[No. 7.]

JOURNAL

OF THE

STRAITS BRANCH

OF THE

ROYAL ASIATIC SOCIETY.

JUNE, 1881.

PUBLISHED HALF-YEARLY.

SINGAPORE:

PRINTED AT THE GOVERNMENT PRINTING OFFICE.

1881.

AGENTS OF THE SOCIETY:

London & America, ..TRÜBNER & Co. | Paris,...ERNEST LEROUX & CIE.

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THE
STRAITS BRANCH
OF THE
ROYAL ASIATIC SOCIETY.

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There are also 16 subscribers in London who obtain the Journal through Messrs. TRÜBNER & Co., but their names are not known in Singapore.

ANNUAL GENERAL MEETING

HELD

(by the courtesy of the Committee of the Chamber of Commerce)

AT THE

SINGAPORE EXCHANGE

ON

FRIDAY, THE 4TH FEBRUARY, 1881.

PRESENT:

The Ven'ble Archdeacon G. F. HOSE, M.A., *President.*
F. A. SWETTENHAM, Esquire, *Honorary Secretary.*
EDWIN KOEK, Esquire, *Honorary Treasurer.*
E. BIEBER, Esquire, LL.D.
W. KROHN, Esquire.
A. DUFF, Esquire.
T. CARGILL, Esquire.
and
Numerous Members and Visitors.

The Minutes of the last Meeting are read and confirmed.

The President explains the object of the present Meeting.

The following gentlemen, recommended by the Council, are elected Members:—

General ORFEUR CAVENAGH.
The Rev. J. ABERIGH MACKAY.
Mr. V. SERGEL.
Mr. BENNETT PELL.

A proposal of the Council to alter Rule 7 of the Rules of the Society is considered, and, on the suggestion of Mr. J. FRASER, the following Rule is unanimously adopted to take the place of Rule 7, viz.:—

"Candidates for admission as Members shall be proposed by one "and seconded by another Member of the Society, and, if agreed "to by a majority of the Council, shall be deemed to be duly "elected."

The Annual Report of the Council is read by the Honorary Secretary. (See p. xii.)

The Honorary Treasurer reads his Annual Report. (See p. xv.)

The election by ballot of Officers for the year 1881 is proceeded with, with the following result:—

The Hon'ble CECIL CLEMENTI SMITH, C.M.G., *President.*
E. BIEBER, Esquire, LL.D., *Vice-President, Singapore.*
G. W. LAVINO, Esquire, *Vice-President, Penang.*
F. A. SWETTENHAM, Esquire, *Honorary Secretary.*
EDWIN KOEK, Esquire, *Honorary Treasurer.*
N. B. DENNYS, Esquire, PH. D.,
W. KROHN, Esquire,
C. STRINGER, Esquire,
W. A. PICKERING, Esquire,
BENNETT PELL, Esquire,
} *Councillors.*

The Ven'ble Archdeacon HOSE makes a few remarks expressive of his regret on ceasing to be an Officer of the Society, owing to his early departure from Singapore, but assures the Members of his great and continued interest in the welfare of the Society.

On the motion of Dr. E. BIEBER, a cordial vote of thanks to the Ven'ble Archdeacon HOSE for his services as President of the Society is unanimously agreed to.

Archdeacon HOSE expresses his acknowledgments, and the proceedings terminate.

grapher since 1879; several members of the Society in England have, it is understood, been interesting themselves in the matter, but the Council is unable to give any explanation of the great delay which has occurred.

The urgent need of this map is admitted by all; several new geographical and topographical discoveries have been made, even during the past year, and, with the basis of this new map to work upon, it may be hoped, with the assistance of members and all who are interested in such a matter, to produce, in a few years' time, an accurate and useful map of the Malay Peninsula.

Singapore, 31st January, 1881.

THE TREASURER'S REPORT.

By the statement of the Cash Accounts for the past year, which I now lay before the Society, it will be seen that the Receipts amounted to $1,412.96, and the payments to $1,207.07, shewing a balance of $205.89 in the hands of the Treasurer.

The Subscriptions for 1879 to be received amount to $60, and those for 1880 amount to $120. There were bills for 1880 outstanding at the end of the year, amounting to $10.62, which have since been paid. The sum of $36 has been received to account of the subscriptions for 1879 and 1880, leaving a sum of $231.27 in the hands of the Treasurer, which, with the outstanding subscriptions for 1879 and 1880 shew a balance to the credit of the Society of $375.27.

The number of Members of the Society on the 30th January, 1880, was 137, that is to say, 4 Honorary and 133 Ordinary Members. Since then, 15 now Members have been elected; 12 have resigned; 23 Members have failed to pay their subscriptions. Of this number, 13 are considered as having resigned their membership in accordance with Rule 6; but, the operation of this Rule is suspended in the case of the remaining 10 Members, who are likely to pay their subscriptions. I regret to have to record the loss by death of the Hon'ble Hoo Ah Kay Whampoa, C.M.G., and Mr. L. H. Woods.

The list for 1881 contains 130 Members, classified as follows, viz., 5 Honorary and 125 Ordinary Members.

EDWIN KOEK,
Honorary Treasurer.

4th February, 1881.

STRAITS BRANCH OF THE ROYAL ASIATIC SOCIETY.

Treasurer's Cash Account for the year 1880.

1880.		$ c.	1880.		$ c.
	Balance of last account brought forward, ...	603 77		Publication of Journal No. 3,	300 00
	Subscriptions for 1879, ...	86 69		Publication of Journals Nos. 4 and 5, including cost of paper for Nos. 6 and 7, ...	426 72
	Do. 1880, ...	636 00		Lithographing "Hikayat Abdullah,"	302 00
	Sale of Journal, ...	60 50		Advertisements, ...	5 96
	Sale of "Hikayat Abdullah," ..	26 00		Salary of Clerk, ...	120 00
				Postage, &c., ...	23 72
				Stationery, ...	3 96
				Miscellaneous, ...	24 71
					1,207 07
				Balance,...	205 89
	$	1,412 96			1,412 96
	Outstanding Subscriptions:—				
	For 1879, ...	60 00			
	„ 1880, ...	120 00			
	$	180 00			

EDWIN KOEK,

SOME ACCOUNT

OF

THE MINING DISTRICTS

OF

OWER PÊRAK.

BY

J. ERRINGTON DE LA CROIX,
Ingénieur de Mines,
gé par le Gouvernement Français d'une Mission Scientifique en Malaisie.

---

egion of Lower Pêrak comprises numerous mining icts, which can be placed under the three follow- eadings :—

ungei Kinta District.
ungei Bâtang Pâdang District.
ngei Bîdor District.

r is by far the most extensive, and includes no less ing centres which, according to Malay custom, mes from the various main streams which drain re the districts of Ulu Kinta, Sungei Trap, Sungei Tejah, Sungei Kampar, and Sungei

gical ption. Before giving the particular mining features of these various tin-fields, it is well to indicate first the geological outline of the country.

The geological conditions of this part of the State are more varied than in the northern districts, and offer a greater diversity of sedimentary formation. (*See* Section.)

tic ition. The granite constitutes the foundation of the main ranges and of the hills round which are distributed the different tin-fields.

It is met with in the Senggan range at Gûnong Klêdong, Changkat Lahat, the Gôpeng hills, Bûjang Malacca, and forms the basis of the Changkat Chumor and Janka, near Tapa.

Like in other parts of the country, the rock is highly porphyroid, composed of vitreous quartz, feldspar, mica and tourmaline, in which are imbedded large crystals of feldspar.

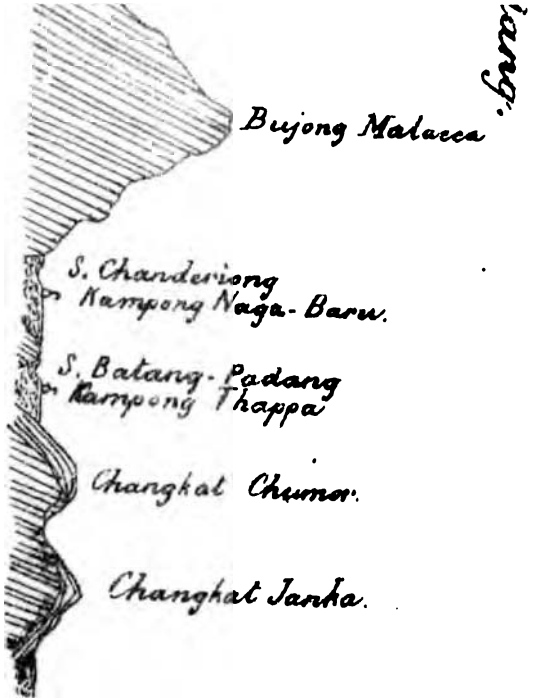
The decomposition of the granite by atmospheric agencies has gradually denuded the large crystals, which are harder than the feldspathic element in the paste, and left them projecting from the surface, giving the rock a peculiar appearance.

The amount of mica and tourmaline varies slightly in the different localities, but without altering perceptibly the general aspect.

entary ation. The sedimentary formation is represented by limestone, white ferruginous clay, and talc-schist.

stone. The limestone is very abundant in the whole of the Kinta region, and probably forms the basis of the alluvial deposit. It is found at the foot of Changkat Lahat, between the latter and Sungei Kinta. It has been greatly altered at the contact with the neighbouring eruptive rock, and has taken a saccharoid aspect, being white and very crystalline.

It is found again between Pĕngkalen Pegu and Pĕngkalen Baru, where little peaks crop out of the alluvial soil, broken up and highly decomposed at the surface, but offering no longer the deep alterations noticed near the Senggan range.


Bujong Malacca
S. Chanderiong
Kampong Naga-Baru.
S. Batang-Padang
Kampong Thappa
Changkat Chumor.
Changkat Janka.

At Klian Gûnong (Kampar) the limestone is again visible, being white crystalline and containing, in numerous fissures, the tin-ore that has drifted from the granitic formation in the vicinity.

South of Gôpeng, between Kampar river and Bûjang Malacca, several high hills—Gûnong Ramian, Gajah and Kandong—are entirely of limestone, and resemble, on a larger scale, the well known Gûnong Pondok near Gapis and Gûnong Kurau.

In other spots, such as Kampong Baru on Sungei Kampar, the limestone does not seem to have been much altered by the contact of the Bûjang Malacca group, and has kept the usual aspect of mountainous limestone.

In the Bâtang Pâdang district, South of Tapu, the sedimentary formation is represented by white clay imbedding nodules of red ferruginous matter. *Clay.*

In a few places of the same district talc-schist can be seen cropping out from under the clay and resting on decomposed granite. *Talc-Sch*

In this particular mining district the tin-ore is found at the very top of the hills, which leads one to infer that the upheaval which has produced them must belong to a second series of plutonic action posterior to that which has formed the principal ranges of the country.

Ulu Kinta district, which includes most of the region above Pĕngkalen Pegu (*see* Map), is the most extensive of all, but at the same time, owing to the greater distance from the sea, is the least worked by miners, who naturally prefer turning first to account the mineral wealth of the lower country. MININ DISTRIC *Ulu Kin*

It is a "reserve" for the future, and will, no doubt, be found just as rich as any other part of the State.

At present the principal works are carried on on the Sungei Pari and Sungei Chĕmor, at the foot of the Senggan range. The tin-ore produced is of a very good quality, and contains a large proportion of white oxide.

The Sungei Kinta itself contains considerable quantities of

tin, and near Ipoh the natives find it profitable to wash the sand in the bed of the river. According to reports, a man, if he can stand to work in the water for several hours, can collect in a day as much as fifteen katties of ore, worth two dollars.

Sungei Trap district. This district is situated on the right bank of the river Kinta and is well populated by miners, both Chinamen and Malays.

Sungei Papan. The Papan valley lies between several high hills and is divided into numerous small "gullies," where rich pockets of tin are found.

The valley is about one mile in width by one and-a-half in length, but, up to now, the outskirts only have been turned to account, owing to the great flow of water which often floods the lower part of the valley.

Thirteen mines are at present in full swing, and occupy five hundred men, Chinese and Malays.

Klian Johan, worked by Chinamen, is the most important of all and is probably the deepest mine in the whole State, attaining a depth of fifty feet.

The ore is disseminated, from the surface downwards, throughout the ground, which is geologically formed of white friable clay. The wash is clean and becomes richer in depth. The pumping of the water is managed by the means of a Chinese water-wheel, and the washing of the ore takes place in a long canal acting as a sluice-box.

On each side of that mine, Malays are also carrying on works to the same depth, but unable themselves to put up a proper draining apparatus, they have made with their more industrious neighbours a contract by which they are allowed to let their water flow into the Chinese mine on condition of paying one-tenth of their whole produce.

The ore is smelted in the village, and, being of a very good quality, no blast is required, and the consumption of fuel amounts to only one pikul of charcoal to one pikul of ore.

Eleven furnaces are at work and return, on an average, forty pikuls in twenty-four hours.

The richest deposit lies, no doubt, in the centre of the valley,

but can hardly be worked until a proper and systematic drainage has been organised.

A road, four miles long, is being made and will join Papan to Batu Gajah on the Kinta river.

Sungei Trap district.

Several other mines of less importance are worked in the district, especially on the Sungei Trap, where the ore is found in large stones of nearly pure oxide imbedded in a hard blue clay.

Sungei Raya district.

The Sungei Raya district is the smallest of all, but at the same time makes the largest returns of tin, owing to the adventurous and enterprising spirit of Pĕngulu To' Domba, who attracts numerous Chinamen by advancing them the necessary sums to start mines in his district. The total Chinese population amounts to 6 or 700, but many other smaller works are carried on by Malays.

Sungei Teja district. Gôpeng.

The principal works are situated in the Gôpeng valley. The geological formation is granitic. At the head of the valley the wash lies under a greyish, yellowish clay at a depth of 8 to 9 feet from surface; it varies in thickness from 3 to 4½ feet, but does not present throughout a regular percentage of tin-ore, it being generally found in large pockets disseminated in the wash. These pockets are very rich and exceed in quantity and quality anything existing in the best mines of Larut. Unfortunately the extent of mining ground is very limited in the upper part of the valley, and has been very nearly worked out. Four Kongsis, numbering 150 men, are still at work, but will have exhausted their mines within the next two years.

The new mines lately opened in the lower part of the valley towards the plain are getting on fairly: the wash is thicker, but not so rich and deeper below surface. However, little has been done yet to give the plain a fair trial, and there is no reason why it should not improve.

Fifteen to sixteen Kongsis, with a total number of 7 to 800 coolies, are occupied at present in the Gôpeng district, and returning steadily large quantities of tin. The produce for the week (30th January to 6th February) amounted to 120 pikuls.

The metal is sent on elephants to Pĕngkalen Baru on Sungei Raya, where it is shipped for Durian Sa'bâtang, but a better mode of transport will shortly be available when the Government has completed the fine cart-road which is now being made from Gôpeng to Kota Baru on the Kinta river.

Several other surface works have been started among the small hills lying between Gôpeng and Pĕngkalen Baru; they are of but small importance, but they return very pure ore, which smelts easily and gives as much as 70 katties of metal to one pikul of ore, the percentage being consequently 70 per cent.

It will be noticed that, as a rule, the surface mines known by the name of "Lampong Works" produce much cleaner ore than deep works, owing probably to the fact that the surface soil is lighter than the deeper wash, formed of feldspar and quartz, and is consequently easier to separate by washing; another reason is also that in the "Lampong Works" the miners do not generally smelt their own ore, but sell it, and have often to carry it to a considerable distance, whence the utility of taking greater pains in the dressing.

ngei Kam-r district. This district is one of the largest, but has been little visited up to now. Chinamen, however, have just begun starting works on their own account, principally at Klian Gûnong, where the tin is found deposited in the fissures and crevices of the limestone.

A certain amount of tin is also found in the bed of the main stream and the natives in several places work it profitably.

lian Snu-ng. At Kampong Snudong, on the western slope of Bûjang Malacca, a Malay mine is being worked on an entirely native principle.

The ore is disseminated throughout the ground, which is slightly argillaceous, but friable and easy to wash.

Small canals have been brought from the river and run at the foot of the different cuttings. The ground is cut down and thrown in those canals and dressed like in a sluice-box, the height of the face is from 10 to 15 feet; when the ground has been stripped to the level of the water, it is divided into

small rectangular lots, 30 feet long by 15 wide, round which the canals are made to circulate, these lots are ultimately worked out, but not to a greater depth than 5 feet below the water mark.

These mines are worked by the owners, or by strangers who obtain from them a permit to dig, provided they remit one-third, one-sixth, or one-half of the product, according to the richness of the soil.

Quite lately a Chinaman has come from Gôpeng and started a new mine, where thirty men are employed.

There is no doubt that the whole region lying West of Bûjang Malacca will prove to be one of the richest fields in the whole State.

Chendaria district.

This district is small, but produces first quality ore.

The most important works are in the vicinity of Kampong Naga Baru.

The formation is entirely granitic, and large quantities of ore are found on the surface of the soil, requiring but the trouble to pick it.

The sand of the river is also very rich, and many inhabitants of the village are employed in washing it, getting an average of 70 cents a day.

Some few Malays are also employed in collecting tin-ore in the different small "gullies" formed by the last ramifications of the range.

The only large mine at work in the district belongs to a Malay, who has let it to a Kongsi of fifty Chinamen for one-tenth of the total produce.

The wash lies at a depth of thirty feet, and though being only two to three feet thick, furnishes better results than in any other part of the State. The ground is more loose and easier to dig than in other districts.

A small amount of gold is occasionally found mixed with the tin, but not in payable quantities, the proportion, however, increases in the direction of Bâtang Pâdang.

