverbs illustrating the impossibility of eradicating natural habits. Another version is, *upama kijang di rantei dengan mas, jikalau iya lepas, lari juga iya ka hutan makan rumput,* "like a deer secured with a gold chain, which if set free runs off to the forest to eat grass." (Favre). Compare the following which is too elaborate, I fear, for a genuine proverb. It is more like a successful metaphorical effort by some Malay scribe;

7. *Adapun buah pria itu kalau ditanam diatas batas sagu dan baja dengan medú, lagi di siram dengan manisan, serta di-letak-kan diatas tebu, sakali-pun apabila di masak pahit juga.*

"You may plant the bitter cucumber on a bed of sago, and manure it with honey, and water it with treacle, and train it over sugar canes, but when it is cooked it will still be bitter."

8. *Anak anjing itu bulih-kah jadi anak musang jebat?*
"Can the whelp of a dog become a civet cat?"

The translation, but not the original, is given in Newbold

(vol. II. p. 336.) He explains it to mean that no good is to be expected from persons naturally depraved.

9. *Itek ta'sudu ayam ta'patok.*

"The duck won't have it and the hen won't peck at it." A phrase for something that is utterly worthless, not worth "a brass farthing" or "a tinker's curse"!

10. *Ikut hati mati, ikut rasa binasa.*

"'Tis death to follow one's own will, 'tis destruction to give way to desire." A maxim shewing the folly and immorality of taking one's wishes and feelings as the sole guide of one's actions, irrespective of law and social obligations. This is a good specimen of the jingling effect caused by the juxta-position of words which rhyme, (an effect which is perhaps more common in Hindustani than in Malay) often met with in Eastern proverbs.

Compare the following Hindustani proverbs.

"*Jiski deg uski teg.*"

"Who has the pot has the sword," (a saying which shews a proper appreciation of the value of an efficient Commissariat), and.

"*Jiske hath dòi, uske hath sab koi.*"

"He who has the spoon has all under his hand."

11. *Adapun ikan yang diam didalam tujoh lautan sakalipun ter-masok didalam pukat juga.*

"Even the fish which inhabit the seventh depth of the sea come into the net sooner or later." Illustration of the inutility of attempting to evade fate.

"*Tujoh lautan,*" which I have translated "the seventh depth of the sea," probably refers to the popular Mohamedan idea that "the earth and sea were formed each of seven tiers"—see Newbold, (Vol. II, 360.)

12. *Ada ayer adalah ikan.*

"Wherever there is water there are fish." A second line is sometimes aded to complete the rhyme, but it does not add much to the sense; *Ada rezeki hutih makan,* "if there is nourishment one can eat." The idea intended to be conveyed is one of faith in the bounty of God, who will provide for his creatures wherever they may find themselves.

13. *Ada padang ada bilalang.*

"Wherever there is a field, there are grass-hoppers." Wherever there is a settlement there is of course population.

14. *Anjing dibri makan nasi, bila akank iniang ?*

"Will a dog ever be satisfied however much rice you may give him ?" Kindness is thrown away upon coarse, unmannerly people, who are never satisfied but are always expecting fresh favours.

15. *Ayer tawar sa'chawan di tuang-kan kadalam laut itu bulih-kah menjadi tawar ayer laut itu ?*

"If a cup of fresh water be poured into the sea, will the salt-water become fresh ?" A serious offence or a great sin cannot be condoned or wiped out by any trifling means.

16. *Ayam itam terbang malam,*
Hinggap di poko pandan ;
Berkersah ada rupa-nia tidak.

"A black fowl which flies at night and settles in the *pandan* bush ; there is a rustling but nothing is to be seen."

Applied metaphorically to any mysterious case in a Malay court of justice, the details of which are wrapped in obscurity. When it is impossible to get to the bottom of such a case a Malay will remark sententiously that it is "a black fowl whose flight is by night." On the other hand a case in which the facts are perfectly clear, and the guilt or innocence of the accused is proved to demonstration, is "a white fowl which flies by day," or, to give the phrase at full length,

17. *Ayam puteh terbang siyang,*
Hinggap di halaman ;
Malah kapada mata orang yang banyak.

"A white fowl which flies in broad day-light and alights in the court-yard, full in the sight of all the people."

18. *Apa lagi sawa iya berkahandak ayam lah.*

"Of course the boa-constrictor wants the fowl." Applies to a certain class of persons who are contented enough as long as they get everything they require.

19. *Bukan tanah menjadi padi.*

"Earth does not become grain." Another proverb illustrative of the hopelessness of attempting to elevate the worthless.

"You cannot make a silk purse out of a sow's ear."

20. *Bongkokbharu betul, buta bharu chelik.*

"The hunchback has become straight, and the blind has recovered his sight." A very common proverb, used ironically of a man who has risen from obscurity to a good position, and in his prosperity turns his back on his old friends.

21. *Begimana bunyi gendang, begitulah tari-nya.*

"As is the cadence of the tabor, so must the measure of the dance be." The idea intended to be conveyed is, I believe, that a man has to regulate his conduct according to the orders he gets from his superiors. As the step has to be adapted to the music, so the influence of those in power necessarily affects the conduct of their subordinates. Among the Malays, as among other Eastern nations, a small drum beaten by the hands is a prominent feature in all musical entertainments. Two kinds in common use are called *gendang* and *rabâna*. Sometimes the time (in dancing) is marked by clapping the hands (*tepuk*) or striking two pieces of bamboo togther (*kerchap*).

A common version of this proverb is "*Begimana tepuk bugitu tari.*"

22. *Bunga dipetek, perdu ditendang.*

"The flower is plucked, the stalk trampled under foot." To take the sweet and leave the sour. Said of a man who ill-treats his mother-in-law.

23. *Bûmi mâna yang tiada kena hujan.*

"Were is the spot on the earth that does not get moistened by rain?"

There is no mortal who does not commit sin at some time or other. A common repartee of Malay wives scolded for some short-coming; it amounts to "I'm no worse than anybody else," "every one must do wrong sometimes."

24. *Burong terbang dipipis lada.*

"To grind pepper for a bird on the wing." One of the first processes of Malay cookery is to grind up the spices, etc. with which the dish is to be seasoned. The proverb ridicules making preparations for the disposal of something not yet in one's power. It is strongly suggestive of the old injunction "first catch your hare."

25. *Bergantong tiada bertali.*

"To hang without a rope." To be without visible means of support; *e. g.* a Malay woman, deserted but not divorced by her husband, who cannot remarry and has no one to support her.

26. *Berklahi didalam mimpi.*

"To fight in a dream." To take trouble for nothiug.

27. *Bunga pun gugor, puteh pun gugor, tuah pun gugor, masak pun gugor.*

"The flowers fall and so muet all things fair, the old drop off and the fully ripe." Death is the common lot of everything.

28. *Buat baik ber-pada-pada, buat jahat jangan sakali.*

"Do good in moderation, do not do evil at all." Excessive goodness is apt to exasperate the rest of mankind. It is enough to be tolerably good, and to avoid doing anything actually wicked. Thus the Malay moralist.

29. *Bertitah lalu sembah ber laku.*

"The royal command is waived and the petition is allowed to prevail."

A common expression at the Court of a Malay raja, when the sovereign, allowing himself to be influenced by representations humbly made to him, recalls his words, and graciously suffers the suggestions of his chiefs, or the prayers of a suppliant, to prevail.

30. *Ber-tangga naik ber-jenjing turun.*

"To ascend by climbing a ladder and to come down with the hands full." The trouble and difficulty of climbing up to the notice of people in high places are repaid by the substantial favours to be got from them.

31. *Bapa-nya burik anak-nya tentu-lah ber-rintek.*

"If the father is spotted the son will certainly be speckled," "like father like son."

32. *Ber-kilat ikan didalam ayer aku sudah tahu jantan betina-nya.*

"As the lightning flashes on the fish in the water, I can tell the males from the females." Means "what is the use of attemp-"ting concealment? I can read your secret with the greatest ease."