Judging by the very large blocks of solid oxide which are

frequently found in the wash, as well as on surface, there is no doubt that the lodes which have produced this wonderful deposit must be uncommonly thick, and extend over a considerable length of ground: the tin-field probably extends all round Bûjang Malacca, between the latter and the more eastern range of mountains, and there is no reason why it should not prove just as rich as in the immediate vicinity of Naga Baru.

All indications lead one to believe that before long this Chendarîang district will become the most important centre of production of the whole State.

Every effort ought to be made to open that part of the country. The Chendarîang river will never allow a large traffic, whereas the Bâtang Pâdang river might be cleared without much cost, and made navigable to a steam-launch drawing 2 feet of water, for at least two-thirds of the way to Thappa. A cart road that would hardly exceed ten miles could then join Chendarîang to the accessible part of Sungei Bâtang Pâdang.

Pa- The mining fields of this district are situated South of Thappa at a distance of two to three miles from the river. They are three in number. Changkat Chumor, Changkat Janka, and Klian Baru.

The geological features of this field have already been mentioned. The formation is a white ferruginous clay exceedingly thick, resting on talc-schist and granite. The whole ground, up to the summit of the hill, which is about 150 feet high, is impregnated with tin-ore in sufficient proportion to make it payable, and the whole of the stratum is being worked at present. Rain water is made the most of for dressing purposes, and is collected in small reservoirs and ditches running in all directions on the surface of the hill. The tin stuff is thrown in, the tin remains at the bottom, whilst the refuse is carried away by the current. When rain water is scarce, the soil is simply taken to the foot of the hill and washed in a long canal which has been diverted from the river.

The Chinamen work here on their own account by small gangs of eight to ten men, and the total population amounts

to about 300 miners. No gold is found at Changkat Chumor.

This hill is situated a little further to the South-east of the preceding one.

The works are only carried on in the valley where two Kongsis, numbering one hundred men, are working two mines provided with water-wheels. *Changka Janka.*

In one of the mines the wash is found at a depth of ten feet below the surface, and is from five to six feet thick. It is friable and clean and gives good results. Small quantities of gold are found with the tin—from 40 to 55 grains to one pikul of ore.

In the other mine, sixty coolies are engaged. The wash is six feet deep and measures three feet in thickness, resting on a false bottom of clay four feet thick; below this is a second layer of wash four feet in thickness, the total depth of the mine being seventeen feet.

The first layer contains a little tin, but no gold, whereas the bottom wash is rich in tin-ore and contains 60 grains of the precious metal to one pikul of tin sand.

Two furnaces smelt the product and no blast is required.

At Klian Baru four or five small Kongsis are at work and employ one hundred men. The most conspicuous feature of this small district is the greater proportion of gold found in the wash, averaging 260 grains to one pikul of ore. *Klian Ba*

Most of the tin-fields in the vicinity of Tapa have been worked since a long period of time, and may be considered at present as pretty well exhausted. New researches must now be directed towards the upper part of the river, at the foot of the Bâtang Pâdang range, where new deposits will probably be found.

The general deductions to be drawn from this rapid sketch of the mining conditions in this wonderful little country are sufficiently evident.

In all the districts, mining is still in a state of infancy, a few small centres have been exhausted, but they form but a very trifling portion of the country. New fields are constantly being discovered and there remains to establish between them *General Remarks*

and the main rivers proper means of communication.

A good deal has already been done, and well done, to that effect, and it throws great credit on the Government of the State. The Kinta River is cleared, or very nearly so, as far as Kota Baru. In a very short time it will be accessible to a steam-launch as far as Batu Gajah. The good effect of such work has already manifested itself not only through a greater influx of mining population, but also in a commercial point of view.

Excellent roads will soon join the two important districts of Gôpeng and Papan to Sungei Kinta which is the great artery of the country, and give them a new impulse.

A deal of good might also be done if the Government took in hand the draining of certain districts, which, until then, can only be superficially worked.

The great fault with Chinamen, and especially Malays, does not lie so much in their defective method of working as in their inability to organise a proper draining system that will carry away the *surface* water.

The disastrous consequence is that most of the mines are only half worked out, but sufficiently however to render it impossible and unprofitable to others to resume the works at a future period. Considerable quantities of ore are consequently abandoned and lost for ever.

The Government would amply recover such expenditure, for the working out of the country is a work of time and not of a few years as will be shown by the following figures. The total area of the eight mining districts in Lower Pêrak can be estimated at 1,200 square miles, or 768,000 acres, and it can safely be stated that *one acre in one hundred* is actual alluvial mining ground, offering thus a total "surface utile" of 7,680 acres, which, under very ordinary circumstances, will afford profitable work to 25,000 miners for the next hundred years.

28th February, 1881.

THE

FOLKLORE OF THE MALAYS.

BY

W. E. MAXWELL.

"There is nothing that clings longer to a race than the religious "faith in which it has been nurtured. Indeed, it is impossible for "any mind that is not thoroughly scientific to cast off entirely the "religious forms of thought in which it has grown to maturity. "Hence, in every people that has received the impression of for- "eign beliefs, we find that the latter do not expel and supersede "the older religion, but are engrafted on it, blend with it, or "overlie it. Observances are more easily abandoned than ideas, "and even when all the external forms of the alien faith have been "put on, and few vestiges of the indigenous one remain, the latter "still retains its vitality in the mind, and powerfully colours or "corrupts the former. The actual religion of a people is thus of "great ethnographic interest, and demands a minute and searching "observation. No other facts relating to rude tribes are more "difficult of ascertainment or more often elude enquiry."* The general principle stated by LOGAN in the passage just quoted receives remarkable illustration from a close investigation of the folklore and superstitious beliefs of the Malays. Two successive religious changes have taken place among them, and when we have succeeded in identifying the vestiges of Brahmanism which underlie the external forms of the faith of Muhammad, long established in all Malay kingdoms, we are only half-way through our task. There yet remain the powerful influences of the still earlier indigenous faith to be noted and accounted for. Just as the Buddhists of Ceylon turn, in times of sickness and danger, not to the consola-

* LOGAN—Journal of the Indian Archipelago, IV., 573.

tions offered by the creed of Buddha, but to the propitiation of the demons feared and reverenced by their early progenitors, and just as the Burmese and Talaings, though Buddhists, retain in full force the whole of the *Nat* superstition, so among the Malays, in spite of centuries which have passed since the establishment of an alien worship, the Muhammadan peasant may be found invoking the protection of Hindu gods against the spirits of evil with which his primitive faith has peopled all natural objects.

An exposition of the chief characteristics of demon-worship, as it still lingers among the Malays, is a work requiring some research and labour. Its very existence is scarcely known, and there are not probably many Englishmen who have witnessed the frantic dances of the *Pawang*, or listened to the chant and drum of the *Bidu* beside the bed of some sick or dying person. In the present paper, a corner is lifted of the veil of Muhammadanism, behind the dull uniformity of which, few, even among those who know Malays well, have cared to look, and an attempt is made to select from the folklore of the peasantry a few popular customs and superstitions, some of which had their origin in the beliefs of the pre-Muhammadan period.

The Malay language itself, abounding as it does in words derived from or imported direct from Sanskrit, offers copious materials for illustrating the progress of Hindu influences in this part of the world. To the evidence thus furnished, the corroborative testimony afforded by the sayings and legends of the people is an important addition.

Birds.

Ideas of various characters are associated by Malays with birds of different kinds, and many of their favourite similes are furnished by the feathered world. The peacock strutting in the jungle, the argus-pheasant calling on the mountain peak, the hoot of the owl, and the cry of the night-jar, have all suggested comparisons of various kinds, which are embodied in the proverbs of the people.* The Malay is a keen observer of nature, and his illustrations, drawn from such sources, are generally just and often poetical.

* Malay Proverbs—Journal of the Royal Asiatic Society (Straits Branch), Nos. 4, 72, 73, 93.

The supernatural bird *Gerda* (Garuda, the eagle of Vishnu), who figures frequently in Malay romances, is dimly known to the Malay peasant. If, during the day, the sun is suddenly overcast by clouds and shadow succeeds to brilliancy, the Pêrak Malay will say "*Gerda* is spreading out his wings to dry." * Tales are told, too, of other fabulous birds—the *jintayu*, which is never seen, though its note is heard, and which announces the approach of rain; † and the *chandrawasi* which has no feet. The *chandrawasi* lives in the air, and is constantly on the wing, never descending to earth or alighting on a tree. Its young even are produced without the necessity of touching the earth. The egg is allowed to drop, and as it nears the earth it bursts and the young bird appears fully developed. The note of the *chandrawasi* may often be heard at night, but never by day, and it is lucky, say the Malays, to halt at a spot where it is heard calling.

There is an allusion to this mythical bird in a common *pantun*—a kind of erotic stanza very popular among the Malays:—

Chandrawasi burong sakti
Sangat berkurong didalam awan.
Gonda gulana didalam hati,
Sahari tidak memandang tuan.‡

Nocturnal birds are generally considered ill-omened all over the world, and popular superstition among the Malays fosters a prejudice against one species of owl. If it happens to alight and hoot near a house, the inmates say significantly that there will soon be "tearing of cloth" *(koyah kapan)* for a shroud. This does not apply to the small owl called *punggok*, which, as the moon rises, may often be heard to emit a soft, plaintive note. The note of the *punggok* is admired by the Malays, who suppose it to be sighing for the moon, and find in it an apt simile for a desponding lover.

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* *Gerda meninmur kepah-nia.*

† *Laksana jintayu me-nanti-kan hujan*—As the *jintayu* awaits the rain—is a proverbial simile for a state of anxiety and despondency.
Jintayu=jatayu (Sanskrit), a fabulous vulture.

‡ The *chandrawasi*, bird of power,
Is closely hidden amid the clouds.
Anxiety reigns in my heart,
Each day that I see not my love.

The *baberek*, or *birik-birik*, another nocturnal bird, is a harbinger of misfortune. This bird is said to fly in flocks at night; it has a peculiar note, and a passing flock makes a good deal of noise. If these birds are heard passing, the Pêrak peasant brings out a *sĕngkalan* (a wooden platter on which spices are ground) and beats it with a knife or other domestic utensil, calling out as he does so: "*Nenek bawa hati-nia*" ("Great-grandfather, bring us their hearts"). This is an allusion to the belief that the bird *baberek* flies in the train of the Spectre Huntsman *(hantu pemburu)*, who roams Malay forests with several ghostly dogs, and whose appearance is the forerunner of disease or death. "Bring us their hearts" is a mode of asking for some of his game, and it is hoped that the request will delude the *hantu pemburu* into the belief that the applicants are *ra'iyat*, or followers, of his, and that he will, therefore, spare the household.

The *baberek*, which flies with the wild hunt, bears a striking resemblance to the white owl, *Totosel*, the nun who broke her vows and now mingles her "tutu" with the "holoa" of the Wild Huntsman of the Hartz.*

The legend of the Spectre Huntsman is thus told by the Pêrak Malays:—

In former days, at Katapang, in Sumatra, there lived a man whose wife, during her pregnancy, was seized with a violent longing for the meat of the *pelandok* (mouse-deer). But it was no ordinary *pelandok* that she wanted. She insisted that it should be a doe, big with male offspring, and she bade her husband go and seek in the jungle for what she wanted. The man took his weapons and dogs and started, but his quest was fruitless, for he had misunderstood his wife's injunctions, and what he sought was a *buck pelandok*, big with male offspring, an unheard of prodigy. Day and night he hunted, slaying innumerable mouse-deer, which he threw away on finding that they did not fulfil the conditions required. He had sworn a solemn oath on leaving home that he would not return unsuccessful, so he became a regular denizen of the forest, eating the flesh and drinking the blood of the animals which he slew, and pursuing night and day his fruitless search. At length he said to himself: "I have

* Dawn of History, p. 171.

"hunted the whole earth over without finding what I want; it is "now time to try the firmament." So he holloa'd on his dogs through the sky, while he walked below on the earth looking up at them, and after a long time, the hunt still being unsuccessful, the back of his head, from constantly gazing upwards, became fixed to his back, and he was no longer able to look down at the earth. One day, a leaf from the tree called *Si Limbak* fell on his throat and took root there and a straight shoot grew upwards in front of his face. In this state he still hunts through Malay forests, urging on his dogs as they hunt through the sky, with his gaze evermore turned upwards.

His wife, whom he had left behind when he started on the fatal chase, was delivered in due time of two children—a boy and a girl. When they were old enough to play with other children, it chanced one day that the boy quarrelled with the child of a neighbour with whom he was playing. The latter reproached him with his father's fate, of which the child had hitherto been ignorant, saying: "Thou "art like thy father, who has become an evil spirit, ranging the "forests day and night and eating and drinking no man knows how. "Get thou to thy father." Then the boy ran crying to his mother and related what had been said to him. "Do not cry," said she, "it "is true, alas! that thy father has become a spirit of evil." On this the boy cried all the more, and begged to be allowed to join his father. His mother yielded at last to his entreaties, and told him the name of his father and the names of the dogs. He might be known, she said, by his habit of gazing fixedly at the sky and by his four weapons—a blow-pipe (*sumpitan*), a spear, a kris, and a sword (*klewang*). "And," added she, "when thou hearest the "hunt approaching, call upon him and the dogs by name and repeat "thy own name and mine so that he may know thee."

The boy entered the forest, and, after he had walked some way, met an old man, who asked him where he was going. "I "go to join my father," said the lad. "If thou findest him," said the old man, "ask him where he has put my chisel which he bor- "rowed from me." This the boy promised to do, and continued his journey. After he had gone a long way, he heard sounds like those made by people engaged in hunting. As they approached, he repeated the names which his mother had told him, and

immediately found himself face to face with his father. The hunter demanded of him who he was, and the child repeated all that his mother had told him, not forgetting the message of the old man about the chisel.* Then the hunter said: "Truly thou art my son. As for the chisel it is true that when "I started from house I was in the middle of shaping some bamboos "to make steps for the house. I put the chisel inside one of the "bamboos. Take it and return it to the owner. Return now and take "care of thy mother and sister. As for he who reproached thee, "hereafter we will repay him. I will eat his heart and drink his "blood, so shall he be rewarded." From that time forward the Spectre Huntsman has afflicted mankind, and many are those whom he has destroyed. Before dismissing his son, he desired him to warn all his kindred never to use bamboo for making steps for a house and never to hang clothes to dry from poles stuck in between the joists supporting the floor, and thus jutting out at right angles with a house,† "lest," said he, "I should strike against such poles "as I walk along." "Further," he continued, "when ye hear the "note of the bird *birik-birik* at night, ye will know that I am walk-"ing near." Then the boy returned to his mother and delivered to her and to all their kindred the injunctions of the lost man. One account says that the woman followed her spectre husband to the forest, where she joins in the chase with him to this day, and that they have there children born in the woods. The first boy and girl retained their human form, according to this account, but some Pawangs say that the whole family are in the forest with the father.

* The episode of the chisel, which here seems to be meaningless, connects this legend with the beliefs of the Bataks and of the Balinese regarding earthquakes. If an earthquake occurs, the Batak calls out *Sohul* (the handle of a chisel), in allusion to the chisel of Batara Guru, which was broken during the creation of the world when a raft was being made for the support of the earth. See Kawi Language and Literature, VAN DER TUUK, Journal of the Royal Asiatic Society, XIII., N. S., Part I., p. 60.

† In explanation of this, it may be necessary to remark that Malay houses are built on wooden posts, so that the floor is raised off the ground to a height varying from three to six feet. A horizontal pole, wedged into the framework of the floor from the outside, would thus stick out at right angles to the house and obstruct a passer-by.

Numerous *mantra*, or charms, against the evil influence of the Wild Huntsman are in use among the Pawangs, or medicine-men, of Pêrak. These are repeated, accompanied by appropriate ceremonies, when the disease from which some sick person is suffering has been traced to an encounter with the *hantu pemburu*.

The following may serve as a specimen :—

Bi-smi-lláhi-r-rahmáni-r-rahim.
Es-salaun 'aleykum Hei Si Jidi laki Mah Jadah.

Pergi buru ka-rimba Ranchah Mahang.
Katapang nama bukit-nia.
Si Langsat nama anjing-nia,
Si Kumbang nama anjing-nia,
Si Nibong nama anjing-nia,
Si Pintas nama anjing-nia,
Si Aru-Aru nama anjing-nia,
Timiang Balu nama sumpitan-nia,
Lankapuri nama lembing-nia,
Singha-buana nama mata-nia,
Pisau raut panjang ulu
Akan pemblah pinang berbulu.
Ini-lah pisau raut deripada Maharaja Guru.
Akan pemblah prut hantu pemburu.
Aku tahu asal angkau mula menjadi orang Katapang.
Pulang-lah angkau ka rimba Ranchah Mahang.
Jangan angkau meniakat-meniakit pada tuboh badan-ku.

"In the name of God, the Compassionate, the Merciful.
Peace be on thee, O Si Jidi husband of Mah Jadah.

Go thou and hunt in the forest of Ranchah Mahang.
Katapang is the name of thy hill,
Si Langsat is the name of thy dog,
Si Kumbang is the name of thy dog,
Si Nibong is the name of thy dog,
Si Pintas is the name of thy dog,
Si Aru-Aru is the name of thy dog,
Timiang Balu is the name of thy blow-pipe,
Lankapuri is the name of thy spear,

Singha-buana is the name of its blade,
The peeling-knife with a long handle
Is to split in twain the fibrous betel-nut;
Here is a knife from Maharaja Guru
To cleave the bowels of the Hunter-Spirit.
I know the origin from which thou springest,
O man of Katapang.
Get thee back to the forest of Ranchah Mahang.
Afflict not my body with pain or disease."*

In charms intended to guard him who repeats them, or who wears them written on paper, against the evil influences of the Spectre Huntsman† the names of the dogs, weapons, &c., constantly vary. The origin of the dreaded demon is always, however, ascribed to Katapang in Sumatra. This superstition strikingly resembles the European legends of the Wild Huntsman, whose shouts the trembling peasants hear above the storm. It is, no doubt, of Aryan origin, and, coming to the Peninsula from Sumatra, seems to corroborate existing evidence tending to shew that it is partly through Sumatra that the Peninsula has received Aryan myths and Indian phraseology. A superstitious prejudice against the use of bamboo in making a step-ladder for a Malay house and against drying clothes outside a house on poles stuck into the framework, exists in full force among the Pêrak Malays. The note of the *birik-birik* at night, telling as it does of the approach of the *hantu pemburu*, is listened to with the utmost dread and misgiving. The Bataks in Sumatra call this bird by the same name—*birik-birik*. It is noticeable that in Batak legends regarding the creation of the world, the origin of mankind is ascribed to *Putri-Orta-Bulan*, the daughter of *Batara-Guru*, who descended to the earth *with a white owl and a dog.*‡

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* See a similar charm, for protection against this spirit, in use among one of the wild tribes of the peninsula, Journal of the Indian Archepelago, I., 318. In the charm given in the text the names of the forest, dogs and blow-pipe are Malay, *Lankapuri* is the Sanskrit name for the island of Ceylon, and *Singhabuana* seems to be composed of two Sanskrit words meaning "lion" and "world."

† Four or five different versions are in my possession.

‡ MARSDEN—History of Sumatra, 385. An imperfect version of the story of the *hantu pemburu* is to be found in DE BACKER'S *L'Archipel Indien*.

Houses.

The superstitions about houses are of infinite number and variety. It is unlucky to place the ladder or steps, which form the approach to a Malay house, in such a position that one of the main rafters of the roof is exactly over the centre of them. Quarrels or fighting in the house will certainly be the result. In selecting timber for the uprights of a Malay house care must be taken to reject any log which is indented by the pressure of any parasitic creeper which may have wound round it when it was a living tree. A log so marked, if used in building a house, exercises an unfavourable influence in child-birth, protracting delivery, and endangering the lives of mother and child. Many precautions must be taken to guard against evil influences of a similar kind, when one of the inmates of a house is expecting to become a mother. No one may "divide the house" (*bĕlah rumah,*) that is, go in at the front door and out by the back, or *vice versâ*, nor may any guest or stranger be entertained in the house for one night only; he must be detained for a second night to complete an even period. If an eclipse occurs, the woman on whose account these observances are necessary must be taken into the *penangga* (kitchen) and placed beneath the shelf or platform (*para*) on which the domestic utensils are kept. A spoon is put into her hand. If these precautions are not taken, the child, when born, will be deformed.

To trip on the steps, or to knock one's head against the lintel (Malay door-ways are always inconveniently low) on leaving a house, is unlucky, and if the person to whom this happens is starting upon any business, it must be postponed, and he must stay at home, for the accidents mentioned forbode death. It is also unlucky to start on a journey when rain is falling, for the rain signifies *ayer mata* (tears).

It is unlucky for any one to stand with his arms resting on the steps of a ladder going up to a house for the purpose of talking to one of the inmates. The reason is, that if a corpse is carried out of the house, there must be a man below in this position to receive it. To assume this attitude unnecessarily, therefore, is to wish for a death in the family (*menyuroh hap*).

Langkah.

The Malays share with most other Eastern nations the superstiti-

Singha-buana is the name of its blade,
The peeling-knife with a long handle
Is to split in twain the fibrous betel-nut;
Here is a knife from Maharaja Guru
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different qualifications are attributed. Good or evil fortune may be expected according as the various periods fall to the various portions of the design. Numerous Malay treatises on this, to them all-important, subject exist. One well-known one is called *Sedang Budiman*. The most popular, perhaps, are those which treat of the five ominous times (*katika lima*) and the seven ominous times (*katika tujoh*). The latter are ruled by the *bintang tujoh* (the seven planets), which the Malays enumerate as follows: *Shems*, the sun; *Kamr*, the moon; *Marik*, Mars; *Utarid*, Mercury; *Zahrat*, Venus; *Mustari*, Jupiter; *Zahal*, Saturn. Tables are drawn up assigning the influence of one of these to every hour of the week, and the nature of the influence which each planet is supposed to exercise is fully explained.

The Rainbow.

Palangi, the usual Malay word for the rainbow, means "striped." The name varies, however, in different localities. In Pêrak it is called *palangi minum* (from a belief that it is the path by which spirits descend to the earth to drink), while in Penang it is known as *ular dandi** ("the snake *dandi*"). In Pêrak, a rainbow which stretches in an arch across the sky is called *bantal* ("the pillow") for some reason which I have been unable to ascertain. When only a small portion of a rainbow is visible, which seems to touch the earth, it is called *tunggul* ("the flag"), and if this is seen at some particular point of the compass—the West, I think,—it betokens, the Pêrak Malays say, the approaching death of a Raja.

Another popular belief is that the ends of the rainbow rest on the earth, and that if one could dig at the exact spot covered by one end of it, an untold treasure would be found there. Unfortunately, no one can ever arrive at the place.

Sunset.

Sunset is the hour when evil spirits of all kinds have most power. In Pêrak, children are often called indoors at this time to save them from unseen dangers. Sometimes, with the same object, a

* *Dhanuk*, in Hindustani, means "a bow" and is a common term in India, among Hindus, for the rainbow; *dhanu* and *dhanush* also signify "a bow," *dhanu* is used for the sign Sagittarius. All these words are of Sanskrit origin.

woman belonging to a house where there are young children will chew up *kuniet tĕrus* (an evil-smelling root, supposed to be much disliked by demons of all kinds) and spit it out at seven different points as she walks round the house.

The yellow glow which spreads over the western sky, when it is lighted up with the last rays of the dying sun, is called *mambang kuning* ("the yellow deity"), a term indicative of the superstitious dread associated with this particular period. The fact that a Sanskrit phrase *senja kala (samdhya kala)* is employed in Malay to describe the evening twilight, is not without significance in connection with some of these superstitions.

Avoidance of Cow-Beef.

Among the modern Malays, avoidance of the flesh of swine, and of contact with anything connected with the unclean animal is, of course, universal. No tenet of El-Islam is more rigidly enforced than this. It is singular to notice, among a people governed by the ordinances of the Prophet, traces of the observance of another form of abstinence enjoined by a different religion. The universal preference of the flesh of the buffalo to that of the ox, in Malay countries, is evidently a prejudice bequeathed to modern times by a period when cow-beef was as much an abomination to Malays as it is to the Hindus of India at the present day. This is not admitted or suspected by ordinary Malays, who would probably have some reason, based on the relative wholesomeness of buffalo and cow-beef, to allege in defence of their preference of the latter to the former.

Animals.

The wild animals which inhabit the forests of the Peninsula have naturally enough an important place in the folklore of the Malays. The tiger is sometimes believed to be a man or demon in the form of a wild beast, and to the numerous aboriginal superstitions which attach to this dreaded animal, Muhammadanism has added the notion which connects the tiger with the Khalif Ali. One of Ali's titles throughout the Moslem world is "the victorious Lion of the Lord," and in Asiatic countries where the lion is unknown, the *tiger* generally takes the place of the king of beasts.

The bear is believed to be the mortal foe of the tiger, which he sometimes defeats in single combat. (*Bruang*, the Malay word for "bear," has a curious resemblance to our word "Bruin.") A story is told of a tame bear which a Malay left in charge of his house and of his sleeping child while he was absent from home. On his return, he missed his child, the house was in disorder as if some struggle had taken place, and the bear was covered with blood. Hastily drawing the conclusion that the bear had killed and devoured the child, the enraged father slew the animal with his spear, but almost immediately afterwards he found the carcase of a tiger, which the faithful bear had defeated and killed, and the child emerged unharmed from the jungle where she had taken refuge. It is unnecessary to point out the similarity of this story to the legend of Beth-Gelert.* It is evidently a local version of the story of the Ichneumon and the Snake in the Pancha-tantra.

A mischievous tiger is said sometimes to have broken loose from its pen or fold (*pechah kandang*). This is in allusion to an extraordinary belief that, in parts of the Peninsula, there are regular enclosures where tigers possessed by human souls live in association. During the day they roam where they please, but return to the *kandang* at night!

The superstitious dread entertained by Malays for the larger animals, is the result of ideas regarding them, which have been inherited from the primitive tribes of Eastern Asia. Muhammadanism has not been able to stamp out the deep-rooted feelings which prompted the savage to invest the wild beasts which he dreaded with the character of malignant deities. The tiger, elephant, and rhinoceros were not mere brutes to be attacked and destroyed. The immense advantages which their strength and bulk gave them over the feebly armed savage of the most primitive tribes, naturally suggested the possession of supernatural powers; and propitiation, not force, was the system by which it was hoped to repel them. The Malay addresses the tiger as *Datoh* (grand-father), and believes that many tigers are inhabited by human souls. Though he reduces the elephant to subjection, and uses him as a beast of

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* Similar Gelert stories are current in Sind. BURTON—Sind Re-visited, II., 89, 303.

burden, it is universally believed that the observance of particular ceremonies, and the repetition of prescribed formulas, are necessary before wild elephants can be entrapped and tamed. Some of these spells and charms *(mantra)* are supposed to have extraordinary potency, and I have in my possession a curious collection of them, regarding which, it was told me seriously by a Malay, that in consequence of their being read aloud in his house three times, all the hens stopped laying! The spells in this collection are nearly all in the Siamese language, and there is reason to believe that the modern Malays owe most of their ideas on the subject of taming and driving elephants to the Siamese. Those, however, who had no idea of making use of the elephant, but who feared him as an enemy, were doubtless the first to devise the idea of influencing him by invocations. This idea is inherited, both by Malays and Siamese, from common ancestry.

In the case of the crocodile, again, we find an instance of a dangerous animal being regarded by Malays as possessed of mysterious powers, which distinguish him from most of the brute creation, and class him with the tiger and elephant. Just as in some parts of India sacred crocodiles are protected and fed in tanks set apart for them by Hindus, so in Malay rivers here and there, particular crocodiles are considered *kramat* (sacred), and are safe from molestation. On a river in the interior of Malacca, I have had my gun-barrels knocked up when taking aim at a crocodile, the Malay who did it immediately falling on his knees in the bottom of the boat and entreating forgiveness on the ground that the individual reptile aimed at was *kramat*, and that the speaker's family would not be safe if it were injured. The source of ideas like this lies far deeper in the Malay mind than his Muhammadanism, but the new creed has, in many instances, appropriated and accounted for them The connection of the tiger with ALI, the uncle of the prophet, has already been explained. A grosser Muhammadan fable has been invented regarding the crocodile.

This reptile, say the Pêrak Malays, was first created in the following manner:—

There was once upon a time a woman called *Putri Padang Geriasing*, whose petitions found great favour and acceptance with the Almighty. She it was who had the care of SITI FATIMA, the

daughter of the prophet. One day she took some clay and fashioned it into the likeness of what is now the crocodile. The material on which she moulded the clay was a sheet of *upih* (the sheath of the betel-nut palm). This became the covering of the crocodile's under-surface. When she attempted to make the mass breathe it broke in pieces. This happened twice. Now it chanced that the Tuan PUTRI had just been eating sugar-cane, so she arranged a number of sugar-cane joints to serve as a backbone, and the peelings of the rind she utilised as ribs. On its head she placed a sharp stone and she made eyes out of bits of saffron *(kuniet)*; the tail was made of the mid-rib and leaves of a betel-nut frond. She prayed to God Almighty that the creature might have life, and it at once commenced to breathe and move. For a long time it was a plaything of the prophet's daughter, SITI FATIMA, but it at length became treacherous and faithless to Tuan PUTRI PADANG GERINSING, who had grown old and feeble. Then FATIMA cursed it saying: "Thou shalt be the crocodile of the sea, no enjoyment shall be thine, and thou shalt not know lust or desire." She then deprived it of its teeth and tongue, and drove nails into its jaws to close them. It is these nails which serve the crocodile as teeth to this day.

Malay Pawangs in Pèrak observe the following methods of proceeding when it is desired to hook a crocodile. To commence with, a white fowl must be slain in the orthodox way by cutting its throat, and some of its blood must be rubbed on the line (usually formed of rattan) to which the fowl itself is attached as bait. The dying struggles of the fowl in the water are closely watched and conclusions are drawn from them as to the probable behaviour of the crocodile when hooked. If the fowl goes to a considerable distance, the crocodile will most likely endeavour to make off, but it will be otherwise if the fowl moves a little way only up and down, or across the stream. When the line is set, the following spell must be repeated: "*Aur Dangsari kamala sari, sambut kirim Tuan Putri Padang Gerinsing tidak di sambut mata angkan chabut.*" ("O Dangsari, lotus, flower, receive what is sent thee by the Lady Princess Padang Gerinsing; if thou receivest it not, may thy eyes be torn out"). As the bait is thrown into the water the operator must blow on it three times, stroke it three times, and thrice

a baby, and a Malay will employ some purely nonsensical word, or convey his meaning in a roundabout form, rather than incur possible misfortune by using the actual word "fat." "*Ai bukan -nia poh-poh gental budak ini*" ("Isn't this child nice and round?") is the sort of phrase which is permissible.

If a woman dies in child-birth, either before delivery, or after the birth of a child and before the forty days of uncleanness have expired, she is popularly supposed to become a *langsuyar*, a flying demon of the nature of the "white lady" or "*banshee*." To prevent this, the following precautions are sometimes taken in Pêrak: a quantity of glass beads are put in the mouth of the corpse, a hen's egg is put under each arm-pit and needles are placed in the palms of the hands. It is believed that if this is done the dead woman cannot become a *langsuyar*, as she cannot open her mouth to shriek *(ngilai)*, or wave her arms as wings, or open and shut her hands to assist her flight.

Bujang ("single," "solitary," and hence in a secondary sense "un-married") is the Sanskrit word *bhujangga* "a dragon". "Bujang Malaka," a mountain in Pêrak, is said by the Malays of that State to have been so called because it stands *alone*, and could be seen from the sea by traders who plied in old days between the the Pêrak river and the once-flourishing port of Malacca. But it is just as likely to have been named from some forgotten legend in which a dragon played a part. Dragons and mountains are generally connected in Malay ideas. The caves in the limestone hill, Gunong Pondok, in Pêrak, are said to be haunted by a *genius loci* in the form of a snake who is popularly called *Si Bujang*. This seems to prove beyond doubt the identity of *bujang* with *bhujangga*. The snake-spirit of Gunong Pondok is sometimes as small as a viper and sometimes as large as a python, but he may always be identified by his spotted neck, which resembles that of the wood-pigeon *(tekukur)*. Landslips on the mountains, which are tolerably frequent during very heavy rains, and which, being produced by the same cause, are often simultaneous with the flooding of rivers and the destruction of property, are attributed by the natives to the sudden breaking forth of dragons *(naga)* which have been performing religious penance *(ber-tapa)* * in the mountains, and which are making their way to the sea.

* Sanskrit *tapasya*.

The foregoing are only a few specimens of the legends, sayings, superstitions, and peculiarities of the Malays, which may be collected by any one who is resident among them and conversant with their language. Though, in many instances, they are puerile and foolish, they are not without value for the sake of comparison with the superstitious beliefs of other races.

There would be more observers of curious customs and beliefs among the Malays if Englishmen in these latitudes would get out of the habit of regarding the Malays simply as a Muhammadan people inhabiting the countries in the vicinity of the Straits of Malacca. Let them regard the Muhammadanism of the Malay as an accident not to be taken into account in studying the character and tracing the origin of the people. The Asiatic Malay is physically the same, from Sumatra eastward to Borneo, and many legends, customs, and superstitions which are found among the heathen Bataks of Sumatra, the wild tribes of the Peninsula, and the Dayaks of Borneo, belong equally to the more civilised Malay tribes, those who have accepted Muhammadanism, and who, on that account, are popularly and erroneously supposed to be a different race.

NOTES ON THE RAINFALL OF SINGAPORE.

BY J. J. L. WHEATLEY.

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The amount of Rainfall in Singapore having been a topic very frequently discussed, it is with some diffidence the accompanying tables are submitted. Any one who applies himself to the study of this subject, cannot but feel, at the very threshold of his labours, how little he has to help him, and how difficult it is to arrive at any definite conclusion.

For some years back, I have tried to collect as much information as was possible on the rainfall of this Settlement, but find that very little indeed can be done in this matter. Whatever records of rainfall may have been kept in times past, all that are at present available, are:—

1.—Statements of the number of rainy days in each year, from 1820 to 1825.

2.—A Statement of Rainfall for the year 1835.

3.—Observations made at the Singapore Observatory, for the years 1841 to 1844, and for the first nine months of 1845.

4.—After a large gap of seventeen years, Mr. J. D. VAUGHAN'S Observations, from 1862 to 1866, whose returns were published quarterly in the local *Government Gazette.*

5.—Meteorological Observations, which were commenced by the late Dr. RANDELL, Principal Civil Medical Officer, Straits Settlements, in 1869, and which are maintained to the present time. The Monthly Returns of these were published for many years in the *Government Gazette*, but of late years they have been discontinued. The P. C. M. O., however, supplies the press, public institutions, &c., with a yearly copy of Monthly Returns, both of Meteorological Observa-

tions, and of the Rainfall, which is now registered at seven stations. Annual Returns are also to be found in the Blue Books.

6.—Lastly, but not least, a Register of Rainfall kept by Mr. A. KNIGHT, since 1864, at Mount Pleasant, Thompson Road (about three miles distant from Town), and I must here express my deep obligation to him for his kindness in supplying me with the required information, and for revising the Tables of his range.