33. *Berhakim kepada brok.*

"To make the monkey judge," or, to go to the monkey for justice." A fable is told by the Malays of two men one of whom planted bananas on the land of the other. When the fruit was ripe each claimed it, but not being able to come to any settlement they referred the matter to the arbitration of a monkey (of the large

kind called *brok*.) The judge decided that the fruit must be divided, but no sooner was this done than one of the suitors complained that the other's share was too large. To satisfy him the monkey reduced the share of the other by the requisite amount which he ate himself. Then the second suitor cried out that the share of the first was now too large. It had to be reduced to satisfy him, the subtracted portion going to the monkey as before. Thus they went on wrangling until the whole of the fruit was gone and there was nothing left to wrangle about. Malay judges, if they are not calumniated, have been known to protract proceedings until both sides have exhausted their means in bribes. In such cases the unfortunate suitors are said to *berhakim kapada brok*.

34. *Tanam tebu di bibir mulut.*

"To plant sugar cane on the lips." To cultivate a plausible manner concealing under it a false heart.

35. *Tiâda akan pisang berbuah dua kali.*

"The plantain does not bear fruit twice." A hint to importunate people, who, not satisfied with what has been given to them, ask for more.

36. *Tiádakah gajah yang begitu besar diam didalam hutan rimba itu dapat ka-tangan manusia?*

"Does not the elephant, whose size is so great and which inhabits the recesses of the forest, fall into the hands of mankind?" A sententious reflection on the superiority of mind to matter, intellect to brute force.

37. *Tanam lalang ta'kan tumboh padi.*

"If you plant *lalang* grass you will not get a crop of rice." A man must expect to reap as he sows.

38. *Tangan menetak bahu memikul.*

"The hand is chopping (wood) while the shoulder is bearing a load." Said of a man who makes money in several ways or who has various employments.

39. *Tu-kan harîmau makan anak-nya.*

"The tiger will not eat its own cubs."

The Raja will not order the death of one of his own children.

I do not know how to reconcile this proverb with a statement in Major McNair's book, "Sarong and Kris," (p. 124) that "the male tiger devours his own offspring whenever he

has an opportunity," except by presuming that the Malay author of the proverb alludes to the female tiger!

40. *Tidak hujan lagi bichak ini'kan pula hujan.*

"Muddy enough when there is no rain, but now it is raining." Said of a thing difficult to perform at any time without the addition of an aggravating circumstance.

41. *Ta' tumboh ta' melata*
Ta' sunggoh orang ta' kata.

"A plant must sprout before it climbs; if it were not true people would not say it." "No smoke without fire."

42. *Tiada baban batu di galas.*

"For want of a load a stone is carried on the back." To give one's self needless trouble.

43. *Tolak tangga ber-ayun kaki.*

"Kick away the ladder and the legs are left swinging." To be in an unpleasant position in consequence of a blunder of one's own.

Sometimes another line is added.

Pelok tuboh mengajar diri.

"Then you fold your arms and think what a fool you're been" (*lit, to hug the body and lecture one's self*).

This phrase is common in Malay *pantun*, e. g. the following allusion to the bad management of a Malay lover who abandoned a dark beauty for a fair one and got neither;

"*Itam lepas puteh ta' dapat.*
Tolak tangga ber-ayun kaki."

Klinkert has this proverb in his collection but gives it as "*Tolak-kan tangga kaki berayun.*"

44. *Ta sunggoh saluwang me-laut balik iya ka-tepi juga.*

"The *saluwang* fish does not really go out to sea, it always returns to the bank."

A hit at stay-at-home people who never leave their own villages.

The *saluwang* is a small fresh-water fish, very common in the Perak river.

45. *Tu' ampang peluru di lalang.*

A bullet is not stopped by the *lalang* grass. The weak can oppose but the feeblest barriers to the attacks of the powerful.

46. *Tiada ter-kajang batu di pulau.*

"The rocks on an island are not to be covered over with *kajang* awnings." There must be a limit to benevolence; one man cannot feed a province. *Kajang*, a kind of mat or screen made of palm-leaves sewn together, often used as an awning or tarpaulin.

47. *Tu'kan sŕék luka makan ditajak, esok ka bindang juga kita.*

A cut with a *tajak* is not so serious but that we are able to go to the fields again next day. The *tajak* is an instrument with which the first process in *padi* cultivation, namely clearing the ground of the long grass and reeds which have grown up since the last crop was taken off, is performed. It consists of a heavy iron blade attached, at right angles nearly, to a wooden handle. Weight is necessary, as the grass is thick and strong and its roots are under water. A certain amount of dexterity is required, or the operator may cut his own feet. The proverb, which is common among Malay peasants in Perak, means something of this kind: "What is the use of being sulky because "our Chief or Punghulu has punished or injured us? We "have to till his fields for him all the same whether we like it "or not."

Ter-klébat-klébat seperti lintah lapar.

"Waving about like a hungry leech." A simile applied to Malay damsels who shew a want of maidenly propriety.

48. *Tumaa hilang malu halóba dapat kabinasa-an.*

"Covetousness begets loss of shame, avarice results in destruction."

Favre, quoting *Hikayat Abdullah* gives *loba*, not *halóba*, as the Malay word for *covetousness*, (Dict. vol. 2. p. 537.) I give the word as I have been accustomed to hear it pronounced, after having consulted several Malays of education.

Another Malay word, signifying "miserly, avaricious" is *chikel*. I have not found this in any dictionary, though Favre (quoting Klinkert) gives *kikel*.

49. *Tiada bulih telinga, tandok di pilas-kan.*

"As he can't twist the ear he pulls at the horn." "By hook or by crook."

To illustrate the way in which this proverb is used I may mention that I once heard it quoted, in a country police court in Province Wellesley, by an old Malay who was asked for his defence to a certain charge. He declared it to be a second attempt on the part of his adversary to injure him, a former one having failed; and he wound up his speech with *"telinga ta' dapat pulas dia handak pulas tandok"*, (if he can't wring me by the ear he is determined to have me by the horn).

50. *Ter-lepas deri-pada mulut buáya masok mulut harímau.*

"Freed from the mouth of the crocodile only to fall into the jaws of the tiger."

This proverb and the next suggest at once the familiar English one "Out of the frying pan into the fire."

51. *Takut-kan hantu pelok-kan bangkei.*

"From fear of the ghost, to clasp the corpse."

52. *Jangan sangat pilih-nya takut tuan kena buku bulu.*

"Do not pick and choose too nicely or you may chance to get a bamboo knot." The knot or joint of the bamboo, or of the sugar-cane, is a symbol among the Malays of anything that is quite worthless and can be turned to no good account. The proverb means that a man who is very hard to please may have to put up with an inferior article in the end.

53. *Járas katania rága járang.*

"The creel says that the basket is coarsely plaited." "Yet," as I have heard a Malay say, "*halnia jaras pun jarang juga*," "the creel, too, has wide interstices," a commentary which fully explains the proverb. It corresponds closely with the familiar English proverb about the pot which called the kettle black.

54. *Jangan kamu sangkakan kapal api besi itu pun masoh guri juga.*

"Do not imagine otherwise, even an iron steamer has to go into dock." A warning not to suppose that anything is so strong and solid as to be beyond the reach of injury or decay.

55. *Janganlah tuan-tuan pikir kalau tebu itu bengkok manisan itu pun bengkok juga.*

"Do not suppose, my masters, that because a sugar cane is crooked its sweet juice is equally crooked!" A good thing is none the worse for having come from a bad person; or, a repulsive exterior does not prove that there is nothing good within.

56. *Jong pechah yu sarat.*

"When the junk is wrecked the shark has his fill." It is an ill wind that blows no one any good.

57. *Chikil berhabis lapuk bertedoh.*

"The last degree of stinginess is to leave the mould (mildew) undisturbed."

58. *Diam ubi lagi kintal*

Diam besi lagi sentil.

"The yam remains still and increases in bulk; iron lies quiet and wastes away the more." Another version of the same proverb is "*Diam ubi berisi, diam besi ber-karat-karat.*"

The meaning is easily gathered from the following passage from the *Hikayat Abdullah* (p. 245): "*Maka diam-lah iya (Tuan Raffles) bahwa bukan-nia diam penggali berkarat, melainkan diam ubi adania berisi.*" "Mr. Raffles remained silent, but his silence was not that of the spade which lies rusting, but that of the yam which is adding to its contents." Favre in his dictionary (tit. *gali*) seems to have somewhat misunderstood this passage.

59. *Di chobit paha kanan kiri pun sakit juga.*

"If the right thigh is pinched pain will also be felt in the left." A man may be made to suffer by something done to a near relation. In Malay countries it is common to influence a man by threats of injury to his family; absconding criminals and slaves are sometimes induced to return and surrender themselves by the knowledge that their wives and children or other near relations have been seized and are undergoing ill treatment.