Though the rainfall at Singapore is now registered at seven stations, it is not intended to notice the whole of them, nor to act on the *means* of the total registered rainfall, but only to take the returns of the Criminal Prison, extending over a period of twelve years, as a register of rainfall in the town; and Mr. KNIGHT's returns, extending over a period of seventeen years, as a register of rainfall in the country; as they are the two best sources of information for the consideration of this question.

From time to time, letters have appeared in the local newspaper, asserting that the extensive clearing of forests in Singapore, and the adjoining mainland of Johor has materially affected the rainfall. In proof of this, the experience of the "oldest inhabitant" is appealed to, to bear testimony to the incessant daily fall of rain of former years, and the conclusion is hence drawn, that the rainfall will be altogether suspended if something be not, without delay, undertaken to stop this disafforestment of the island and peninsula.

It is not the object of the writer to enter into any lengthy discussion on this point. The sole object of this compilation of tables is, to bring together sources of information on this subject which are of value, but are now scattered, extending over many books and Gazettes, buried out of sight, and thus practically lost for convenient reference and research under this head in the future.

But, it may be safely advanced, that Singapore is *not* dependent on its extent of forests, or contiguity to forests, for its rain supply, but to its geographical position. In the Journal of the Indian Archipelago, vol. 2, page 457, Dr. LITTLE, writing on the Medical Topography of Singapore so far back as 1848—thirty-three years ago,—gives the average annual rainfall as being 92.697 inches; arriving at this conclusion from the records of the Singapore

Observatory during 1841 to 1844—a period of four consecutive years; and the average annual number of wet days was set down at 185 days, or a little over one-half the year, this last conclusion being drawn from the observations of broken periods as below:—

During	1820	there were	229	wet days*
„	1821	„	203	„
„	1824	„	133	„
„	1825	„	171	„
			739	„

185 average of 4 years,

but searching for information on this point, I am enabled to fill up the break, and we have:—

During	1820	there were	229	wet days
„	1821	„	203	„
„	1822	„	218	„
„	1823	„	208	„
	1824	„	136	„
„	1825	„	171	„
			1,165	„

giving 194 as the average of 6 years.

It would appear, that during the early days of the Settlement, which only dates from 1819, from want of a rain guage (due to the difficulties attendant on first occupation, and of getting things from India), all that was attempted, was, to keep a register of the readings of the thermometer and barometer (which every ship carried), and a note only made of the number of fair days and wet days. The earliest record of a register of rainfall that can be traced is that of 1835.

It is, however, interesting to note that the accepted average annual rainfall of 1841 to 1844, has not been affected notwithstanding the extensive clearing of forest that must have taken place during the past forty years, for the average of Mr. KNIGHT's register (Table III.) keeps a little above it, viz., 93.94 inches, while the

*By *wet or rainy days*, is understood days on which rain in more or less varying quantities from one-hundredth of an inch has been registered.

average of the Prison register is more markedly in excess, being 99.96 inches (Table II.). The average annual number of wet days, as will be seen from Tables IV. and V., has only to a small extent been diminished in the Prison Register, but exceeded in Mr KNIGHT'S. That there are seasons of marked falling off of the rainy season, is noticeable so early as 1824; and the order of their recurrence is worth studying. The *smallest* number of wet days, as recorded, is 109 in 1877, during which year, as will be seen on referring to Table VIII., the second half of the South-West monsoon was almost a complete failure, while the *greatest* number of wet days in recent years was 212 days in 1871, and 244 in 1879 at Mr. KNIGHT'S place: this last even exceeding that given for 1820.

The heavy falls of rain do not appear to be confined to any particular month. They are most frequent during the first half of the North-East monsoon, that is, the months of November, December and January. There are no recorded heavy rainfalls for February or July, and, but for one instance recorded by Mr. VAUGHAN, none in March also. These are best shown as below:—

	Mr. VAUGHAN'S register.	Prison register.	Mr. KNIGHT'S register.
January, ...	1	2	4
February, ...	...	...	...
March, ...	1	...	...
April, ...	1	...	1
May, ...	...	2	2
June, ...	...	1	1
July, ...	...	...	...
August, ...	...	2	2
September, ..	...	1	1
October, ...	...	1	...
November, ..	...	2	1
December, ..	2	1	5

DROUGHTS.—This word must be used guardedly, and can only apply in a limited sense. I have, therefore, shown it in Tables VI. and VII. as *the greatest consecutive number of days without rain in each month.* According to Table VI., the greatest interval without

rain has been only seventeen days; but in considering this, allowance has to be made liberally; for instance, from the 22nd September, 1877, to 8th October, there was no rain, but between 9th and 23rd October, there were small drizzlings of rain, viz.:—

On the 9th to the extent of 0.09 inches.
„ 10th „ 0.03 „
„ 14th „ 0.03 „
„ 22nd „ 0.05 „

the first shower being on 23rd, when 0.35 was registered, so that though there were days of small droppings of rain which intervened, the season of dryness was actually from 22nd September to 23rd October; and, in like manner, other instances may be adduced. But even with this drawback, these tables will, I think, be found of value, as they give a fair representation. The greatest interval without rain ranging from 7 to 17 days in town, and from 7 to 23 days in the country.

It is not possible to obtain information of this nature from condensed annual tabulated statements of former years. Mr. VAUGHAN's are the earliest available for this sort of analysis, and from them I gather, that the longest interval recorded by him as being without rain, was from 27th January to 2nd March, 1864, or 35 days; during which period *no* rainfall was registered, though on the 23rd and 26th February there was a "small sprinkling," but nothing appreciable by the gauge. Mr. KNIGHT, whose register commences at this time, also notes this extended drought of 35 days, the showers registered during this interval being two, viz., one to the extent of 0.03 inches, and the other to the extent of 0.14 inches, this last only reaching Mr. VAUGHAN, at River Valley Road, as a "small sprinkling," not appreciable. Mr. KNIGHT, in a note when returning his tables which were sent for his revision says: "Your table has the disadvantage of not showing droughts when "they extend from one month to another." This is fully admitted, and, as explained above, the tables are only to give an idea of the ordinary number of consecutive days without rain.

SEASONS.—In 1874, the late Dr. RANDELL, P. C. M. O., in submitting his Meteorological Report for 1873, proposed that, for the sake of convenience, the year should be divided into three periods of four months each; which he designated as *variable* for the first third, *dry* for the second third, and *wet* for the remaining portion.

With all deference for the opinion thus expressed, I am sure it will be evident to all who consider the subject, that the wisest plan is not to force or mould natural operations to artificial arrangements, but by studying Nature's plans, and, basing our calculations thereon, to get some insight (small though it be) into the wondrous and wise laws which govern this world.

We find one great influence at work, viz., the *Monsoons*, and in any observations from which correct inferences are intended to be drawn, this must not be lost sight of. The difficulty that one meets at the very beginning of this enquiry, arises from the questions—"When do the monsoons commence?" "Is there a fixed day?" "How are they governed?" MAURY, in his Physical Geography of the Sea, says: "Monsoons are, for the most part, trade winds deflected, when, at stated seasons of the year, a trade wind is turned out "of its regular course, as from one quadrant to another, it is regarded "as a monsoon." *What then is the stated season?* This has engaged the attention of many; the "Wiseman" said "The wind goeth toward "the South, and turneth about unto the North; it whirleth about "continually, and the wind returneth again according to his circuits;" but, *when* that stated season actually commences, is still beyond our telling.

The monsoons we have to deal with, are the North-East and South-West. To quote again from MAURY: "A force is exerted "upon the North-East trade winds of that sea by the disturbance "which the heat of summer creates in the atmosphere over the interior plains of Asia, which is more than sufficient to neutralize the "forces which cause those winds to blow as trade-winds, it arrests "them and turns them back." "These remarkable winds blow over "all that expanse of Northern water that lies between Africa and "the Philippine islands. Throughout this vast expanse, the winds "that are known in other parts of the world as the North-East trades "are here called monsoons, because, instead of blowing from that "quarter for twelve months as in other seas, they only blow for six. "During the remaining six months they are turned back as it were, "for instead of blowing towards the Equator, they blow away from "it, and instead of North-East trades we have South-West monsoon."

But, although the day of the commencement of either monsoon is not a fixed one, as far as is at present known, there is a time

when there is a turn, a "backing down" and "back to back" of the North-East and South-West winds, which differs, of course, according to latitude. In higher latitudes, the North-East monsoon may be said to have fairly set in during October, but for our low latitude it may roughly be put down as being established only in November. From November to the end of January, the North-East wind is blowing steadily; from February to April the struggle between North-East and South-West monsoons commences, and the result is *variable* breezes; from May to July, the South-West monsoon is the prevailing wind, losing its steadiness from August, till it is lost again in the next North-East monsoon by the end of October.*

Acting, therefore, on this natural division of seasons, a table has been prepared shewing the rainfall of each quarter (Table VIII.) thus arranged, and it will be noticeable, that the fall of the first portion of the North-East monsoon is (with only one exception in eleven years' registration) uniformly *greater* than the corresponding portion of the South-West monsoon; while the second half of the North-East monsoon is *less* than the corresponding season of the South-West; and that the fall of rain for the entire North-East monsoon is on the whole *greater* than that during the entire South-West: which may perhaps be accounted for by the North-East monsoon coming over a large watery expanse, unbroken by any high lands, whereas the rain-bearing clouds of the South-West monsoon are intercepted to a great extent by the island of Sumatra in our Southern and Western vicinity.

Under the present limited knowledge of Meteorology, it is almost impossible to lay down definite rules for guidance in making forecasts of weather except with the aid of the telegraph.† Men of science with skilfully arranged, delicate, sensitive instruments to detect every change of weather, &c., have devoted many years to its study, only to find themselves baffled. The Astronomer is far

* If it were possible to keep a constant hourly register of the wind as regards its direction, &c., the duration of each monsoon, and the changings from one to the other would be better understood.

† In merica (United States) and in Europe, telegraphic reports of the state of the weather from various parts are received hourly at the head offices, and sometimes preparations can be made against impending bad weather. Some years back, a proposal was made from Amoy to arrange for a daily telegraphic report from Singapore and Batavia, but it has not come to anything.

ahead of the Meteorologist, in that he can foretell with wonderful precision the movements of the stars and planets, proving thereby of great assistance to the navigator, who determines his position at sea, by night as well as by day, with the aid of the carefully prepared tables of the Nautical Almanac.

The Astronomer knows what influences the planets bear on one another, and on this globe; singly, or in conjunction during their movements through space; but the Meteorologist is still only on the borders of the vast unknown, and cannot compete with the Astronomer; he is still only a recorder of events passing and past, and not a diviner of events to come. Though the barometer is, in some latitudes, a faithful monitor, too often, the change predicted comes about faster than it was anticipated, and he is left only to register that which *has* happened.

Notwithstanding all that has been done to get together such information as may help to unravel the mystery of the laws which govern Nature, there is much more still wanting; but we may entertain the hope, that in the perhaps not distant future, by the aid of faithfully recorded meteorological registers which at present seem of little value, some KEPLER or NEWTON will yet arise, and discover the effects of solar spots, and the influences of the celestial objects on our atmosphere from *without;* and the workings of this vast globe, generating, and maintaining electricity, magnetism and and a host of other operations from *within*,* causes which operate no doubt in some recurrent order, guided and governed by solar and lunar cycles.† We may hope, that when it is understood how these causes act and react on one another, certain rules will be

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*In Astronomy, KEPLER in 1609-1618 could never have arrived at the conclusions known as his LAWS, but for the labours of TYCO BRAHE, who, about fifty years previously, laboured to collect a large amount of correct, trustworthy, facts uninteresting perhaps to many, but invaluable to KEPLER. With the advantage of the labours of these two, NEWTON, about fifty years later, was enabled to announce his Laws of Gravitation and the movements of the planets, &c., in their orbits; laws which have proved to be so correct, that about a hundred and fifty years later, with the Laws of NEWTON as the basis of operation, ADAMS in England, and LEVERRIER in France, fixed the position of an unknown disturber of the movements of *Uranus*, and discovered it to be the planet which has been named *Neptune*.

† Herr SCHWABE of Dessau calculates the recurrent cycles of Solar Spots at eleven years. A *solar cycle* is 28 years, and a *lunar cycle* 19 years.

framed, as has been done for the Astronomer, whereby that which now appears dark, doubtful and difficult, will be made clear, certain and simple; and the perils of the navigator at sea, the devastating effects of hurricanes on land, and the distress and want of famines will be foreseen and provided against with certainty.

Admiral FITZROY, in his Weather Book, says: "Having accurate "statistical observations of the various currents of air at selected "outlying stations shewing pressure or tension, temperature and rela- "tive dryness, with the direction and estimated horizontal force of "wind at *each place simultaneously*, the dynamic consequences are "already measurable approximately on geometric principles, and, "judging by the past, there appears to be reasonable ground for "expectation that meteorologic dynamics will soon be subjected to "mathematical analysis and accurate formulas." And again: "Certain "it is, that although our conclusions may be incorrect and our judg- "ment erroneous, the laws of Nature and the signs afforded to man "are invariably true. Accurate interpretation is the real deficiency."

It appears from superficial observations, and the inferences one can draw from having only a very faint idea of this subject, that until at least there are trustworthy records of periods extending over two or three solar cycles, it would be futile to hazard, even by guessing, a rule by which the Rainfall of Singapore can be calculated upon. If, therefore, this Society will endeavour to collect all possibly accurate returns of the rainfall, &c., it will be doing great service to those who may study the Meteorology of this part of the world from the tables thus preserved, when this generation shall have passed away.

Nothing in this paper is intended to dispute or question the accepted and well known fact, that disafforestment of a country *does* bring about a change of climate by diminishing rainfall, but before concluding, it would be well to urge, for the consideration of those who may be interested, the advisability of providing against another result of extensive clearings of forests, viz., the failure of the supply of fuel, not to speak of the timber supply for building, &c., in the future. If disafforestment does not influence the rainfall of this Settlement, it will certainly have some influence on the supply for the above-mentioned demands. The number of local steam engines on land and at sea, consuming large

TABLE IV.

Table shewing the number of Rainy Days according to the Registers noted below.

	Various.							Mr. J. D. Vaughan's Register.				
	1820	1821	1822	1823	1824	1825	Average.	1863	1864	1865	1866	Average.
January, ...	Details not procurable.		16	21	Details not procurable.			22	20	13	17	18
February, ...			17	18				16	0	10	14	10
March, ...			17	11				10	8	8	8	8
April, ...			16	15				15	11	15	13	14
May, ...			15	20				13	10	11	14	12
June, ...			20	17				11	14	14	6	11
July, ...			11	14				10	16	17	19	15
August, ...			21	17				12	14	20	16	16
September, ...			13	15				15	15	13	14	14
October, ...			22	19				21	22	17	19	20
November, ...			26	23				13	18	17	16	16
December, ...			24	18				26	19	18	12	19
Total, ...	229	203	218	208	136	171	194	184	167	173	168	173
	Smallest number in any year, 136 days in 1824. Greatest do., 229 „ 1820.							Smallest number, 167 days in 1864. Greatest do., 184 „ 1863.				

TABLE IV,—*Continued.*

Table shewing the number of Rainy Days according to the Registers noted below,—Continued.

Registered at the Criminal Prison.

	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	Average.
January, ...	12	24	19	6	18	16	9	11	4	21	24	15	15
February, ...	12	21	21	20	18	10	13	7	10	13	14	13	14
March, ...	8	14	22	11	18	15	22	9	9	5	15	16	14
April, ...	16	17	8	13	18	12	16	11	7	13	13	15	13
May, ...	16	10	14	12	14	13	16	10	10	17	15	13	13
June, ...	11	17	13	16	13	10	14	17	12	8	8	12	12
July, ..	13	11	19	17	11	16	9	7	13	12	10	13	13
August, ...	18	17	20	14	13	15	14	11	6	16	13	15	14
September,...	12	18	20	17	11	14	12	14	2	7	11	18	13
October, ...	15	17	20	19	22	12	14	16	8	11	18	14	16
November,...	21	25	20	23	23	22	18	18	12	17	16	19	20
December,...	26	18	16	18	20	17	15	15	16	21	18	16	18
Total,...	180	209	212	186	199	172	172	146	109	161	175	179	175

Smallest number in any year 109 days in 1877.
Greatest do. 212 „ 1871.

TABLE V.

Table shewing the number of Rainy Days from 1864 to 1880, as recorded by A. Knight, Esq., at Mount Pleasant, Thompson Road.

	1864	1865	1866	1867	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	Average.
January,...	19	14	21	15	15	15	25	24	4	16	19	11	14	7	22	28	21	17
February,	2	12	17	19	9	12	25	21	17	19	15	14	7	20	18	17	14	15
March, ...	12	9	14	8	13	15	17	26	11	19	20	24	18	14	6	25	18	16
April, ...	11	22	17	22	22	22	18	15	16	20	21	21	15	5	22	18	16	18
May, ...	13	15	19	12	16	24	12	14	13	14	18	17	17	15	22	20	20	17
June, ...	13	15	9	15	11	14	20	18	20	13	16	13	17	13	20	15	18	15
July, ...	16	16	17	19	24	13	9	20	19	13	20	9	12	10	15	20	13	16
August, ...	16	22	18	11	15	20	19	20	20	15	19	15	14	9	21	21	18	17
September,	17	13	11	18	14	15	24	21	18	7	16	13	16	7	13	13	20	15
October,...	24	20	18	25	17	15	15	18	27	18	18	23	22	8	14	27	15	19
November,	25	19	22	24	26	26	27	23	27	22	25	24	23	15	18	19	24	23
December,	24	24	11	21	26	29	21	18	19	23	20	19	25	21	24	21	20	21
Total,...	192	201	194	209	208	220	232	238	211	199	227	203	200	144	215	244	217	209

Smallest number in any year, 144 days in 1877.
Greatest do., 244 „ 1879.