60. *Di tepuk tangan kanan tiada akan membunyi.*

"To clap hands with the right hand only will not produce any sound." The combined action of both parties to an agreement is necessary, if it is to be carried out properly. If one is willing, and the other unwilling, no result will be produced.

ON THE OCCURRENCE OF

OPHIOPHAGUS ELAPS, THE SNAKE-EATING HAMADRYAD, IN SINGAPOE.

SHORTLY after my arrival in Singapore in May last I had the good fortune to make the acquaintance of Mr. Wm. Davidson, Curator of the "A. O. Hume" Museum at Simla and a naturalist of extensive information, who was here on a visit. He was greatly interested in the prospects of our infant Museum and in the course of several conversations with him, I mentioned my intention, when time permitted, of studying the Ophiology of the island and peninsula,—offering as it does a tempting field to naturalists, inasmuch as as it appears to be as yet almost unworked. Amongst the encouraging remarks which he made was a careful injunction to keep a good look-out for any specimens of Günther's celebrated Hamadryad, the *Ophiophagus Elaps*, which had the reputation, not only of eating the formidable *Cobra di Capello*, but of being the fiercest Asiatic reptile known to exist; inasmuch as cases are on record of its having chased men for a distance of a mile or more, moderate-sized rivers even forming no impediment to its revengeful pursuit. I was therefore naturally led to make extensive enquiries both amongst the natives and those friends whom a similar interest in Natural History had led to study the occurrence and habits of our little known *Ophidia*, and these enquiries have been rewarded by a gratifying success. That I am not "telling a twice-told tale" in bringing this reptile to your notice may be shewn by a quotation from Dr. Oxley who compiled the best existing sketch of the Zoology of the island, and who says "Snakes are not nu-"merous in Singapore, the most common is a dark cobra. I "believe this, with a trigonocephalus, are the only well authen-"ticated venomous species in the Island." Meanwhile a slight sketch of all that can be learned on the spot concerning the formidable reptile under notice may be of interest.

The Raffles Library, though fairly provided with *popular* works on Natural History does not of course pretend to furnish specialists with works bearing on the particular study in which they may be engaged; and I was fortunate in finding on its shelves even three works which gave me some information on the subject I had chosen for enquiry. Two of these—Figuier's "Reptiles and Birds" and Woods' "Reptiles" contain only

passing notices of the snake in question; but Dr. Fayrer's magnificent work on the *Thanatophidia* or poisonous snakes of the Indian peninsula furnishes the fullest information respecting the appearance, habits and powers of its Indian congener. Without this latter work, indeed, positive identification would have been almost impossible, so necessary are accurate engravings to all who would endeavour to satisfactorily determine the species or family of animals hitherto undescribed, as our "Fellow Colonists" in Singapore. Let me therefore summarize the accounts given in these books of the formidable serpent I am about to describe:—

Louis Figuier's works will be familiar to many hearers. Covering a vast extent of ground they are essentially "popular" and as such of value, though it is seldom that the specialist can, in these lively volumes, find much that will serve his purposes in the way of scientific accuracy. I was however glad to find (as a beginning,) that M. Figuier's English Editor (Mr. Gillmore) had added to the original volume an interesting paragraph respecting the Hamadryad under notice. He describes it as having a less developed hood than the true cobra, and having a single small tooth placed at some distance behind the fang. The only species he says, "attains to thirteen feet in length and is proportionably formidable being much less timid and retiring in its habits than the Cobras of the genus *Naja*. It preys habitually on other snakes and seems to be more plentiful eastward of the Bay of Bengal than it is in India." Mr. Gillmore then cites instances of its capture in Burmah &c., mentioning a case in which an elephant succumbed to its poison in three hours, and he concludes his brief notice by stating that "it appears not to be "uncommon in the Andaman islands, while its range of distri-"bution extends though the Malay countries to the Philippines "and to New Guinea." This is in fact all that is said of the most deadly reptile inhabiting the Asiatic continent. The statement that it extended "through the Malay countries, however, justified me in believing that I should eventually come upon a more detailed description. Mr. Davidson informed me that museum specimens were rare from two causes; one, that few natives acquainted with its terrible powers cared to attempt its capture; the other that when a specimen was observed, such strenuous efforts were made to destroy the reptile, that its after preservation as a specimen was impossible. A headless or crushed snake presents but a sorry object, and the outward resemblance of the *Hamadryad* to innocuous species has, I doubt not, led before this to its rejection by these unacquainted with its (Museum) rarity.

The next authority I consulted was Mr. Woods' volume on Reptiles. This fascinating writer leaves few subjects wholly untouched, though he of course also sacrifices detail to suit the popular nature of his works. Taking his volume as we find it, however, I was glad to come across the following notice of our friend.

"The serpent-eating Hamadryad or *Hamadryas elaps*, is notable for the peculiarity from which it derives its name. It feeds almost wholly on reptiles, devouring the lizards that inhabit the same country, and also living largely on snakes. Dr. Cantor says of this Serpent that it cannot bear starvation nearly so well as most reptiles, requiring to be fed at least once a month. 'Two specimens in my possession were regularly fed by giving them a serpent, no matter whether venomous or not, every fortnight. As soon as this food is brought near, the serpent begins to hiss loudly, and expanding its hood, rises two or three feet, and retaining this attitude as if to take a sure aim, watching the movements of the prey, darts upon it in the same manner as the Naga Tripudians (*i. e.* the cobra) does. When the victim is killed by poison, and by degrees swallowed, the act is followed by a lethargic state, lasting for about twelve hours."

"The Hamadryad is fond of water, will drink, and likes to pass the tongue rapidly through water as if to moisten that member. It is a fierce and dangerous reptile, not only resisting when attacked, but even pursuing the foe should he retreat, a proceeding contrary to the general rule among serpents. The poison of this creature is virulent in action, a fowl dying in fourteen minutes, and a dog in less than three hours after receiving the fatal bite, although the experiments were made in the cold season, when the poison of venomous snakes is always rather inactive. The poisonous secretion reddens *litmus* paper very slightly, and, as is the case with most serpent poisons, loses its efficacy by being exposed to the air. The native Indian name of the Hamadryad is *Sunkr Choar*."

"The colour of this snake is generally of an olive hue, anburn and pale below, but there is a variety marked with cross-bands of white. It is large species, varying from four to six feet in length, while some specimens are said to reach ten feet."

As might have been expected Dr. Fayrer's work gives far more particular details, which I proceed to quote. They embody all that is known of the Indian species:—"This is probably the largest and most formidable venomous snake known. It grows

to the length of twelve or fourteen feet, and is not only very powerful, but also active and aggressive. It is hooded like the Cobra, and resembles it in its general configuration and characters.

Günther's definition of it is as follows :—"Body rather elongate; tail of proportionate length; head rather short, depressed, scarcely distinct from neck, which is dilatable. Occipitals surrounded by three pairs of large shields, the two anterior of which are temporals. Nostril between two nasals. Lareal none; one or two præ-three post-oculars. Scales smooth, much imbricaeed, in transverse rows, in fifteen series round the body, but it many more round the neck; those of the vertebral series ran rather larger than the others."

"Ventrals more than 200, anal entire; anterior sub-candals simple, posterior two rowed, sometimes all bifid. Maxillary with a large fang in front, which is perforated at the end, showing a longitudinal grove in front; a second, small, simple tooth at some distance behind the fang. The colour of this snake varies according to age and locality. The adult is some shade of olive green or brown. According to Günther it is :—

"Olive green above; the shields of the head, the scales of the neck, hinder part of the body and of the tail edged with black; trunk with numerous oblique, alternate black and white bands converging towards the head; lower parts marbled with blackish, or uniform pale greenish." This variety is found in Bengal, Assam, the Malayan Peninsula, and Southern India.

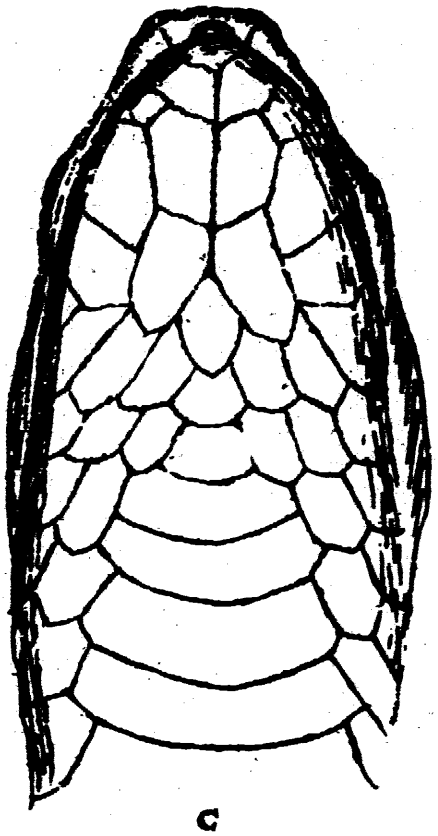
"Brownish olive, uniform anteriorly, with the scales black edged posteriorly; each scale of the tail with a very distinct white, black-edged ocelles; as in Plyas mucosus."

"This variety is not found in Bengal; Günther says it is found in the Philippine Islands, and perhaps in Burmah."

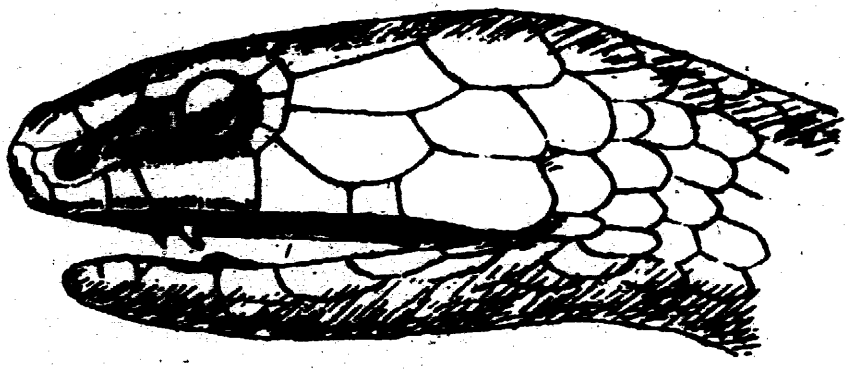
"Uniform brownish black, scales of the hinder part of the body and of the tail somewhat lighter in the centre; all the lower parts black, except the chin and throat, which are yellow." This variety is found in Borneo.

"Young specimens have a much more varied coloration; they are black, with numerous white, equidistant, narrow cross bands descending obliquely backwards; head with four white cross-bands; one occupies the extremity of the throat, the second across the posterior frontals, third across the crown of the head,

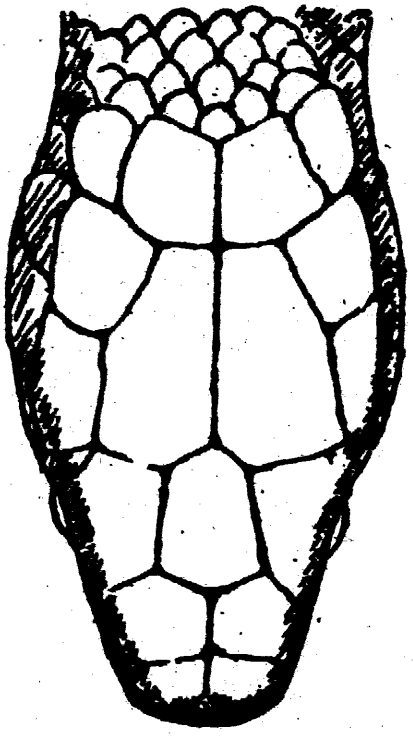
PLATE 2.



C



A



B

behind the obit; the fourth across the occiput to the angle of the mouth; the two latter bands are composed of oval spots.

"In a specimen from the Anamallay Mountains the belly is black, and the white bands extend across, being wider than on the back; in a second specimen, of which the locality is unknown, the belly is white, each ventral having a blackish margin. The young Ophiophagus might well be mistaken for a snake of another genus.

"Major Beddome says the young Ophiophagus is very like the *Dipsas Dendrophila*, an innocent snake. The shields surrounding the occipitals are large, and give a distinctive character to the snake. There is one præ-orbital, seven upper labials, the third and fourth entering into the orbit, the third the largest, the seventh and jenent very low; temporals large, 2 by 2; ventrals 215-262; sub-caudals 80-100; the number of entire anterior sub-caudals varies much."

"The Ophiophagus is probably the largest and most deadly of the thanatophidia; fortunately, though widely distributed it is not very common. According to Günther it is found in almost every part of the Indian continent; in the Andaman and Philippine Islands, in Java, Sumatra, Borneo, and according to Dúméril in New Guinea. Major Beddome of Madras says he has killed one nearly fourteen feet in length near Cuttack in Bengal, where it is common. I had a living specimen of the dusky variety from Rangoon, nearly twelve feet in length."

"The Hamadryas, says Dr. Cantor, is very fierce, and is always ready not only to attack, but to pursue, when opposed; this too is a conspicuous trait in the Tenasserim serpent."

"As its name implies, it feeds upon other snakes, though probably when its usual food is not forthcoming, it is contented with birds, mammals, fish, frogs, &c.

"It resembles the Cobra, except that it is longer in proportion to its size, and its hood is relatively smaller; it is, however more graceful in its movements, and turns more rapidly. It is occasionally seen with the snake-charmers who prize it highly as a show; but they say it is exceedingly dangerous to catch, and difficult to handle before its fangs are removed."

It will be noted in the foregoing description that the "brownish olive vanity, uniform anteriorly with the scales black-edged posteriorly" is referred only to the Phillippine Islands and Burmah.

The specimen before us, however, is undoubtedly that variety and as such is of considerable interest, though the black marks between the scales are less defined than in Dr. Fayrers admirable drawing.

Such being all the available information I was able to collect on the subject of the Hamadryad you will easily understand that I was pleased to make the acquaintance of two gentlemen of this place, who had for some years devoted themselves to collecting and preserving such objects of Natural History as the extensive grounds surrounding their house in Sirangoon Road allowed them to capture. I mentioned to them my desire to come across a veritable specimen of *O. Elaps* and in a very few days was informed that they had as they believed one of these snakes in their collection. I was invited to inspect it and at first sight we had no doubt of the correctness of the identification. A detailed comparison of their specimen with Dr. Fayrer's plate in his "Thanatophidia of India" convinced me that the sought-for reptile was before us. I subjoin the narrative of its capture *verbatim* as furnished.

"My mandore "Manis" remembers the capture of the snake very well, as he had a very narrow escape of being bitten. The attack was quite unprovoked; in fact the first sign of the snake's presence was a loud hiss, and the sight of the snake's head raised in the air on a level with his (the mandore's) breast. By jumping smartly back he evaded the spring of the hamadryad and succeeded by means of bamboos close at hand, and with the aid of the other gardeners close by, in getting the snake held down to the ground until a noose was slipped round his head, in which state he was placed alive in a large bottle.

"I saw the snake alive in the bottle and it was only just dead from suffocation when I poured in the spirit to preserve it.

The mandore did not see the snake before, as it was coiled in a recess amongst the roots of a large soontul tree about 15 yards from our house, and he was approaching the house from the other side of the tree; the snake made his spring just as the man passed by. The man had been thirty years in Singapore at least (he is a Bawian,) but had never seen this sort of snake before. He knew however at once from descriptions given him by old Malays, and by men who lived in the jungle that it was a Tudong-korê kûning. He had often heard of this snake and knew it to be very deadly in its bite. He had heard that it was also called "Ular-muri" but does not think this last the correct name, as he says it is evidently allied to the Cobra;

he called it "Ular tudong-itam-kechil." The mandore states that he remembers seeing a snake something like this about six feet long, also hooded but black in color, shot by my father about twenty years age; but thinks that was only a very large and old cobra. He says he has heard that formerly these hamadryads were not so rare as they are now, but they were always hard to get a sight of, as when men came across them they always smashed them up with their sticks, or whatever weapons they might have with them. He had also heard of deaths resulting from their bites. As I said before, I saw, in company with my mother and father, this snake alive, and my mother hearing the noise made by the natives, ran out of the house about 2 p. m. and saw the snake being noosed prior to being put in the bottle. Whilst in the bottle its ferocity remained unabated, and the sight of a finger or stick was enough to make it bite viciously at the object."