TABLE VI.

Table shewing the greatest Consecutive Number of Days without Rain, in each month, as observed at the Criminal Prison, from 1869 to 1880.

	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	Average.
January, ...	7	2	3	9	4	4	11	11	14	5	2	5	7
February, ...	4	2	4	4	4	7	7	11	12	5	5	7	6
March, ...	12	7	3	8	8	8	2	9	13	9	6	4	7
April, ...	2	4	13	10	3	6	4	4	7	4	7	3	5
May, ...	2	9	4	5	3	4	8	6	12	4	7	6	6
June, ...	5	6	3	4	7	8	5	4	8	13	9	5	6
July, ...	5	15	3	6	5	3	11	7	4	5	9	5	7
August,...	3	4	2	6	10	4	7	11	17	4	3	5	6
September, ...	6	5	2	6	8	4	9	7	12	8	7	3	7
October, ...	4	6	4	4	2	4	4	7	17	14	4	6	6
November, ...	2	2	2	2	2	2	4	3	4	4	7	3	3
December, ...	1	3	8	4	3	4	10	4	5	3	4	4	4
Longest period during the year,	12	15	13	10	10	8	11	11	17	14	9	7	

TABLE VII.

Table shewing the greatest Consecutive Number of Days without Rain, in each month, as observed by A. Knight, Esq., *from 1863 to 1880, at Mount Pleasant, Thompson Road.*

	1863	1864	1865	1866	1867	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	Average
January,	6	6	6	2	6	6	6	8	4	18	6	8	10	10	8	4	2	6	6
February,	10	12	12	13	6	13	4	1	8	4	4	4	4	11	8	2	4	8	6
March,	10	8	8	6	23	4	6	6	1	6	8	8	2	6	8	6	2	11	7
April,	6	2	2	3	3	6	2	4	7	4	8	8	6	4	6	8	7	8	4
May.	4	7	7	4	6	5	2	8	4	6	8	6	7	8	8	2	6	8	6
June,	6	7	7	14	8	11	6	4	6	8	8	6	6	2	4	4	7	4	6
July,	7	6	6	8	6	8	7	15	8	6	4	6	10	6	4	6	6	6	6
August,	8	2	2	6	6	6	8	8	2	4	6	4	7	7	6	8	2	4	4
September,	8	7	7	6	6	6	6	2	2	6	11	4	7	4	7	6	7	4	6
October,	2	8	8	6	2	6	6	4	4	1	8	4	4	4	11	6	2	6	5
November,	1	2	2	2	2	2	2	1	8	1	8	2	1	8	4	4	2	1	2
December,	2	4	4	7	6	1	1	4	7	4	2	8	6	2	8	2	3	2	3
Longest period during the year,	10	12	12	14	23	13	9	15	7	13	11	8	10	11	11	9	7	8	

TABLE VIII.

Arrangement of the Rainfall registered at the Criminal Prison by Monsoons.

North-East Monsoon.	1869.	1869-70.	1870-71.	1871-72.	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	Average of 11 years.	Remarks.
	inches.	inches.	inches.	inches.	inches.	inches.	inches.	inches.	inches.	inches.	inches.	inches.	inches.	
November,		8.21	11.50	11.03	13.52	15.79	20.53	10.10	15.88	5.21	10.73	8.21	12.70	
December,		20.60	18.13	15.10	7.08	5.08	7.56	6.72	9.00	5.18	9.70	8.02	10.10	N. B. The average of only 11 years is taken owing to want of any record at this place for November and December, 1868. A similar table for Mr. Knight's [illegible] would have been prepared but for the [illegible] this [illegible] would have [illegible].
January,	3.03	18.25	11.50	2.53	7.31	3.58	2.53	1.31	2.81	13.51	20.00	4.10	8.30	
Total 1st half of N. E. Monsoon		17.15	41.10	32.65	29.31	24.08	30.61	27.10	28.50	24.50	40.40	20.00	31.5[illegible]	
February,	2.23	7.80	7.27	8.2[illegible]	10.01	2.79	0.35	2.01	7.01	0.28	8.45	7.71	6.80	
March,	3.37	3.15	11.05	3.30	11.11	2.01	20.03	1.35	4.78	1.00	12.30	7.07	7.58	
April,	0.23	8.81	3.33	3.07	10.00	5.70	8.70	8.02	1.80	0.83	6.05	13.37	7.41	
Total 2nd half		19.70	21.65	15.58	31.28	11.03	35.08	15.18	13.02	18.01	27.10	28.75	22.10	
Total N. E. Monsoon		66.01	65.81	48.23	62.50	30.01	66.60	12.07	12.21	12.51	67.05	49.11	53.70	

TABLE VIII.—*Continued.*

Arrangement of the Rainfall registered at the Criminal Prison by Monsoons.—Continued.

		1869.	1869-70.	1870-71.	1871-72.	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	Average of 11 years.	Remarks.
		inches.	inches.	inches.	inches.	inches.	inches.	inches.	inches.	inches.	inches.	inches.	inches.	inches.	
South-West Monsoon.	May, ...	9.19	5.01	4.13	6.13	8.13	4.54	5.69	7.95	3.60	11.17	12.00	8.53	6.99	
	June, ...	6.81	11.51	5.56	5.03	5.54	5.91	8.14	13.34	13.53	4.13	9.16	5.74	7.96	
	July, ...	5.42	5.11	12.17	5.44	3.14	5.92	4.53	4.51	7.21	5.14	4.57	8.86	6.06	
	Total 1st half of S.W. Monsoon		21.63	21.86	16.60	16.81	16.37	18.36	25.80	24.34	20.44	25.73	23.13	21.01	
	August, ...	12.31	11.36	8.51	9.27	6.55	11.82	9.41	9.84	4.78	17.36	8.42	9.10	9.68	
	September,	3.13	12.62	9.12	12.82	3.05	9.74	9.58	7.72	3.27	3.27	6.48	4.20	7.43	
	October, ...	5.11	9.99	14.92	6.22	8.30	8.83	9.74	12.55	1.68	6.57	14.21	8.86	9.26	
	Total 2nd half		33.97	32.55	28.31	17.90	30.39	28.73	30.11	9.73	27.20	29.11	22.16	26.37	
	Total S. W. Monsoon		55.60	54.41	44.91	34.71	46.76	47.09	55.91	34.07	47.64	54.84	45.29	47.38	
	Total both Monsoons ...		122.51	120.25	93.14	97.30	82.77	113.68	98.58	76.28	90.15	122.79	94.73	101.11	

JOURNAL

OF A VOYAGE THROUGH THE

STRAITS OF MALACCA

ON AN EXPEDITION TO THE

MOLUCCA ISLANDS

UNDER THE COMMAND OF

ADMIRAL RAINIER

WITH SOME ACCOUNT OF THOSE ISLANDS AT THE TIME OF THEIR FALLING INTO OUR HANDS, AND LIKEWISE SUGGESTIONS RELATIVE TO THEIR FUTURE BETTER MANAGEMENT IN CASE OF BEING RETAINED IN OUR PERMANENT POSSESSION,

BY

CAPTAIN WALTER CAULFIELD LENNON,

PRINCIPAL ENGINEER AND SECRETARY TO THE EXPEDITION.

1796.

Madras, October 12th, 1795. I this day embarked on His Majesty's ship *Suffolk* as Principal Engineer and Secretary to the Expedition.

13th.—Seventy-eight minute guns were this day fired from the Fort and *Suffolk* on account of the death of His Highness the Nabob of Arcott, who departed this life last night.

14th.—Threatening appearances of a gathering monsoon, heavy rain with violent thunders and lightning. A royal salute was fired on account of the capture of Malacca, the intelligence of which arrived this morning.

Madras to Pulo Penang.

15th.—The Admiral having come on board this day we sailed about 5 in the afternoon in company with the *Centurion*, *Arniston*, Indiaman, *Surprize*, galley, and *Mary*, transport.

18th.—By the chronometer and meridian observations we seem to have had a current a little to the North-East, exactly contrary to what it is natural to expect at this season.

19th.—Some signs of discontent appeared amongst the soldiers on board, on account of the difference of their victualling from the sailors, but were soon put a stop to.

22nd.—These last three days, observations confirm the opinion of a North-East current of about 14′ per day. Received a copy of signals for the Military, which was communicated to the different corps.

28th.—A vast deal of rain with short squalls and very close weather in general. One of the soldiers detected in stealing was punished by the Naval Articles of War.

29th.—Light winds and hazy weather, very extraordinary ripplings for these two days, we meet them in a line of turbulent waves at the distance of about a mile from each other, extending from Nort-East to South-West as far as we can see. Two large ships appeared in sight to-day standing to the Northward, which seemed to be Indiamen bound to Bengal.

November 2nd.—Carnicobar plainly in view this morning. From its bearing and distance when sights were taken for the chronometer this morning, the Longitude of that island appears to be 11′ 58′ East of Madras Observatory, or in 92° 19′ East of Greenwich; Latitude, North end, 9° 18′.

11th.—For two days after we lost sight of the Carnicobar, we had a great sett to the Southward, 80′ or 90′ ahead of our reckoning, by which we made Pulo Lando unexpectedly, and next day Pulo Way, with the mainland of Sumatra. From thence we found a strong current against us out of the Straits of Malacca, so much so that, though for the last four days we have been working to the Eastward, with intervals of favourable winds, we have lost in Longitude by the chronometer since the 8th. We now find a strong North-Westerly current out of the straits, very hard rain

with violent squalls attended with thunders and lightning.

13th.—Last night the *Centurion* made the signal for seeing land, on which we lay to; it proved, as we supposed to be, Pulo Pera, a small island quite bare, with good soundings all round. Last night a soldier of Captain MEULH'S company died, and our sick list amounts to 78. About 3 P.M. we made Pulo Penang, but the wind falling scant, we anchored in 7 fathoms water off the North-West point.

14th.— Scarce any wind at all. We weighed anchor about 10 o'clock and with the tide crossed over the long flat shoal which lays off the North part of the island, on which we had only 4½ fathoms water, but the bottom is soft mud, and as this happened to be low water at the lowest tides here, and the water always smooth, it can never be dangerous. Captain NEWCOME of the *Orpheus* and Captain PACKENHAM of the *Resistance* came on board and dined with us. We did not get to our anchors in the harbour until 4 o'clock. The *Swift*, sloop, with Major VIGORS, who is to command the land troops of our expedition, arrived this evening from Madras, which she left the 24th ultimo. Learned this day from the Admiral the manner of getting possession of Malacca, and the intention of annulling the present Government.

Pulo Penang.

15th.—Went ashore this day with the Admiral, who introduced me to Mr. MANNINGTON, the Chief, and other gentlemen of the Island. This day received information of the whole state of affairs at Malacca, and the chief objects of our present expedition. Dined and spent the evening with Captain GLASS.

16th.—We this day had a large party at Mr. SCOTT'S. This gentleman has lived here since the first establishment of the Island. He had formerly been a Captain in the country trade, but being unfortunate, was obliged to live chiefly amongst the Malays, on the Island Junkceylon. He has since made a handsome fortune, and very honorably discharged all his former debts. His house is built of wood in the Malay fashion upon posts raised about 5 feet from the ground. Several of the houses here are built in the same way, which, however well adapted to the situation Malays in

general are fond of, over swamps, or water, and always near it, does not appear to be the most secure or convenient for Europeans.

22nd.—Finding my time likely to be short here, I spent the last five or six days in riding about the Island to see every part of it that was accessible, but was unable to accomplish as much as I wished, from the weak state of my health. Received notice from the Admiral of his intention to proceed to Malacca on Tuesday next in the *Orpheus* with direction to hold myself in readiness to attend him.

23rd.—This morning went to see the waterfall, which is about six miles from the town, with a road for carriages for about four of the way, the rest I walked, and after climbing the latter part of it up a very steep and jungly path, at last arrived at the foot of the waterfall, and was exceedingly struck with the grandeur and magnificence it exhibited. It is above 300 feet high and falls in a broken cataract from an opening in the hill about half way up according to the view. The scenery round is true nature in its most sublime aspect, and with the expense of a little labour in clearing away some of the trees about it, would afford one of the most beautiful views possible. At present to get a sight of it you are obliged to come so near that the effect is almost lost.

I am informed by Mr. MANNINGTON that the population of Pulo Penang exceeds 20,000 souls, consisting of Chulears, Chinese, Malays, Bengallies, Portuguese, and Europeans; the first bear the greatest proportion in number and are chiefly the boatmen and fishers, and some of the richest traders are of this cast; they are originally all from the Malabar and Coromandel coasts. The artificers and most of the shop-keepers are Chinese, whose daily hire in the former capacity is very dear, being half a Spanish dollar per day. The persons who are generally employed in clearing the ground and cutting down trees for timber are Malays, who work by contract, and with their little axes with long handles, cut down or sit idle at their pleasure. Their manner of cutting differs from what is generally practised; if the lower part of the trunk of a tree be much thicker, as it for the most part is, than at the height of 6 or 8 feet, they erect a stage and cut it that height where it is least trouble, then clearing away the underwood they take advantage of the wind and cutting nearly through several trees in its direc-

tion, they fairly fell the first which in its fall brings down all the others to leeward of it. After the trees are somewhat dry, they are set fire to, but seldom that I could perceive, were entirely consumed; very large timbers still lying in the direction they chanced to fall. This and the quantity of ground lost by the stumps still remaining, if left to nature to decay, as is usually the case, impedes the cultivation for not less than six years and sometimes ten. I am, therefore, of opinion that it would be more advantageous to dig the trees at first fairly out of the ground, at least to cut all the roots that spread, and then ropes fixed to the top could easily bring down the trees by tackles attached to the bases of the adjoining trees, and when this was insufficient the aid of the axe and mamooty could soon effect it. Rice is generally cultivated after the wood is cut down, but from the ground not being effectually cleared there is full a third part of it lost, for at least six years, and the standing stumps give it the most barbarous appearance possible. The first expense and trouble is greater in the way that I conceive best, but the surface gained must more than counterbalance it; for in the present manner there is the profit of two entire years' cultivation of the whole lost in the first six years. The variety and luxuriance of the trees over this island, as over all the Malay islands, is very great, timber very plenty and good; but they have no teak, which is the best wood in India; Poon grows to an immense size, and one tree large enough for the *Suffolk*'s main mast, for which I am told it was intended, now lays upon the beach.

The soil about the town itself is sandy and very disagreeable, being quite loose sand, or overgrown with a kind of long grass, the seeds of which stick in one's stockings and are very troublesome. The inland part of the island is very high, covered with wood and as yet unexplored, except a path which is cut to the signal house on the highest point of the island. The pepper plantations here flourish extremely well, and I am told that the pepper is of a better quality than at Bencoolen, which has diminished in the quantity of its produce considerably for some years past. Perhaps this circumstance may be the means of encouraging Pulo Penang, which it certainly wants very much at present, though it thrives fast notwithstanding: but there is a doubt in the minds of the inha-

bitants whether it is to be kept in the hands of the Company, from the unjust and extraordinary preference given to the Andamans by Admiral CORNWALLIS, that deters them from embarking any considerable capitals in clearing the grounds and making plantations which require several years before they can derive any material returns from. It is, therefore, imagined that it would be much more to the advantage of the Company to withdraw the establishments both of Bencoolen and Andamans and bestow their attentions on this island: as the general opinion of the Andamans proves that it never can answer the idea of Admiral CORNWALLIS, the propriety of adding the garrison and establishment there to Pulo Penang is acknowleged by every person acquainted with its situation and the circumstances attending. This addition alone would be sufficient encouragement and security to Penang. As to Bencoolen, since it is only kept up for the purpose of collecting the pepper on the West coast of Sumatra, and seeing that the quantity produced has gradually diminished for some years past, it is a question, with very little doubt, if the whole of this pepper would not just as certainly be brought to the English at Penang, where the Malays could sell it at a price, not so much above the contract price of Bencoolen, as to equal the expense of that Settlement now.

The harbour of Penang is proved to be safe and capable of holding all the ships of our Navy in the East, and affording them and any other ships every requisite assistance at all times. There is now a shipwright established, who built four ships here, and from the cheapness of timber, if encouragement was given to artificers, ships might be built cheaper here than anywhere in India, and docks for the largest ships could be formed almost by the simple excavation of the rock of Pulo Juaja* where the Chinese now manufacture chunam very cheap and good. It is, therefore, a good situation for establishing a Naval Arsenal as the most central to all the trade between India and China and all the islands to the Eastward, which there are now hopes may be carried to an extent much beyond what it has been hitherto, and this in all probability could be done without any, or at most a very trifling, expense to the Company; since if they would only avow their encouragement and support of the Settlement, in the manner before-mentioned, its being continued a free port would secure it such a resource of

* Jerájah or Jerjah.

shipping and trade as would tempt the speculation of individuals to these undertakings. The watering of ships at Penang at present is by no means convenient, but might easily be made so, at a much less expense than has been proposed by some schemers, whose plan I have heard of, but who don't seem to understand the subject; though perhaps it may some day happen that, being proposed by some person with interest, it may become an expensive job to the Company without much advantage to the public.