The reference to the similar snake, black in colour, may point to the existence of what is known as the dusky variety of the hamadryad in Singapore. I can only say that in such a case it will be extremely interesting to meet with a specimen, though its greater resemblance to the ordinary cobra deprives it of the claim to attention made by the variety under notice, which might be mistaken by the uninitiated for a harmless serpent—a proof of which is afforded by the fact that our best known local sportsman has himself twice seen the reptile without being aware of its deadly qualities.

N. B. DENNYS.

NOTES ON GUTTA AND CAOUTCHOUC IN THE MALAY PENINSULA.

BY MR. H. J. MURTON,

Supt. Botanical Gardens Singapore.

Having so recently as last December given the results of my investigations into the origin of Malay *Guttas* and *Rubbers* in a Report to the local Government, I may perhaps be accused of iteration in returning to the subject so soon; but as the matter is one of increasing importance, and as greater publicity will be ensured, and thereby discussion invited, through the pages of the Society's Journal, I have been induced to give the following resumé of what I have hitherto been able to learn about them.

First of all it is necessary to distinguish here between Gutta Percha and Caoutchouc—producing orders.

The trees producing Gutta Percha are all members of the order *Sapotaceæ*, a family which includes many species useful to man, the best known in the Straits being perhaps the Chiko (Sapota Acras.)

The Gutta-producing trees are confined to the genus Isonandra, which is limited to 6 species by the authors of the "Genera Plantarum." Isonandra-Gutta is the oldest known species and yields what is known in commerce as Gutta Percha in local parlance Gutta Taban.

This tree is occasionally met with in Singapore and in Johor in the Pulai hills. and I have met with it in Perak on Gunong Meru, Gunong Sayong, Gunong Panjang, Ganong Bubo, Gunong Hijau and Bujang Malacca, where large trees of 80 to 120 feet are met with, but owing to the reckless way in which the Gutta is collected, it is fast disappearing, and every succeeding year the collectors are obliged to go further from their kampongs in search of it.

The mode of collecting the milk is as follows. A tree not less than 3 feet in circumference at three feet from the ground is selected, the larger the tree the greater the quantity of Gutta obtainable, it is then cut down at 5 or 6 feet from the ground, and as soon as it is felled the top is taken off where the principal stem is about 3 or 4 inches in diameter; this the natives say causes the trunk to yield a larger quantity of milk; it is then ringed at intervals of 5 to 15 inches with *golo's*, and the milk collected in co-

coanut shells, palm leaves or any thing available, and then boiled for an hour, otherwise it becomes brittle and useless. Its average price per pikul (133 lbs) is from $45 to $50, according to quality.

The only other Gutta Percha that I have seen is *Gutta Puteh* the product of I. macrophylla; the tree differs from I. Gutta in the shape and colour of its leaves, and is readily recognized at a distance by the Perak collectors.

This Gutta is obtained in the same way as the former, but is worth only about $15 per pikul. It differs in appearance from G. taban in being white, more spongy and less plastic; but it is often found adulterated with G. jelutong, which causes it to be brittle and almost useless. The trees of each species yield about 23 catties of Gutta each. They appear to be very slow-growing trees, and one 3 ft. in circumference at 3 ft. from the ground would doubtless prove on minute examination to be 30 years old. Sides of hills, on granite formations, in well drained spots, appear best suited to their requirements; and if their cultivation is attempted the best plan to adopt is certainly to procure ripe seeds and sow them singly in pots, made of a joint and one internode of a bamboo, and when ready for planting in permanent plantations, the bamboo should be split down on two sides and planted also; thus preventing any injury to the tap-root, of which they are very impatient. Large quantities of small plants are met with in the jungle, but they require very careful lifting on account of their long tap-root; any injury to which, even if they survive, they take a long time to recover. Of the Indiar Rubbers, or Caoutchoucs, I have met with two varieties in the Straits, *viz*, Gutta Rambong and Gutta Singgarip.

In my report to the local Government, I mentioned my belief that G. Rambong was procured from *Ficus elastica* and since then Mr. Low has written to me that I was correct in the supposition, as he had seen branches and young trees of the species in question; so that nothing more need be said here about G. Rambong, but the origin of Gutta-Singgarip is still uncertain. A large plant has been found in the jungle bordering the Botanical Gardens which yields Gutta exactly alike G. Singgarip, but both Dr. Beccari and myself failed to find a perfect flower as they had all been punctured by a minute insect, which in its attempts to get at the nectar destroyed the reproductive organs. Mr. Strettell of the Forest Dept. of British Burmah has discovered a new Caoutchouc producing tree in Pegu, which yields a product equal to the best Borneo Rubber and which Mr. Kurz determined to be *Chavanessia* (*Urceola*) *esculenta*.

G. Jelutong, which is often used to adulterate Gutta Taban and G. Puteh, is obtained from a species of Alyxia.

MISCELLANEOUS NOTICES.

THE WILD TRIBES OF THE MALAY PENINSULA AND ARCHIPELAGO.

The Council of the Royal Asiatic Society of the Straits Branch have resolved to invite the assistance of persons residing or travelling in the Peninsula, in Sumatra, or in the adjacent countries, with a view to the collection of fuller and more varied information than has been hitherto obtained in regard to the wild tribes of these regions.

The interest such investigations possess for Ethnology, Philology &c., and the importance of prosecuting them without delay, are sufficiently obvious. The following passage from Mr. Logan's writings (I. A. Journal 1850 vol. IV p. 264-5) will instruct those to whom the subject is new as to the precise objects to be aimed at, and the best methods of enquiry to be followed. "For the Ethnology, of any given region the first requirement is a full and accurate description of each tribe in it, and in the adjacent and connected regions, as it exists at present and has existed in recent or historical times. This embraces the geographical limits and the numbers of the tribe, the Physical Geography of its locations, and its relations of all kinds to intermixed, surrounding, and more distant tribes. The environments of the race thus ascertained, the individual man must be described in his Physiological and Mental Characteristics and in his language. The Family in all its peculiarities of formation and preservation, the relative position of its members, its labours and its amusements, must next be studied. The agglomeration of families into communities, united socially but not politically, is also to be considered. Lastly, the Clan, Society, Tribe or Nation as a political unity, either isolated, confederate, or subordinate, must be investigated in all its institutions, customs and relations ... ...
"When we attempt to enquire into the cause or origin of any of the facts presented by our ethnic Monograph of the kind we have indicated, we find that very little light is to be obtained in the history of the particular tribe. It suggests numerous enquiries, but can answer only a few. If we confine our attention to it, the great mass of its characteristics are soon lost in a dark and seemingly impenetrable antiquity. But although each race, when thus taken by itself, vanishes

"along its separate path, it assumes an entirely new aspect "when we compare it with other races."

To assist in the collection of dialects the following Vocabulary, consisting of one hundred words and fifteen numerals, has been compiled and printed by the Society; and will it is hoped prove of use, particularly in regard to the various Semang, Sakei and Jakun dialects in the interior of the Peninsula.

In collecting Vocabularies the following points should be borne in mind, in order to facilitate the comparison of one dialect with another.

1. In all cases to ascertain the exact name and locality (or nomadic district) of the tribe, as described by itself.

2. In taking down such generic words as "tree" and "bird" to distinguish carefully the general name (if there is one) from the names of particular kinds of tree and birds. This rule has a very wide application amoug uncivilized Tribes, which commonly possess but one word for *arm, hand* and for *leg, foot* &c., &c.

3. To give all the synonymous or nearly synonymous words in use in each case, with easy distinction of their meaning as far as possible. Undeveloped dialects usually possess a very redundant Vocabulary in respect of objects

4. To observe carefully whether or not a word be of one syllable; and if of more than one syllable whether or not it be a compound word. This is particularly important where the words begin or end, as they frequently do in such dialects, with a double consonant like "Kn," or "Np."

5. To observe and represent the sound of each word as fully and exactly as possible, and for this purpose to adhere to the system of spelling recommended in the report published at page 45 of this Journal. The following is a List of words, the equivalents for which it is desired, for the purpose of comparison, to obtain in as many of the Wild-Tribe Dialects as possible.

List of Words for forming Comparative Vocabularies.