The Fort is situated in the North-East point of the island, which I think the best, but it is in itself so childish a plan and scale, so near the sea, so ill-executed, and so crowded on by the town and houses adjoining, that I fancy, to afford a real security to their possessions, it will be found necessary to build another in a different place. I am told the best place for the purpose is about six miles South, near where the Chinese have their pepper gardens, and where there is an inner harbour, which might, as far as I can judge, from the plan of it, be improved to the reception of large ships. The tree or plant which yields that curious substance, the elastic gum, grows here in abundance; its juice, when cut or broken, resembles milk, which, when suffered to remain exposed to the air, coagulates into the substance we see it without any chemical process whatever. Bullocks and sheep are very scarce and poor here; the beef is generally buffalo, chiefly from the opposite shore of Queda, and sheep come from Bengal. Poultry are plenty and cheap: the market being supplied by Malay prows, besides what are bred on the island, which are every day increasing; vegetables are cultivated in great plenty by the Chinese, who, wherever they settle, are industrious and orderly. I am told that there are at present for sale in Queda, twenty very fine elephants, which might be bought and embarked for 500 Spanish dollars each, which would be worth from 1,000 to 1,500 or even 2,000 Pagodas each on the coast of Coromandel, this breed of elephants being much more esteemed than any in India. Having received orders from the Admiral for the embarkation of the troops, communicated the same to Major VIGORS.

Pulo Penang to Malacca.

24th.—This morning embarked with the Admiral on board the *Orpheus*, weighed anchor at 10 o'clock, and sailed through the

southern passage, in which we had rather more water than on the flat to the Northward, but the channel is more intricate, though perfectly safe with a leading wind.

25th.—Fell in with four China ships bound for Bengal and Bombay. By one of the latter we sent despatches to be landed at Anjango. We steered South after clearing the shoal, which extends to near Saddle Island, and the 26th made Pulo Jarra. We then steered South-East, and the next day, 27th, made the Sambelans or Nine Islands. Two more China ships passed us. 28th, very light airs, but fine weather: this evening made the Aroas, and anchored for the night.

29th.—Steering due East from the Aroas, we sailed with a fine breeze through the Sand Heads to Parcelar Hill, from whence the course to Malacca, South-East is without danger, Point Rachardo, half way, being a very safe mark. All these islands and points are like so many mile-stones or guide posts for this little voyage.

Malacca.

30th.—Our wind very faint and the tide against us for a great part of this day: we did not anchor in Malacca road until 5 o'clock in the evening. Immediately went on shore with the despatches from the Admiral intimating his intention to dissolve the Dutch Government.

December 1st.—Went on board this morning to attend the Admiral, as Mr. Couperus told me last night that the Council intended sending a deputation this day on board to compliment His Excellency. Shortly after, two members of the Dutch Council and an Interpreter came on board, when the business proved a mere compliment of congratulation on his arrival and nothing more.

The Admiral soon after went on shore, and was received by the Governor, Mr. Couperus, Major Brown and all the Officers of the Garrison. He was conducted to the Government House, whence after a short stay we went to the house inhabited by Major Brown. Some other houses the Admiral looked at, but they all appeared too hot and confined, and at last he resolved on going into Captain Newcome's house on North-West side of the town just outside the Tranquera bridge, Mr. Couperus never once having offered the

Government House, though the only one proper for his residence. We dined this day with Mr. COUPERUS; there was a large company, and not a bad dinner, allowing for Dutch cooking, of which I have not the most delicate idea. Madam COUPERUS was dressed in the most unbecoming manner possible, a mixture between the Malay and Portuguese, her outward garment being made exactly like a shift, she looked as if she reversed the order of her dress altogether. Her hair was drawn so tight to the crown of her head, and the skin of her forehead so stretched, that she could scarce wink her eyelids; she seemed however very affable and well bred for a person never out of Malacca. In the evening she played on the harp, a plain instrument without pedals and only capable of a natural key, made at Batavia; she was accompanied by some of her slaves on violins; and altogether made very good music for a Dutchman to sleep to: she chewed betel incessantly, as did the other ladies in company, and every chair in the room was furnished with a cuspidor to spit in, for while the ladies chewed and played, the Dutchmen smoked their long pipes and drank Klein beer, which is some of the best malt liquor I ever tasted. We were attended at dinner and during the evening by Malay slaves, male and female, some of the latter rather pretty, considering the general cast of Malay features. COUPERUS, I am told, has above 130 slaves, which must be a vast expense to him, and he never sells one.

December 2nd.—The declaration to dissolve the Dutch Government, which is to be made in Council, was this day prepared.

3rd.—After a conference of considerable length between the Admiral and Major BROWN, the latter was taken ill, and therefore no decision took place respecting the declaration. The Convoy arrived this day from Penang; Major VIGORS and most of the Officers landed.

4th.—The Admiral, finding Major BROWN unable to attend business this day, convened the Dutch Council and dissolved the Government as it stood since our possessing the place, having entered the declaration as a minute in their proceedings. Captain NEWCOME was in the ridiculous predicament of sitting as a Member during the dissolution of the Government, though the mode of forming it was partly a measure of his own; however, I believe he concurred much more heartily in its dissolution than establishment,

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4th.—The Admiral, finding Major BROWN unable to attend business this day, convened the Dutch Council and dissolved the Government as it stood since our possessing the place, having entered the declaration as a minute in their proceedings. Captain NEWCOME was in the ridiculous predicament of sitting as a Member during the dissolution of the Government, though the mode of forming it was partly a measure of his own; however, I believe he concurred much more heartily in its dissolution than establishment,

and swamps, from the small proportion of sick in Hospital, it may be reckoned healthy for Europeans, though, since our possession of it, the rains have been very constant. This is probably owing to the effect of putrid vegetation being washed away as soon as formed.

Though situated in the most favourable way for uniting all the resources of a rich country with an easy communication by sea to foreign markets, Malacca now labours under every inconvenience that an island does, without its advantages, and though it has adjoining a soil capable of yielding the richest productions of every kind, and though under the dominion of an European power for about 250 years, it remains, even to the foot of the lines of the town, as wild and uncultivated as if there had never been a settlement formed here: and except by the small river that passes between the fort and town, you cannot penetrate into the country in any direction, above a few miles: nor is even this extent general, being confined to the roads that run along the sea shore about two miles each way, and one that goes inland. Mr. COUPERUS has a country house about four miles on this latter road: and there were, some time ago, gambier gardens, about seven miles inland, to which this road led, but it is not at present cleared farther than Mr. COUPERUS's house. There is no cultivation at present round Malacca but the gardens of the Chinese, and a few of the Malays, who supply the town with great abundance of vegetables and fruits, the varieties of which are reckoned at upwards of 100, few of which are indebted, however, to cultivation, being mostly the spontaneous productions of Nature. The gardens immediately next the town are so choaked up with cocoanut trees that even from Bocca China you can hardly see a house: they grow indeed so thick as very much to obstruct the free circulation of the air, and almost entirely to keep off the land wind, which at this season is the prevailing one, and very cool and pleasant. This extraordinary want of cultivation, I am informed, is the consequence of the restrictive policy of the Dutch Government of Batavia, who make a point of discouraging it, in all their Settlements, the more effectually to render them dependant on Java, where alone they promote cultivation and improvement, and from whence they supply all the other Settlements, even with the common necessaries of life. Sugar might be cultivated here to great advantage, the cli-

day the pleasure to obtain very satisfactory information relative to the situation, strength and disposition of the Natives of Amboina, from which I have great hopes the task of reducing it, if necessary, will not prove very arduous.

The arrangement being somewhat out of the regular line of roster, has occasioned a good deal of discontent and representations from the officers left behind, but has not caused any change in the orders.

17th.—By an English ship arrived from China, we learn that there were no French ships at Batavia on the 1st of November, as three Portuguese ships left it on that date and arrived at Macao December 3rd. These Portuguese may account for the white flags that we have frequent reports of as French in that quarter.

19th.—The *Suffolk*, *Centurion* and *Hobart* arrived this morning from Pulo Penang. By them we learn the news of an action in the Mediterranean, in which we were decidedly victorious; that a successful descent has been made on the coast of France; that the Bill for Relief of the Army in India was at last before Parliament; and several other pieces of intelligence.

21st.—The *Alniston*, Indiaman, was this day despatched on her voyage to China.

25th.—Chiefly engaged in completing the survey of Malacca. The Prize Agents employed in taking accounts of all the public effects, Major Brown having resigned the Government of Malacca, and Major Vigors having preferred going on the expedition, Captain Parr, next in seniority, was put in orders for the Government of Malacca. Lieutenant Heitland was also ordered for the expedition.

30th.—As it appeared to the Admiral that we were scarce in tonnage, the *Armenia*, Captain Sands, of 300 tons, was this day taken up at four Pagodas a ton per month for six weeks certain.

31st.—Several of the seamen being in a very sickly state were sent on shore under the charge of Doctor Harris's Assistant here, as being unfit for immediate service, but as there was a great want of wholesome accommodation for them, I made, by the Admiral's order, a plan of a temporary hospital for the sick of the Navy, the execution of which I left to Lieutenant Farquhar. Notwithstanding that his town is surrounded on the land side with impenetrable jungles

and swamps, from the small proportion of sick in Hospital, it may be reckoned healthy for Europeans, though, since our possession of it, the rains have been very constant. This is probably owing to the effect of putrid vegetation being washed away as soon as formed.

Though situated in the most favourable way for uniting all the resources of a rich country with an easy communication by sea to foreign markets, Malacca now labours under every inconvenience that an island does, without its advantages, and though it has adjoining a soil capable of yielding the richest productions of every kind, and though under the dominion of an European power for about 250 years, it remains, even to the foot of the lines of the town, as wild and uncultivated as if there had never been a settlement formed here; and except by the small river that passes between the fort and town, you cannot penetrate into the country in any direction, above a few miles; nor is even this extent general, being confined to the roads that run along the sea shore about two miles each way, and one that goes inland. Mr. COUPERUS has a country house about four miles on this latter road; and there were, some time ago, gambier gardens, about seven miles inland, to which this road led, but it is not at present cleared farther than Mr. COUPERUS's house. There is no cultivation at present round Malacca but the gardens of the Chinese, and a few of the Malays, who supply the town with great abundance of vegetables and fruits, the varieties of which are reckoned at upwards of 100, few of which are indebted, however, to cultivation, being mostly the spontaneous productions of Nature. The gardens immediately next the town are so choaked up with cocoanut trees that even from Bocca China you can hardly see a house; they grow indeed so thick as very much to obstruct the free circulation of the air, and almost entirely to keep off the land wind, which at this season is the prevailing one, and very cool and pleasant. This extraordinary want of cultivation, I am informed, is the consequence of the restrictive policy of the Dutch Government of Batavia, who make a point of discouraging it, in all their Settlements, the more effectually to render them dependant on Java, where alone they promote cultivation and improvement, and from whence they supply all the other Settlements, even with the common necessaries of life. Sugar might be cultivated here to great advantage, the cli-

sity to piracy, so common among the Malays; and here, having mentioned this propensity for piracy, it may not be improper to remark, that it would be a most meritorious work to put a stop to it, should we have an opportunity, by gaining possession of all the Dutch Settlements to the Eastward: which might in some time be effected by a couple of frigates stationed in the Straits of Malacca and Sunda or Bally, and four or five sloops of war or armed brigs of a small draft of water, and made for sailing into the creeks where the prows of the pirates generally rendezvous. The sloops to have ranges alloted to them, and then publishing, in all the islands and chief towns of the Malays, Badjoos, and Buggesses, that the English are determined to destroy the towns where or under whose jurisdiction piracies are committed, and all prows armed beyond a certain scale. After a few examples should have been made, nations the most savage would soon cease practices so ruinous to their interest. This undertaking, which would add dignity and respect to the English flag, and promote the cause of humanity, and social intercourse with nations now unacquainted with such sentiments, might, I should hope, be accomplished at no very considerable expense, as a certain duty of tonnage might be well afforded, by all ships trading to the Eastward, for that security to their lives and properties, which they are now under the necessity of guarding, each separately, at a very great additional expense of men and guns, exclusive of the constant apprehensions under which they carry on all their connections with those islands; besides which, as the intercourse of trade would by this means very much increase, an inconceivably greater field would open for the sale of British manufactures of all kinds; for the safety of trade once established, the prices paid for European articles by those nations would fall to that just rate, which would enable them to purchase infinitely *greater quantities* with more certain advantage to us than we now derive from extraordinary profits attended with great risks.

Abundance and great variety of timber fit for ship-building is to be got both here and at Penang. Masts of the largest size are got very cheap from the opposite side at Syac,* and are sent annually to Batavia. It was for the purpose of carrying a cargo now ready here, that the *Constantia*, an old Indiaman, was sent here. A

* Siak.

74-gun ship's mast may be bought for two hundred dollars.

The population of Malacca does not exceed 14,000 or 15,000, which is calculated from the quantity of rice imported, and may be tolerably exact; they consist of Malays, Chinese, Chulears and Europeans; and as there is nothing bearing any resemblance to a Raja or Supreme Head among them from the interior part of the country, each caste has its own Chief or Captain as he is called, who are all subordinate to the Government.

The disposition of the Malays about Malacca is quite inoffensive, nor has there been any act of treachery, that I could learn, committed by them for a considerable time past. In their domestic habits they are free from the prejudices of the Hindoos, and are reckoned Mahomedans, though I fancy their chief tenet is abstaining from swine's flesh. They are extremely indolent, and, if not tempted by the hope of gain, would never exert themselves. Though very muscular in their make, and better formed for strength and activity than any of the Natives of India, they are passionately addicted to gaming and cock-fighting, which are their chief amusements. Creese-fighting is the principal public exhibition I could observe, in which the combatants pride themselves, not in the boldness of attack, and manly agility, but in the wily approach of a tiger, where their greatest merit lies in getting unawares behind their antagonist, and surprising him by a stab in the back; and this circumstance I look upon as strongly indicative of the general disposition of the Malays.

The Chinese are equally addicted to gaming with the Malays, and have here and at Penang licensed houses where they play with dice, a kind of hazard that seems to have a good deal more variety than ours. They are also fond of theatrical exhibitions in which their merit is considerable; their chief performers are carpenters and other artificers, and I doubt not if people of the same rank in life, in a distant country town in England, were to attempt getting up a play, they could hardly outdo the exhibition of the sort we saw at Penang, on a stage erected for the purpose in the streets. The spectators sat on chairs and benches in the open air and were refreshed with tea and sweetmeats; their music is certainly very disagreeable, being composed of gongs and very harsh hautboys. They are very industrious, almost all of them keep little shops

and sell groceries of all sorts. They all hitherto sold arrack, and the consequent drunkenness of the place was abominable. I am happy to observe now, however, that by the new regulations with respect to the duties, this article is put under limitation, and taxed as it should be. The Chinese, when they arrive at a certain age, always prepare their coffins, as a memorandum of the end they must sooner or later necessarily arrive at, and a stimulus to the observance of morality during life; and certainly they are in general a very orderly well-behaved people. At every man's door you accordingly see four or five immensely thick planks of which their coffins are to be made. Their burying ground they always choose on a hill, and that called Bocca China derives its name from being chiefly devoted to that purpose. Their tombs are of a particular construction, being surrounded by a considerable space open on one side and semicircular on the other; some of them formed at a great expense. They always enclose with the dead body, a certain quantity of provision, and sometimes money. From their industry and ingenuity they are very useful to new settlements, and deserve to be delivered from those oppressive impositions which the Admiral has very wisely put an end to. They are great breeders of hogs, and are generally the persons who slaughter them; but why the privilege of doing so should become a subject of taxation as in the Dutch Government, and still continued, more than beef, I don't understand; unless it be that they have a particular method of increasing the weight of the pork by introducing water into all its pores, similar to the cheat butchers at home sometimes practise of blowing up meat to make it look well, but still more effectual. They kill beef too, which is very coarse and bad, being all buffalo. There are bullocks and cows here, but very scarce and poor, and the milk and butter, both here and at Penang, are very bad; the cause is the same in both places; the soil not being sufficiently cleared, the natural grass in the swamps and jungles is too coarse for bullocks, but is the best for buffaloes, which here grow to a great size and strength, and when taken are very fierce. For the same reason sheep cannot thrive, there is therefore no mutton but from Bengal.

Almost all the mountains in the Peninsula of Malacca as well as those on Sumatra are impregnated more or less with gold, and

many of them go by the name of Mount Ophir; that inland from this place is about twenty-six miles, the communication to it being from the river that disembogues near Point Sisa. The Malays who go there are under no restraint, nor pay any duty, but enclose with stakes a certain extent of ground where they think convenient, work until they procure the quantity they want, and then return to dispose of it. I am informed the richest gold mine in the world is the black mountain in Cochin-China, the working of which having been interrupted by civil wars for four years together sometime back, the price of gold dust in China rose twenty-five per cent. higher than its general rate, and upon its being again opened, gold dust, throughout that immense empire, fell to its former standard.

Concerning the works of the fort of the town of Malacca, according to the plan they are built upon, they are in tolerably good repair, and capable of considerable defence; though should it remain eventually in our possession, which is not unlikely, and a strong garrison be established in it, I think it would be absolutely necessary to modernize the whole river face of the fort, and enlarge the two adjoining bastions; to open the streets of the town to the enfilading fire of the fort; to deepen the ditch and complete the lines round the town; to erect an outwork before the salient angle next the sea, to open a communication with Bocca China, and to erect two small regular redoubts thereon connected by a strong stockade well scarped on the outside, and lastly to clear the ground at least the distance of four hundred yards, for an esplanade. A magazine for powder is indispensably necessary, no secure building for that purpose having hitherto existed. The severity which the Dutch have constantly exercised in this Government has impressed itself so forcibly on the minds of the inhabitants of all denominations, that they can hardly conceive the English to be now their rulers, from the mildness of our administration and the politeness we show to the Dutch, which is attended with the ill effect of their influence being still so great as to keep back every kind of information and assistance that we might naturally expect; it therefore becomes the more necessary to adopt decisive measures, and the Admiral has accordingly resolved to send away the late Governor and Dutch soldiers who have hitherto been kept in contradiction to the orders

from Madras. However, as there has been a sort of interregnum with regard to the Administration of Justice, it was judged necessary to continue in office the Members of the former Court of Judicature, which some of them seemed not over willing to comply with, until they were given to understand, that the alternative was being sent to Madras; accordingly a commission of justice was made out and issued. The Fiscal is the Acting Member upon all occasions of small import, and in the Dutch Government, his fees always bore proportion to the rigour of the punishment. This stimulus to cruelty neither the general disposition of the Dutch, nor the particular temper of Mr. RHUDÉ required, and it was but a short time before our arrival that a young woman with child was whipped so unmercifully that she died in a short time. They sometimes proportion the punishment to the time of smoking their pipes; and it is not uncommon to say give him one or two pipes, according to the magnitude of the offence; meaning that the criminal is to be flogged during the time that the phlegmatic Fiscal smokes one or two pipes of tobacco.

The investigation of the public accounts and revenue has been a source of great trouble, and until the determination to send away Mr. COUPERUS and the Dutch soldiers was understood, every possible difficulty was thrown in the way. It now appears that several things were omitted in the statement of public property first sent. The account of the salaries and emoluments of the Dutch servants seem to be loaded with a great many more charges than is natural to conceive would be allowed; but there seems to have been a great deal of peculation in practice, particularly in one article, the share of 25 per cent. on the revenue, that was allowed to the Civil Servants; the consequence of which was, that the Government tempted the Chinese farmers of the revenue, to bid a vast deal more than they were really worth, from the first fruits of which their share were regularly paid; but the balance was more than could be collected; and they were therefore obliged to write to Batavia for a remission of it altogether, which I am informed was never refused. After the resignation of Major BROWN, the Admiral found himself freed from the promise he had made to continue the monopoly, and therefore the public sale of the revenue, some days ago advertised for this day, is on the principle

of a trade open to all, upon certain fixed duties, which perhaps may be more profitable in the end, than the monopoly.

January 3rd, 1796.—The order issued some days ago for the embarkation of the troops, was necessarily changed on the Admiral resolving to leave behind the *Centurion*, for the defence of the Straits and Settlement of Malacca, as we have lately heard frequent reports of the French and Dutch Cruizers being out. From this and the great increase of stores and baggage, all the ships are very much crowded.

4th.—Mr. Couperus having had orders to prepare himself to go to Madras on this day on board the *Swallow*, as he had a large family, and vessel of his own, which has hitherto passed for a brig belonging to the King of Cochin, commanded by a French officer, he requested permission to proceed in her; and having reported himself ready and obtained his passport from the Admiral, he embarked accordingly.

From Malacca Eastward.

5th.—The troops and stores being all on board the respective ships, instructions were drawn out for the guidance of Captain Parr, on which he was directed to build a temporary hospital. The sick of the Dutch soldiers were placed under the care of Dr. Harris's Assistant, and the Pioneers left at Malacca and public artificers put under charge of Lieutenant Farquhar, also the work on Bocca China ordered to be discontinued.

6th.—Embarked this morning with the Admiral, being now provided with such interpreters and guides as I could procure.

Sailed from the Road of Malacca about 12 o'clock, having closed the despatches for Madras per *Swallow*, passed the Water Islands with a light air, but the tide towards night making against us we brought to near Mount Formosa.

7th.—Weighed anchor this morning, the wind rather against us, but with the aid of the tide we passed Pulo Pisang and anchored near Pulo Cocup in sight of the Carrimons. The 8th, taking advantage of the tides, for the winds were by no means favorable, we got on to near One-tree Island, when we anchored. This is a very dangerous shoal and reef, extending full three miles in nearly an

East and West direction, and, at high water, only a few of the rocks above water, and a single tree from which it derives its name. The 9th, though the winds were still contrary, we worked on with the tides, and passed Red Island on the right and Barn Island and the Rabbit and Coney on the left, and several other nameless islands besides. The working of the different ships through these narrow channels was extremely beautiful, the islands being clothed with the richest luxuriance. The *Surprize* got a turtle from a prow that came off one of the islands. We passed the island St. John's and anchored for the night in sight of Point Romania. The *Suffolk's* launch, the *Mary* and *Armonia* were very far astern on the 10th, though the wind was tolerably fair; the Transports were so far astern that it was one o'clock before we could get under weigh. We then made sail, but were soon after again obliged to come to near Point Romania. These straits are by no means well laid down, as it is impossible to know the different islands and headlands from any chart of them yet published. It certainly would be a very desirable circumstance, to have a complete regular survey of them, as from the number of different islands, channels might be discovered, that would favour the passage of ships in either direction, and with any winds, as I am informed there is a deep water and good anchorage through almost all of them, but from want of knowledge of them, ships being afraid of exploring new passages, loose a vast deal of time. The tides here are very irregular, but in general, in North-East monsoons, are observed to flow eighteen hours and ebb six. The flood on the Eastern side of the strait, I am told, is from the Eastward, and I am told these circumstances are reversed in the opposite monsoon. It is certainly a subject well worth observation to examine into the effects of the tides in these straits, which must be liable to great variations in different parts, from the multiplicity of islands and channels, and should become an essential part of the duty of any person appointed to survey them.

Straits of Singapore.

11th.—A sail in sight to the Southward, which proved, as was supposed, to be the *Transfer*, Captain ELMORE. We stood on with the tide, but not being able to weather Pedra Branca, were obliged

to return and again anchor under Point Romania; the *Transfer* also joined us.

12th.—Captain NEWCOME came on board this morning, and brought us a fine turtle; he also gave us the intelligence, from the Mate of the *Transfer*, who was on shore at Rhio, that on the 7th instant a prow arrived there from Banca, the Noqueda* or Malay Commander of which reported to the Sultan of Rhio, that there were on the Straits of Banca three French and two Dutch Ships-of-war (cepal praou,† in the Malay tongue); and that the Sultan advised him not to proceed by that passage on that account. The Mate, who came on board, thinks the report well founded, as the forfeiture of his life, he says, would be the consequence to the Noqueda, of false information. The Admiral on this resolved to return as far as the little Carimon Island, and send into Malacca for the *Centurion*; and, after giving the requisite warning to the Settlement of Malacca, to proceed by the Straits of Durion and Banca, in order, if possible, to intercept this force, which may be an armament destined either for the recovery of Malacca, or to distress our trade in these Straits: and there is some reason to suspect Mr. COUPERUS may have given intelligence to Batavia of the exact situation of the garrison of Malacca, and likewise of the probable time of our departure. For upon further enquiry, it appears that he had some idea of a force on these Straits, as he warned Captain SANDS of the *Armenia*, with whom he had some connection in trade, immediately on his arrival at Malacca, and before he was taken up as a Transport, to avoid the Straits of Banca, knowing or suspecting danger there. Captain NEWCOME dined with us to-day, and mentions that the soldiers on board the *Orpheus* are very discontented, on account of the difference of provisions with which they are served from that of the sailors. On long voyages like the present, when the services of men are to be immediately called for, and every exertion expected from them, there should certainly be more attention and liberality shewn to their provisions, on which their health so materially depends. They are denied the little gratifications of flour, peas, sugar, &c., and only served biscuits and salt beef, 1lb of each per day to each man; the consequent sickness, or at least weakness, of the men, after a voyage of six weeks, must surely be a much greater

* Nakhoda.
† Kapal prang.

loss to the public service than those little allowances; which would not only gratify their pride as well as palate, but keep up that efficient vigour necessary on their arrival at their destined scene of action, for supposing only five in a hundred to suffer by the saving, exclusive of the idea of humanity, that of economy will make it evidently appear that it is cheaper to employ one hundred stout healthy well fed men, than one hundred and five supported on this curtailed allowance, five of whom are sure to become unserviceable thereby.

Off Carimon Island.

13th.—As if the winds were determined to oppose us, the moment yesterday we resolved on returning, it chopped about, and was still against us, so that our progress back promises to be as tedious as when coming.

14th.—Having come to an anchor off the little Carimon island, the Admiral despatched the *Hobart* and prow to Malacca, with orders for the *Centurion* and *Swift* to join us. I wrote to Captain PARR an account of the information which caused our return, and the Admiral's intention to proceed by the Straits of Banca, to clear it of any enemy that may be there.

15th.—A large ship appeared coming from the Eastward, which proved to be the *Phœnix*, Captain HAY, from Manila, the same that was sometime ago guilty of piracy not far from hence, in having plundered and burned a Dutch snow and plundered a vessel under Arab colours. The Admiral sent for him, but as he shewed rather an inclination to prosecute his voyage, the *Resistance* was sent in chase.

16th.—The Seapoys and pioneers were landed at a very good watering place on the great Carimon Island, to refresh themselves, while the Transports were well washed and cleaned, which, from being so crowded, could not be done while they were on board, and was therefore necessary to their health and comfort. We also changed our place and anchored near to the watering place.

17th.—This day joined us from Malacca, the *Centurion*, *Hobart* and *Swift*. They inform us of the loss of the *Shah-Munshy* of Bombay, from China, on the rocks of Pedra Branca on the 8th instant; the

crew were all saved in their boats, but the ship went to pieces immediately, and nothing but their lives saved; the boats must have passed us in the night of the ninth. The loss of this fine ship is the consequence of the want of proper survey of these straits, with proper remarks on the tides and currents. From the *Phœnix* we this day learn by our boat which returned from her, that there are two Spanish Frigates at Manila, both sickly, bound shortly to Spain by way of Cape Horn. That the forces of Manila are considerably increased, and great pains taken in their discipline. That the fort is put into a very respectable state of defence, the works being new modelled and repaired. The present Governor is reckoned an active clever man, who encourages cultivation and trade. Some specimens of a white rope made of grass, and some of the material itself prepared for twisting, were brought us, which seem to be very strong, but I understand decays in fresh water. They make a very good sort of canvass of it. I am inclined to think that if the long grass, which grows on the beds of all the great rivers on the coast, was properly prepared, it is the same, or at least would be equivalent to it, in strength and durability, as it possesses a remarkably strong fibre, very fine and silky. We also got a small supply of chocolate and biscuits from the *Phœnix*. This day a duel was fought between Ensign DEACON, of the 17th Battalion, and Captain TURNBULL of the *Mary*, Transport.

[The Straits Branch of the Royal Asiatic Society is indebted to Mr. W. E. MAXWELL for the above interesting paper. Mr. MAXWELL found it when looking through some papers at the India Office Library, and copied that part of Captain LENNON'S Journal which describes the passage of the Expedition through the Straits of Malacca.—ED.]

A SKETCH OF THE CAREER

OF THE LATE

JAMES RICHARDSON LOGAN,

OF PENANG AND SINGAPORE.

BY

J. TURNBULL THOMSON.

In perusing the first number of your publication, I observe the high terms in which my friend the late JAMES RICHARDSON LOGAN is noticed by your Vice-President, the Ven'ble Archdeacon HOSE, M.A. This induces me to forward to you a few reminiscences of him, for, coming from one who knew him from boyhood, and who had the privilege of being his intimate friend for many years when residing in the Straits, what I have to relate, I venture to anticipate, will be of some interest to your readers.

He was the son of Mr. THOMAS LOGAN, of Berrywell, Berwickshire, Scotland, who had married his cousin, also a LOGAN, and to his mother my friend bore a strong resemblance. His superior intellectual faculties were also inherited from this source, hers being of a high order. His parents belonged to a family which, in their country, were and are eminent as agriculturists, but at the time I first knew him, Mr. THOMAS LOGAN had retired from business.

I met the subject of this notice as a boy when he was attending the Academy of Dunse, conducted by the late Mr. THOMAS MAULE. He was there what was called an extra scholar, sitting with others at a table in the centre of the school apart from the ordinary classical benches. At the table at which J. R. LOGAN sat, he and others were brought forward in the several branches of education by special teaching. From this Academy many men of note have emanated; amongst those that I can call to memory are the late Professor CUNNINGHAM of Edinburgh, Captain BAIRD SMITH of Bengal, and DR. ROBERT HOGG of London.

J. R. LOGAN was some three years older than myself; hence during the years 1830, 31 and 32, when we sat in the same school-room as boys, we arrived at no close intimacy. But the course of events brought us together in another part of the globe, by different routes and dissimilar adventure, it is true, yet the year 1839 found us as guests of the late amiable and kind-hearted proprietor of Glugor, Penang, and Longformacus, Berwickshire—the late DAVID WARDLAW BROWN, Esquire. Here a friendship and mutual confidence was established, that flagged not till death.

After leaving Dunse Academy, J. R. LOGAN proceeded to Edinburgh as pupil to a cousin of the same name, by profession an Advocate or Barrister. After fulfilling his time, he proceeded to Bengal, at the invitation of another cousin named DANIEL LOGAN, of whom he used always to speak with the highest regard, where he was engaged in indigo-planting for a short time, after which he accepted the invitation of his friend and schoolfellow, the late Mr. FORBES SCOTT BROWN, to join him at Penang. Here he soon found an opening in his profession by the departure for Europe of a Mr. BELHETCHET, Solicitor, who practised in the Penang Courts.

But an obstacle in the way of his entering the Bar suddenly and unexpectedly presented itself in the shape of a most extraordinary freak on the part of the political rulers, who were at that time officials of the Hon'ble East India Company. The then Governor, Mr. BONHAM, and his coadjutors, taking advantage of the absence of the Judge, Sir WILLIAM NORRIS, abolished the Bar with three objects in view. First, retrenchment; secondly, an addition to their power; and thirdly, a saving of trouble to themselves. On these three grounds the young Advocate was refused admission. But so well was he supported, and so highly were his abilities appreciated by the inhabitants of the Settlement—European and Native—that the authorities had to give way, and thenceforward he became a Member of the Straits Bar.

In our frequent intercourse at Penang, I early observed his habits of close application and enquiry, the first instance of which was his sitting down beside a Kling shop at Sungei Kluang and obtaining from the owner, not only a list of all the various native products sold, but an account of their uses, places of growth

prices, &c. In preparing himself also for the practice of English law (he having been trained in Scotland), I did not fail to notice with astonishment the intense continued application he gave to the contents of huge tomes, which, to me, were as "dry as dust" and as indigestible as sand.

During my residence at Penang, which continued for over three years—in 1838 to 1841—he was a frequent visitor to my solitary bungalow situated in the interior. His company was never more charming than on such occasions. Making but few friends in society, and being of a particularly retiring disposition, he seemed to reserve an overfull share of his attractions for those that could heartily sympathise with him in old fellowship. I remember particularly one occasion when I asked him to join me in an expedition to the interior of Sabrang Prye. Exploring the sources of the Junjong Idup, probably now covered with cultivation, but, at that time, under primitive forests, waste and unoccupied, except by the tiger or the *jakun*, we were detained for three days by a constant downpour and flooded rivers, having taken refuge in a deserted *pondoh*. Here his versatile talent came to our aid in wiling away the long, dark, dreary hours, whose melancholy and tediousness was enhanced by the wail of the *unku*. I never heard Shakespeare read with greater effect, vigour, or thorough appreciation.

Even in those his very young years, I found him a safe councillor and adviser in matters important to myself, where a false step might have been irretrievable. In my heart I was thankful to him for this. We met again at Singapore in 1843-4, where his elder brother ABRAHAM had joined me in my own house as *chum*. A falling off in practice at Penang made a change advisable for the younger LOGAN also, and with us he took up his residence.

For several years, the busy practice of his profession seemed to engage his whole attention, but early in 1847 I had an indication of coming events; not that there had not been abundant indications before this, for while he conducted the *Gazette* at Penang he drew out originality and latent talent from many of the residents—European and Asiatic—which that paper had never shown before, and he himself illuminated it with many powerful leaders.

The occasion of this direct indication occurred when he had preceded me to Malacca on law business. I had followed in the gun-

boat on survey duty. Here it was difficult to find quarters, so he carried me to Kampong Illier, where he had hired a bungalow. In the evening he invited me to accompany him to St. John's mount, where, he said, we should enjoy a most glorious sunset. While sitting on the old Dutch ramparts his first hint of a scientific journal was made to me, by his asking my co-operation—not that he seriously intended this, but as an indirect way of letting me know of a somewhat (as it would appear to me) ambitious project. At the time, I personally thought little more of it, but of his seriousness (if I had any doubts on the subject) he gave ample proof in his devotion of every spare moment to an examination of the geology of Malacca and its neighbourhood, exposing himself in this pursuit the live long day to the full rays of the tropical sun. Few men were gifted with such intense energy. Alas! the spirit was strong, but a delicate constitution denied to him the full exercise of his abilities.

The establishment of the "Journal of the Indian Archipelago and Eastern Asia" duly took place in 1847, as mentioned by Archdeacon Hose, who remarks that it was a bold enterprise for a single individual to undertake. I may also add that, continued as it was for so many years, it was also a most public spirited one, for such a work was necessarily mainly supported at the private expense of the proprietor. And as the Archdeacon justly states, the continuance of the Journal evidenced a time of great scientific power and literary activity in the Straits. To Logan is the credit due not only of evoking this power, but of having personally contributed so largely by his papers to its scientific objects.

If my remembrance serves me aright, Logan, while influencing all that were willing to aid, himself engaged first in geological enquiry; next in geographical exploration; and then in philological studies: and, to my mind, it is on the latter that his reputation will mainly rest.

During these few recent years, I have given some of my attention to one of the branches coming under the scope of his studies, and in reading the disquisitions of Hodgson on Asia, Black on Africa, Andrews on Polynesia, with others, I find his elucidation of many remote and subtle points in the linguistic peculiarities of nations most respectfully quoted or referred to. Indeed, he is generally known as Dr. Logan—a title too often detained from those who

deserve it best. On this subject, it is now many years ago that I had the pleasure of the company of Sir WILLIAM MARTIN, Chief Justice of New Zealand, when I was surprised to learn of the familiar knowledge which that learned lawyer had of the minute Analysis by LOGAN of the Polynesian languages.