Man
Woman
Husband
Wife
Father
Mother
Child

Belly
Blood
Body
Bone
Ear
Eye
Face
Finger
Foot
Hair
Hand
Head
Mouth
Nail
Nose
Skin
Spear
Sumpitan
Waist-Cloth

Jungle
Mountain
River
Sea
Earth
Sky
Sun
Moon
Star
Thunder
Lightning
Wind
Rain
Fire
Water
Day
Night
To-day
To-morrow
Yesterday

Tongue
Tooth

Bird
Egg
Feather

Female
Male

Aligator
Ant
Deer
Dog
Elephant
Fish
Fowl
Mosquito
Pig
Rat
Rhinoceros
Snake

Tree
Alive
Dead
Cold
Hot
Large
Small

Black
White

Come
Go
Eat
Drink
Sleep

Flower
Fruit
Leaf
Root
Seed
Wood

Banana
Cocoa-nut
Rice

Honey
Oil
Salt
Wax

Gold
Iron
Silver
Tin

Arrow
Boat
Mat
Paddle

One
Two
Three
Four
Five
Six
Seven
Eight
Nine
Ten
Eleven
Twelve
Twenty
Thirty
One hundred

The Semang and Sakei Tribes of the Districts of Kedah and Perak bordering on Province Wellesley.

The following interesting particulars relating to the Semang and Sakei Tribes of the little known region lying behind Province Wellesley were recently published in the *Field* Newspaper (April the 23rd 1878.) It is not difficult to indentify the signature as that of a gentleman lately in charge of the Province Police, who spent some time in the neighbouring jungle.

"The Semang and Sakei, as they are termed by themselves, "claim by tradition to be the aborigines of the Malay Peninsula, and to have settled down in their present locality after "years of travel in an endeavour to reach the end of the land. "The inroads of the Malays have driven them from the borders "near the sea to the centre of the country, where still exist the "primeœval forests in which they can remain unmolested by "their fellow men, whom they fear more than the wild beasts "with whom they live."

"The features ot the Sakei, or "plains" men, are those of the Negro, and it is a matter for students of the dispersion of races to decide how and from whence come the dark skin, wooly hair, flat noses, and thick lips so prevalent amongst the Sakei of the Malay Peninsula.

"The true Semang, on the other hand, has a complexion of a light copper colour, brown straight hair, and a clear skin.

"The two tribes speak different languages, but follow the same mode of life, and are on amicable terms. The Semangs keep almost entirely to their mountain jungle, while the Sakei occasionally issue from their plain retreats to hold communication with the Malays.

The first occasion in which I had a view of these interesting specimens of humanity was in the year 1864 while on a tour of inspection at the head of the Selama river, a branch of the Krian, which latter was the boundary, prior to the Perak war, between that country and the British possessions near its mouth. On arriving at a Malay kampong close to Gunong Inas, a high peak of the centre mountain range I learnt that there were a number of Sakei in the neighbourhood, and of course at once expressed a wish to see them, and accordingly sent a mutual Malay friend to ask the Chief if he would come to see the *orang puteh* or white man.

"The chief, who gloried in the name of Tuboo, or sugar-cane, was about 5 ft. 3 in. high, of a dark brown complexion, with very flat features, and grizzly hair which would vie with a negro's in twist.

"His frame was spare to a degree, but hard; his muscles knotted and visible in every portion of his light figure, which still retained the the elasticity of manhood, notwithstanding his age, which must have been about fifty-five or sixty. His eyes small and piercing, moved about in a restless, suspicious manner, which nothing could prevent, and in this feature the Malays are wont to recognise a wild man.

"I was told that when a man wanted to marry he first of all spoke to the girl; if she agreed, he then went to the father and mother, taking some jungle produce as a gift. The terms of purchase were then arranged—usually a piece of iron, some roots and flowers; and when these were forthcoming a day was fixed for the ceremony, which consisted simply of a feast in the neighbourhood of an ant-hill (where the Malays suppose that spirits reside), after which the couple leave and proceed to some favourable spot for their honey moon, returning at leisure to the tribe. It is a most peculiar feature with these people that the marriage law exists at all; and further, the stringency which attaches to it is astounding. Polygamy is allowed, but is seldom practised; while the punishment for adultery is death—usually carried out by a relative, who invites his victim to a hunting excursion, and, after tiring him out, beats his brains out with a club while he is asleep, and leaves him to rot on the earth denying to his remains the rough sepulture given to those who die in an honourable way, whose remains are laid on a log of wood, in a sitting posture, and buried a foot or two under the ground. . . . . I made strict enquiries as to their belief, naturally concluding there would exist some idea of a Supreme Being; but, to my surprise these people had no idea of a God; they had no representative caves or sacred spots; nothing was looked upon as supernatural; they did not bother themselves to imagine a cause for thunder or lightning, or sun or moon, or any of the phenomena which one and all give rise in other savages to poetical ideas of dragons, combats, and destroying spirits. The Sakei were born, lived as best they could, died, rotted, and there ended. They build no houses, seldom stop more than two days in one spot, and pursue a thoroughly nomadic life, having no flocks or herds, existing from hand to month, but free and this they prize to a wonderful degree. Nothing will induce a

Sakei to become civilized, even so much as the Malay of the interior; he is never happy except while roaming in his native forest, and, although he will eat rice and smoke tobacco, which he can only get from the Malays, he rushes off after satisfying his craving for the weed (of which he is inordinately fond) and does not appear again for months.

"The second occasion of meeting these people was at the head of the Baling river, a branch of the Muda, near Patani, where I had the good fortune to come across a tribe under the protection of the Raja of Kedah, by whose orders they roamed unmolested through his country. I received a visit from the chief and a party of his people, men, women, and children numbering in all a dozen, and for a week had daily intercourse with them. The members of this tribe differed greatly from those near the Selama river, for they were of the Semang race for the most part. The chief himself, who had received the title of "datu" or chief from the raja was a man of no common intelligence; besides his own language, which is different from any I have ever read of, he spoke Malay and Siamese. Dressed in the *sarong* of the Malays, at a distance it was impossible to detect that he was not one of that race; but on close inspection be bore all the evidences of his extraction, and especially that restlessness of the eye which, as I said before, is so sure a sign of the denizon of the forest. Amongst his followers were two Brothers, named Gading (or Joory) and Buloo (Bamboo) whose appearance struck me very much. About twenty-three and twenty-five years of age respectively, these men were perfect specimens of manhood. Five feet ten or eleven in height, their limbs were symmetrical to a degree; their features, finely cut and intelligent, were positively good; their bodies, perfectly formed, rendered their movements particularly graceful, and I must admit to being envious of their fine proportions and "general air of "robust health. They were a kind of body guard of their Datu, "and he was evidently proud of them, and justly so."

Some interesting particulars, though with fewer details, have also been published in the Official Reports of Mr. Swettenham (April 1875), who encountered some tribes of the Sakei in Ulu Slim; Mr. Daly who came across them in the upper part of the Ulu Perak (June 1875); and Captain Speedy who encountered other tribes shortly afterwards in the Bidor district, nearly 100 miles off.

Antiquities of Province Wellesley.

Col. James Low, who was for many years Superintendent in charge of Province Wellesley, makes the following reference to this subject in his "Dissertation on the soil and agriculture of Penang and Province Wellesley," published in Singapore in 1836.

"While employed several years ago in exploring the ruins of "an ancient Boudhist temple in Province Wellesley,—an account "of which I have promised to the Asiatic Society of Calcutta—I "obtained a small coffee-pot which had been carefully built up "with bricks at the depth of four or five feet. The lid was firm- "ly baked, but on being handled, the vessel crumbled, nearly to "pieces—within it was found the figure of a fowl constructed of "thin silver wire, which also fell to pieces on being handled. "But the bill and feet were perfect, bring made of an alloyed "metal, chiefly gold."

The writer gives no clue as to the whereabouts of this ancient Buddhist temple, but I imagine it to have been one of those singular mounds of shells which are to be met with in the north of Province Wellesley not far from the Muda river. They are composed of sea-shells of the kind called *kepah* and *karang* (cockles) by the Malays, though they are situated at some distance from the sea. No other shells of the kind are to be found near the place, I believe. I have been told by Malays in Province Wellesley that one of these mounds was opened and explored by Col. Low. If the others, left perfect by him, have escaped destruction at the hands of Chinese limeburners, they will probably be worth examination and description. "Goa kepah" (shell-cave), a place in the neighbourhood, no doubt takes its name from these mounds. I do not know if Col. Low carried out his intention of describing the results of his exploration. I have searched through the only volumes of the proceedings of the Asiatic Society of Calcutta to which I have access (vols. I, II and III.), but I have found no paper on the subject.

At the foot of Bukit Mertajam, on the South side. there is a block of granite on which some rude characters have been traced. The Malays call it *batu surat*, the rock of the writing. I believe that the inscription has never been deciphered and that the character has not been identified. When I saw it last (in 1874), it was difficult in places to detect the ancient inscription on the rugged face of the rock, its faint lines contrasting strangely with the deeply-cut initials of Col. Low on the same boulder.

W. E. M.

Toba,—Sumatra.

From a detailed description of High Toba, in the Batak Country, appearing in the *Sumatra Courant* of the 4th April, the following particulars were recently translated in the *Straits Times*. Since the Military operations of the Dutch from Singkel, some accurate information has, for the first time, been obtained regarding these interesting districts, hitherto a *terra incognita* even to the Dutch themselves.

"High Toba, which is at present so much talked of on the coasts, is a table land, situated between the 2nd and 3rd degrees of North Latitude and between the 98th and 99th degrees of East Longitude from Greenwich. It is generally an extensive steppe country covered almost every where with thickly growing lallang and intersected by clefts from 200 to 300 rhine-land feet deep. In the plain the Tobanese cultivates dry rice and ubi. In tilling, he makes use of an efficient plough drawn by one or two buffaloes. In the clefts which usually abound in water, many promising Sawah fields are met with. Excepting maize, gambier, pisang, and some other fruits, no produce is, however, found, even fire wood is very scarce. Notwithstanding this scarcity the soil cannot be termed unfertile, it being almost every where covered with a thick layer of *humus*. But mutual divisions among the people and mutual hatred prevent joint efforts to irrigate the land by canals from the Batang Taro river which rises there. High Toba being about 3000 feet above the sea level, the temperature is very moderate and may sometimes be even termed cold. In the shade the thermometer barely rises to 20° Reaumur, and early in the morning it falls to 12° R. The populations of High Toba, who in manners, customs, several of their general laws, and certain pecularities of character form a whole, may be divided amongst inhabited places lying 1 to 2 hours from each other; or if preferable, amongst districts containing 20, 30, or 40 villages close together. On the other hand, on the shores of the Toba lake, 1,000 villages containing 300,000 souls at least can be seen at a glance. A traveller coming from the south can see the lake lying 1,500 to 2,000 feet below him, the panorama being an impressive one, assuredly too grand for cannibals like the Bataks. Even Switzerland with its abundance of lakes need not be ashamed to include that blue mirror in its landscapes. The Toba lake is fed by a great number of streams which flow into it from all sides, chiefly from the north. It has a considerable outlet on the east. It lies from east to north west, being about 10 hours long and 4 broad, with a breath of 6 hours to the north west. In the middle there is, however, a

large and thickly peopled island. The *prahu's* of the natives are made of long hollowed-out tree stems, provided on both sides with outriggers to keep the equilibrium. With there very heavy and unwieldy prahus manned by 200 to 300 men naval battles are sometimes fought. On the shores of the lake, which are as it were covered with villages, there are splendid terraces laid out into rice fields lying one above another. The villages are mostly well fortified and impregnable to a Batak enemy, but in constructing them, cartouche, shot and shells have naturally not been thought of several are surrounded by walls 10 to 20 feet high which are often protected by ditches 20, 30, and even 40 feet deep. These ditches are flushed by the help of conduits, and, when the village is besieged, can again be filled with water. One village, so fortified, once held out against an enemy 10,000 strong. For greater security bastions are also built, surrounded by concealed pitfalls, *ranju's*, and such like. Notwithstanding the great scarcity of wood, the houses and *lamu's* (assembly houses) are very strongly and elegantly built, the honour and riches of the natives consisting in them. We have already often mentioned that Toba is thickly peopled. Almost all the Batak-tribes hold that Toba is the cradle of their race. In the character of the people there is, however, something savage, something unbridled; yes, something of the animal. To those however, who can deal with them they are accessible, and suffer themselves to be led by them. Yet, in consequence of other circumstances, missionary work will be somewhat difficult there. In no case however will it be hopeless labour. Besides great riches and deep poverty, the most intense cunning, and credible narrow mindedness, we find there also the most disgusting deformities by the side of many slim muscular and well built forms. These contrasts are caused by the complete freedom of the one and the complete dependence and slavery of the other.

"Let us look upon a genuine Tobanese. There he stands before you with regular, large and well built figure, usually with significant and defiant looks. His clothing gives one at once a high opinion of his prosperity and princely descent. A durable garment, either black and white, or black and red, of the value of 4 to 6 Spanish dollars, is bound round the trips by a white girdle, and hangs down to his feet. Another garment as costly hangs over the shoulder. Both his ears are adorned with gold rings, and on his head he wears a white or red turban. At feasts the latter is of silk, or he wears an ornamental string of pearls through his hair, which he allows to hang down in long plaits in war time; besides a copper pipe, worth 30 Spanish dollars. In Toba a tael of gold is worth 8 Spanish dollars.

"In terrible contrast with the dress of the well-to-do, is the deep misery of the slaves. When these unfortunates become enslaved by usury and deceit, every measure is, generally speaking, taken to keep them in the lowest stage of poverty and want. In the possession of a great number of slaves consist, properly speaking, the wealth and the pride of a prosperous Tobanese. It is no rarity to find notables or headmen each possessing from 100 to 200 slaves, there being even families who possess as many as ten villages, all inhabited by slaves, who till the fields, build the villages, and serve as soldiers in the wars of their masters. We have still to name one pitiable class of men, namely the eunuchs who, however, save in Toba, are no longer found in the Batak country. Luckily they are few; they are used to accompany and attend upon women. For free people and headmen wives are very dear in Toba. In Silindong and Pangaloan, people pay 10 and more buffaloes for a young woman. In Toba the figure rises to 20 and 30, besides horses, gold, slaves, &c. In Toba alone the custom still prevails of keeping the skulls of deceased fathers and grandfathers. The dead man remains several years in a *sopo*, in a coffin closed with rosin, until the skull can at length be taken away without difficulty. On a suitable day the eldest son takes the skull of his father to the market place, shews it to the headmen present, while he gives away a cow for public use saying "Our father wished once more to visit the market." After this there follows a series of festivities in honour of the deceased, for which the whole family bring together 20 to 30 buffaloes to be slaughtered. During the festivities the skull is adorned with a silk turban and gold rings. The skull at length finds a resting place in the grave. On domestic occurrences, and in war time, the skull plays an important part, together with the spirit of the deceased. Should a skull be made away with, it is considered as foreboding ill-luck, and as being the greatest disgrace that can befall a family."

Siamese Titles.

The following note is appended to Capt. Burney's map of the Siamese Provinces (referred to at p. 57) and is no doubt in Capt. Burney's handwriting. It was probably written in 1826, when the first Treaty with Siam was framed.

It is of course as difficult to define the exact meaning of Siamese Titles, as that of many English Titles and degrees of rank.

"*Chow* is Lord and Master, and *Chow Mooung* Lord or Gover-

nor of a country. The Governor General of India is styled *Chow Moong Bengala*; *Khun* is love and gratitude, and a Chief in conversation is styled, "Chow Khun." *Than* is just, so *Chow Than* is a title generally given to a chief. *Pya*, when added to the name of a country or town, signifies Governor, thus the Governor of Penang is styled *Pya Ko Mak*, or the King of Kedah *Pya Mooung Serai*. The Siamese name of Kedah, *Mooung Serai*, is taken from Kedah Peak, which they call "Khas Serai," and the Malays "Gunong Jerai" or "Cherai." "Chow Pya" may be translated into Governor General, but it is a title also annexed to high offices near the sovereign, and particularly to chiefs nearly related to the Royal Family; thus the "Kalahom" or commander in chief, and the "Chakri," or Prime Minister are called "Chow Pya." The former superintends the affairs of all Provinces to the South of Bangkok, and the latter, of all to the North of that city; and to their affairs respectively the most minute reports are transmitted from every Province, from Singora to Cheung Mai or Zemee. The present Minister for Foreign Affairs is a Pya, "Pya Klang," and being related to the Royal Family is often styled "Chow Pya." He is said to be very friendly to the English: Prak, when annexed to a form or country, may be translated into Lieutenant Governor; "Luang" or "Chrom" to a Resident, and "Mom" or "Khom" to an officer in charge; much lower in rank "Pya," "Prak," &c., are also conferred as honorary titles on other public officers, and when annexed to a man's name appear to correspond to Baronets, Knights &c. The late Mr. Light is said to have been made a "Prak" by the King of Siam.