LOGAN, in first applying himself to the geology of the Malayan Peninsula, displayed great fortitude and contempt of danger, proceeding as he did in his excursions in a small *sampan* into coves and creeks notoriously infested with pirates. But even more so did he display these admirable qualities when penetrating the wilds of Johor, Pahang and Kedah. About this period he had removed to Sungei Kallang, near Singapore, while I, bound by my official duty, remained in town.

I remember, after he had been on one of those expeditions for several weeks, I was suddenly aroused late in the evening by what appeared to be his spectre. The next moment I saw him tottering, when I rushed forward and grasped my friend, leading him to a chair.

He had just returned from exploring the Indau, Johor, and Muar, crossing the jungles of the interior, and after many adventures amongst the wild tribes and escapes from flooded rivers, alligators, &c., he found means to return to Singapore. Weak, weary and sick, he made his way to my house, as the nearest one, likely to administer to his immediate wants. In this, I need not say there was no laxity.

In the latter years of our intercourse, I observed him to be principally devoted to philology. On this subject, his range of enquiry was as wide as it was persevering. I finally left the Far East in 1855, before he had entered into the midst of his labours in this direction; yet I had had fair opportunity of seeing his close application to the science of language. All languages were equally attacked by him—European, Asian, African, American, and Polynesian—in their glossarial, phonetic and idiomatic phases, and particularly the latter. The extent of the learning evidenced by his papers is surprising, even now after the lapse of a quarter of a century, if we consider that they were published before the present facilities were offered or at hand to the student, which are now so abundantly provided by the publication of the vocabularies and grammars of HODGSON, KOELLE, BLACK, CAMPBELL, and a host of others.

I may mention one incident which occurred at this period as exemplifying his devotion to his favourite pursuit. In the year 1849-50 I was surveying the Johor River, when I asked him to accompany me for change of air. I had at my service a small gunboat well over well provided with *kadjangs*. Anchoring in the evening I turned in after the fatigues of the day and fell asleep, but was awoke at midnight by a sudden turmoil. This proved to be a *Sumatra*, bringing with it the usual squalls and rain. On looking for my friend, I found him perched on the top of the powder cannister to save himself from the wet, close by a lamp at which he was, and had been all night, closely analysing the construction of the Dutch language. Such enthusiasm surely deserved unalloyed success and the applause of mankind. But the inscrutable ways of Providence brought not about the reward that his friends would have entirely desired, or which would have been entirely gratifying, to them. *Sic transit gloria mundi!* LOGAN is variously and at different times mentioned along with MARSDEN, LEYDEN, RAFFLES, and CRAWFURD. For my part, I would class him alone with LEYDEN. But in doing so, even here there is considerable qualification. Both were borderers, both men of intense energy and great powers of application. With all this LEYDEN was a poet, a poet above mediocrity. I am not aware that LOGAN ever wrote a verse. It is in the science of language that LEYDEN and LOGAN are akin in genius, but LEYDEN's sphere was translation, LOGAN's analysis and comparison. LEYDEN was an antiquarian, LOGAN an explorer of things as they are, a far more difficult and deeper subject than the former, requiring great and comprehensive knowledge, a highly matured judgment, and close acuteness of critical powers.

Fate was adverse to both; neither brought their labours to full consumation. Under happier circumstances, both would have illuminated the world with best stores of yet dormant mysteries, wherein the complex skein of human races on this earth would have been disentangled and brought within our ken. While I mention LEYDEN and LOGAN as being men of much the same genius and power, it would be neglectful not to denote their differences. LEYDEN was born of the humbler classes, LOGAN of the middle. This is only interesting in so far as it points a moral and illustrates life's antithesis. In India, JOHN LEYDEN, the shepherd's son, was the pu-

vileged companion and favoured protegé of the most illustrious men in power, by whose interest and support he had unstinted facilities given him in his special and peculiar pursuits. LOGAN, the son of a gentlman, had none of this. What he attained was due solely to his own labour and indomitable perserverance; these being exercised at the same time under the distracting influences of a laborious profession by which he honourably maintained himself.

Under these circumstances, probably LEYDEN would have accomplished more; indeed he must have done so, but an early death overtook him, as we all know, caused by exposure to the malaria of Batavia.

What LEYDEN accomplished, therefore, was small as compared with LOGAN. In the science of races and languages, LOGAN'S grasp was almost universal, enabling him to collate the lexicons, vocabularies and grammars of nations and tribes in the most distant parts of the globe, and elucidate their systems and constructions. Of this vast enquiry, LEYDEN may be said to have had time only to approach the portal.

But, as I have suggested before, LOGAN'S work was also incomplete. Ten years of learned leisure in his native country would have enabled him to work wonders. But this was not vouchsafed to him. Borne down by weak health, far from his native land, he was taken from us at the age when man's intellect is in its full vigour. And we live to lament unfulfilled hopes, disappointed aspirations, and useful labour ceased, to be no more.

INVERCARGILL, NEW ZEALAND,
20th May, 1881.

MEMORANDUM

ON

THE VARIOUS TRIBES INHABITING

PENANG AND PROVINCE WELLESLEY

BY THE LATE

J. R. LOGAN.

[On the 30th November, 1880, the late Mr. DAVID AITKEN wrote to the Government stating that the late Mr. JAMES RICHARDSON LOGAN had written, for the Government, a paper on the Wild Tribes of Penang and Province Wellesley, which Mr. AITKEN believed would be found in the records of the Lieutenant-Governor's Office, Penang.

A search was made, and the paper was found. It has never before been published, and, coming from the pen of such an authority as Mr. J. R. LOGAN, will be read with great interest.—ED.]

THE native races of the Malay Peninsula are the Simang, the Binua, the Malay, and the Siamese.

Simang.

The Simang are scattered in small disconnected herds throughout the forests of the broadest part of the Peninsula, comprising the Malay States of Kedah, Pĕrak and Tringganu. They are the sole aborigines of Kedah, including Province Wellesley, in the vicinity of which some families continued to wander until the increasing denseness of the Malay, Samsam, and Chinese popula-

tion, and the felling of the forests, drove them further inland. At present the nearest groups are those on the river Krîan, above the British boundary.

The Simang are a variety of the Papuan branch of the oldest race of India, Ultra-India, and the Indo-Pacific Islands, the other branch being the Draviro-Australian.

The Papuans are distinguished from the lower Dravirian tribes and castes, and from the Australians, more by the spiral growth of the hair than by any other constant physical characters. From the second great race of this ethnographical province—the Himalaic—both branches are well differentiated by the non-Mongolic shape of the head and by the comparative slenderness of the trunk and limbs, and darkness of the skin. The most striking and general peculiarity of the head is the pyramidal form of the nose, caused by the root sinking deeply in below, or forming an acute angle with the base of the prominent brow ridge.

In the Simang, the head is small, the forehead low, rounded, narrow and projecting over the root of the nose; the corona ridged or obtusely wedge-shaped; the occiput rounded and somewhat swelling; the lower part of the face oval or ovoid; the cheek bones broad, but not remarkably prominent, except with reference to the narrow forehead; the upper jaw not prognathous; the nose short and somewhat sharp at the point and often turned up, also spreading; the mouth large, but lips not thick; the projecting brow nearly on the same vertical line with the nose, mouth and chin; hair spiral and tufted; the beard of much stronger growth than with the Himalaic race; the eyes fine, middle-sized and straight; the iris large, black and piercing; the conjunctive membrane yellow; the person slender; the belly protuberant; the skin fine and soft, varying in colour from yellowish brown and dark-brown to black; average height about four feet eight inches.

The Papuan race exhibits great variety throughout its range from the Andamans to the Viti-Archipelago, New Caledonia and Tasmania. Some tribes are more Australoid than others; some are more Mongolic, especially where there has been intermixture with the Himalaic race; and some approach the more debased and prognathous varieties of the African Negro, but, as a whole, the race is much more akin to the Dravirian (where the latter has not been

improved by Iranian crossing), and to the East African, than to the Himalaic. While the Australian branch, protected from the Malayo Polynesian by the character of the Southern Continent, preserves a distinct form of language, which connects it with Dravirian. No example has yet been brought to light of a Papuan tongue possessing distinct pronouns and a distinct structure from the Malayo-Polynesian or Himalayan. Some of the vocabularies contain many upper Asiatic words not found in Malayo-Polynesian dialects. The Simang dialects, while containing a large number of Malayo-Polynesian vocables, are more Himalaic than the Malayo-Polynesian glossaries. The pronouns have the peculiar forms that were current in the dialects of that branch of the Himalaic people which predominated in the Gangetic basin and its confines before the Arians advanced into it, and which spread its language and civilization eastward till they prevailed from Guzerat to Tonquin. These pronouns and many other common vocables are still used by the Kol or Southal tribes on the Ganges, the Kyi or Kasia in the Brahmaputra basin, the Palaong and the Mon or Peguans on the Irawadi, the Kambojans on the Mekong, and the Anamese on the Tonquin. The Simang and some of the Binua tribes appear to have obtained them at the time when the Mon-Kambojan nation was established on the Irawadi, the Menam and the Mekong, before the Burmans rose into power, and long before the Shans or Siamese advanced westward into Assam and southward down the Menam, separating the Mons from the Kambojans. That a Mon Colony continued to flourish on the Muda down to a period long subsequent to the intrusion of the Arians into India, is evidenced by the rock inscriptions in characters similar to the ancient Mon, which are found in Province Wellesley and on Bukit Mariam.

The Simang are about the least civilised of the tribes of the Indian Archipelago. They wander in the forest, preying on wild animals, which they kill with spears, arrows and darts from the blow pipes; their only clothing, a piece of bark round the middle; and their temporary lairs only protected from the weather by a few branches or leaves hung over two or three sticks.

Binua.

These tribes, Himalaic in race, are scattered over the Southern

nose palder, and the eye brighter, straight and more liquid. The Malay is good-natured, courteous, sociable, gregarious and gossiping, finding unfailing amusement in very small talk, jokes and pleasantries. To superiors, he is extremely deferential, but with no taint of the abject or fawning Asiatics of higher civilization. His intellect has little power of abstraction, and delights in a minute acquaintance with the common things around him, a character that reflects itself in his language, which is as rich in distinctions and details in the nomenclature of material objects and actions as it is poor in all that relates to the operations of the mind. He is slow and sluggish, and impatient of continuous labour of mind or body. He is greedy, and, when his interests are involved, his promises and professions are not to be trusted. His habitual courtesy and reticence and the influence of his religion mask the sway of passions to which he may be secretly yielding and under which he sometimes becomes rapacious, treacherous and revengeful. It has become customary to protest against the dark colours in which the earlier European voyagers painted him, but their error was less in what they wrote than in what they left unwritten. Under bad native Governments, leading a wandering life at sea, or on thinly peopled borders of rivers—the only highways in land covered with forest and swamp—trusting to his kris and spear for self-defence, holding in traditional respect the powers of the pirate and robber, and putting little value on life, the Malay became proverbial for feline treachery and bloodthirstiness. Under the Government to which Malays have been subjected in Province Wellesley, and which has certainly not erred on the side of paternal interference, for it has left them as free as English yeomen, they now form a community as settled, contented, peaceable and free from serious crime as any to be found in British India—a result due to the clearing of forests, the formation of roads, the establishment of a regular Police, and the honest administration of the law.

The Malay treats his children with great affection and an indolent indulgence. Women are not secluded, and the freedom which they enjoy in their paternal homes is little abridged in after-life. Early marriage is customary and necessary, for if it were long postponed after puberty, they would not be restrained by their religion from the license which the habits of the non-Mahomedan nations

of the same race permit to unmarried girls. In the Malay States the law sanctions slavery and subjects the person of the female slave to the power of her master.* In this Settlement, the Malay finds compensation for the deprivation of this right in that of divorce, and the extent which it is availed of renders marriage in practice little more than the legalisation of temporary concubinage. The independence allowed to women, and the manner in which their parents and other relatives usually take their part, enable them to purchase their divorce, or worry their husbands into granting it, whenever they wish to change them.

Siamese.

The Siamese do not differ much from the Malays in their physical characters. The person has much the same height and form. The remarkable flatness of the back of the head is more generally present, the profile is also more vertical, the nose is more often slightly arched, the mouth smaller and firmer. The chief peculiarities are the lowness of the hairy scalp and the staring expression of the eye, caused by the retraction of the upper eyelid.

The Siamese belong to that branch of the Himalaic race which preceded the Tibeto-Burman on this side of the Himalayas. At a very remote period in the history of this branch, the progenitors of the Lau migrated to what afterwards became the Chinese province of Yun-nan, and thus became, in a large degree, isolated from the influence of the sister tribes who spread over the Gangetic basin and Ultra-India, while the Mons and Kambojans became the great maritime nations from the Irawadi to the Mekong, and the Anamese occupied the borders of the China Sea as far North as Tonquin. The Lau retained their sequestered inland position until the Chinese pushed their conquests and settlements into Yun-nan, when between the 7th and 8th centuries hordes of the Lau re-entered the basin of the Irawadi, established themselves at Moung-Goung and gradually subjected and partially occupied Assam. Thus in the 7th and 8th centuries, and subsequently in A.D. 1224, when

* But if the master avails himself of his power, in the case of a debt-slave, he does it at the sacrifice of the debt.—ED.

they founded the Assam rule, a large part of Manipar and the territory now known as the Shan States, their language and civilisation had been considerably modified by the influence of the Chinese. It was not till many centuries later that they succeeded in expelling the Kambojans from the lower basin of the Menam and reaching the sea. From Siam they spread down the Peninsula, and all the Malay States appear to have successively been forced or persuaded to acknowledge their suzerainty. At the end of last century, the inhabitants of the territory between Siam and Kedah were almost purely Siamese. In 1821, they expelled the Malay Chiefs and the greater part of the Malay population from Kedah and occupied that country until about 1842, when it was restored to its Native rulers, but as a dependency on Siam. The Southern progress of the race led to parties of Siamese settling in various parts of Kedah and in the N.E. districts of Province Wellesley, in which Siamese was till lately, and is still to a considerable extent, the current language of the oldest settlers, being Samsam, *i.e.*, Islamised descendants of Siamese with some intermixture of Malay blood.

The Siamese language is radically Himalaic, but owing chiefly, it is probable, to the influence of Chinese, it has been transformed, like some of its sister tongues, from a dissyllabic to a monosyllabic structure. Remnants of the Himalaic prefixes are found in the initial consonants of several words. The forms of the common Himalaic vocables are often broader and more consonantal in Siamese and the sister Mon-Anam languages than in the Tibeto-Burman, and they retain a similar Archaic character in many of the Malayo-Polynesian vocabularies.

These brief notes will be rendered more intelligible by a reference to the general history of the linguistic family to which the languages of the Papuans, the Binua, the Malays, and the Siamese alike belong.

The Archaic-Himalayo-Polynesian formation was related to the Scythic on the one side and the Chinese on the other. It possessed a system of minutely differentiated formatives and pronouns and

a tendency to harmonic agglutination and dissyllableism like the Archaic Scythic and proto-Scythic tongues. Its present representatives may be divided into three branches. The first to separate from the Tibetan or Himalayan mother stem was the Malayo-Polynesian. In the great Asiatic Archipelago it has preserved more of the Archaic structure than the continental branches, and has developed the original phonetic tendencies until it has become highly harmonic, and, in one of its leading and most influential varieties, very vocalic. The next branch that left the Himalayan cradle was the East Tibetan or Mon-Anam. It retains the direct collocation and many of the Archaic forms of the common roots that are found in Malayo-Polynesian. The third branch was the West Tibetan or Tibeto-Burman, to which the present Tibetan and sub-Himalayan, with many of the Ultra-Indian dialects, including Burman, belong. Its distinctive trait is an inverse collocation which may be safely attributed to its immemorial contact with the dialects of the Scythic hordes, who have, from time to time, intruded into Tibet. Both of the continental branches are very impoverished forms of the Archaic-Himalayo-Polynesian. They are distinguished from the insular branch by the decay and in many of them the loss of the ancient phonology. From the influence of the conterminous and intrusive Chinese, or at least from a tendency which is common to them with it, they now partake in various degrees of the crude monosyllabic and tonic phonology which characterises that language. The dialects that have had the longest and closest contact with Chinese, *e.g.*, the Anam and Siamese of the Mon-Anam branch, the Burmese and Karin of the Tibeto-Burman, are now monosyllabic and present so great a contrast to the harmonic languages of the islands, that it is not surprising that Dr. PRITCHARD and other ethnologists have classed them with the Chinese. On the other hand, many of the Gangetic dialects that have not been exposed to contact with Chinese, or with their eastern sisters since their transformation, retain harmonic and agglutinative traits, similar to those that are found with a much more free and powerful development in the Oceanic tongues.

The foreign races found in the Straits Settlements are very numerous, but to describe them, however briefly, would be to enter on

the ethnology of a large portion of Asia and Europe. Chine Kuantung and Hok-kien furnish a large portion of our popu and Chinese from other provinces are found either amon general population, or at the Roman Catholic Mission C Anamese, Kambojans, Burmese and natives of various pa India, Persia, Arabia, Eastern Africa and Europe represent nental ethnography, while, in addition to the Malays—Ac Battas, Javanese and Bugis represent the Oceanic. In Sing Dayaks, natives of the Moluccas and other eastern islands also to be found. There has also been more or less admix blood among all these races, with various results. The m tinct classes thus produced are the Portuguese of Malacc from the non-renewal of European blood are now more Mal Portuguese; the native Chinese of Penang and Malacca, wh constant intermarriage with fresh immigrants from Chin nearly lost all trace of their Malay ancestry on the femal and the so-called Jawi Pakan, a class between the Kling Malay which retains its distinctive characters by a continue mixture with both races of its progenitors.