"Punahua," Loubere translates into "Hua" (the head) of "Phan" (Thousands); but I am told the title is derived from "Phoh," father, "No" on, "Hua" head, meaning "I bear you as my father on my head" denoting the highese respect according to the custom of oriental nations. The Siamese generally affix the wood "Phoh," father, to the names of their chiefs. The three sons of the Chow Pya of Ligor styled "Phoh Kloom," "Phoh-Pho" and "Phoh-Sing," the last of which resembled so nearly the Malayan wood "Poosing" deceitful, that the father on establishing that son at Kedah directed him to be always called by the Malayan title "Baginda Muda," or young Prince. The Siamese name for Singapore is "Ko-mai" new Island."

METEOROLOGICAL RETURNS, 1877.

ANNUAL ABSTRACT OF METEOROLOGICAL OBSERVATIONS FOR THE YEAR 1877. SINGAPORE LAT 1′ 17″ N. LONG 103′ 51″ E.

Months.	Barometrical Readings Corrected and Reduced to 32° F.					Hygrometer.								Self Registering Thermometers.						Rainfall in 24 Hours (Gauge 2 feet from the ground.)								Mean direction of the Wind.
	9 A. M.	3 P. M.	9 P. M.	Diurnal range.	Means.	9. A. M.		3 P. M.		9 P. M.		Means.		Maximum in Sun's rays (in vacuo.)	Minimum on Grass.	Maximum in Shade.	Minimum in Shade.	Diurnal range.	Approximate Temperature.	P. & O. Co's. Depot New Harbour.	General Hospital Sepoy Lines.	Jail Hospital Brass Basa Road,	Hospital Kandang Karbau.	Pauper Hospital Sirangoon Road.	Mount Pleasant Thompson Road.	Water Works Reservoir Thompson Road.	Mean Rainfall.	
						Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet															
	Inches	Inches	Inches	Inches	Inches	°F	°F	°F	°F	°F	°F	°F	°F	°F	°F	°F	°F	°F	°F	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	
January ...	29.984	29.904	29.967	.091	29.952	80.7	75.4	83.1	75.9	75.5	73.4	79.8	74.9	151.0	66.8	85.8	70.6	15.2	78.2	3.30	4.03	2.81	3.08	2.21	2.45	2.35	2.89	N. E.
February ...	.981	.884	.946	.089	.937	81.1	75.9	83.8	77.2	75.9	74.1	80.3	75.7	150.0	66.2	86.9	70.9	16.0	78.9	2.76	5.54	7.01	7.38	6.29	5.94	5.21	5.74	N. E. [S. W. during the day.
March ...	.952	.843	.915	.109	.903	82.3	76.3	84.7	77.7	76.9	74.9	81.3	76.3	153.7	68.0	87.6	72.1	15.5	79.9	1.89	4.51	4.78	5.10	4.32	7.17	7.3	5.01	N. E. Morning & Evening S. E. &
April ...	.915	.806	.886	.09	.869	84.9	78.6	87.5	78.8	79.0	76.7	83.8	78.0	154.0	69.2	89.5	73.3	16.2	81.4	1.06	1.15	1.80	2.42	1.10	0.49	1.55	1.37	do.
May ...	.893	.800	.875	.096	.856	84.7	79.2	86.6	79.4	80.6	78.2	84.0	78.9	151.9	71.3	89.2	75.3	13.9	82.2	0.97	4.83	3.60	4.42	4.23	5.20	5.09	4.05	S. E. and S. W.
June ...	.938	.849	.913	.090	.900	81.9	77.6	84.0	78.1	79.5	76.1	81.8	77.5	142 0	70.0	86.0	74.2	11.8	80.1	1.04	13.63	13.53	13.10	12.31	13.26	13.41	11.47	do.
July ...	.936	.859	.913	.078	.903	82.0	77.8	83.7	77.7	80.0	77.0	81.9	77.5	149.0	70.6	86.0	74.8	11.2	80.4	1.20	5.78	7.21	7.72	6.82	0.68	10.51	5.70	do.
August ...	.951	.855	.914	.096	.917	83.3	77.9	86.0	77.5	80.7	76.5	83.3	77.3	150.0	72.7	87.6	76.4	11.2	82.0	4.14	3.73	4.78	4.05	3.94	4.33	3.05	4.0	do.
September ...	.958	.854	.934	.106	.915	84.1	78.1	85.9	77.5	79.9	76.3	83.3	77.3	152.0	71.0	88.5	74.3	14.2	81.4	3.85	2.12	3.27	3.54	2.17	2.05	2.21	2.74	do.
October ...	.959	.855	.937	.104	.917	84.9	78.3	85.8	78.0	79.3	74.2	83 3	76.8	155.0	70.1	89.6	74.1	15.5	81.8	3.08	2.21	1.68	1.25	1.37	2.06	2.97	2.09	do.
November ...	.940	.835	.928	.108	.901	83.9	78.1	84.7	77.6	77.1	75.9	81.9	77.2	156.5	71.0	89.5	74.1	15.4	81.8	4.18	3.91	5.21	5.52	4.23	6.82	6.85	5.24	N. W. and N. E.
December ...	.912	.809	.890	.103	.870	83.2	77.9	83.8	78.2	77.8	76.4	81.6	77.5	155.8	72.3	88.5	74.3	14.2	81.4	5.24	4.49	5.48	7.56	9.29	10.77	13.64	8.07	N. E.
Means ...	29.943	29.846	29.918	.097	29.903	83.1	77.6	84.9	77.8	78.5	75.8	82.1	77.0	151.7	70.(	87.9	73.7	14.2	80.8	32.71 *	55.93 *	61.19 *	65.14 *	58.28 *	61.24 *	74.14 *	58.37 *	

Highest reading of Barometer during the year 30.084 inches.
Lowest do. do. 29.709,
Highest Temperature Observed 92.5°
Lowest do. do. 66.°

* Total Annual registered rainfall.

T. IRVINE ROWELL, M.D.
Principal Civil Medical Officer S. S.

Singapore, 1st January, 1878.

COMPARATIVE ANNUAL ABSTRACT OF RAINFALL FROM THE YEARS 1869 TO 1877.

Months.	Mean Registered Rainfall.										Remarks.
	1869.	1870.	1871.	1872.	1873	1874.	1875.	1876.	1877.	Mean of 9 years.	
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	
January.....	3.93	18.25	11.05	2.37	7.16	3.88	2.91	3.97	2.89	6.37	Rainfall was Registered—at
Februar	3.23	7.80	7.69	7.72	9.57	2.34	7.02	1.84	5.74	5.88	During the year 1869 1 Station
March.....	3.37	3.15	12.95	3.43	9.74	3.20	16.92	4.60	5.01	6.93	do 1870 1 do
April.....	9.23	8.81	4.85	4.15	10.54	6.54	6.47	7.23	1.37	6.58	do 1871 4 do
May.....	9.19	5.01	3.96	5.12	5.50	5.78	4.09	7.86	4.05	5.62	do 1872 5 do
June.....	6.81	11.51	4.59	4.89	4.81	6.37	9.53	10.58	11.47	7.84	do 1873 5 do
July.....	5.42	5.11	12.42	6.43	3.55	6.32	4.26	4.46	5.70	5.96	do 1874 6 do
August.....	12.31	11.36	6.69	7.12	6.08	10.58	8.36	9.32	4.00	8.42	do 1875 8 do
September.....	3.13	12.62	8.97	10.79	3.00	11.03	8.24	7.19	2.74	7.52	do 1876 7 do
October.....	5.11	9.99	12.36	5.74	7.93	7.09	8.29	10.67	2.09	7.70	do 1877 7 do
November.....	8.24	11.50	11.36	11.54	12.56	16.37	11.37	12.06	5.24	11.14	
December.....	20.66	18.13	12.56	6.00	5.16	7.56	6.50	10.13	8.07	10.53	
Total.....	90.63	123.24	109.45	75.30	85.60	87.05	93.96	89.91	58.37	90.39	
Greatest Rainfall in 24 hours.....	5.61 31 Aug.	6.25 26 Decr.	4.20 8 Jan.	3.10 12 Sept.	4.40 21 May.	4.15 28 Nov.	4.25 26 Oct.	5.16 26 May	5.20 16 June		T. IRVINE ROWELL, *Principal Civil Medical Officer S. S.*