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A  
DISSERTATION  
ON THE  
**SOIL & AGRICULTURE**  
OF THE BRITISH SETTLEMENT  
**OF PENANG,**  
OR  
**PRINCE OF WALES ISLAND,**  
IN THE STRAITS OF MALACCA,  
INCLUDING  
**PROVINCE WELLESLEY**  
ON THE MALAYAN PENINSULA.  
WITH BRIEF REFERENCES TO THE SETTLEMENTS OF  
**SINGAPORE & MALACCA,**  
AND ACCOMPANIED BY INCIDENTAL OBSERVATIONS ON VARIOUS SUBJECTS OF LOCAL INTEREST IN THESE STRAITS.

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BY  
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## INTRODUCTION.



A large portion of the following pages appeared at intervals in the *Prince of Wales Island Gazette*. The whole is now republished in a comprehensive form, to meet the wishes expressed, pretty generally, by the Straits Community.

The Writer trusts that although his observations chiefly refer to one Settlement only of the Straits, they will be found to apply pretty closely to the Settlements of Malacca and Singapore. He also hopes that the Reader will extend his indulgence to errors of the Press, as he has not had an opportunity of correcting it.

*Province Wellesley,* }  
*1st. December 1835.* }



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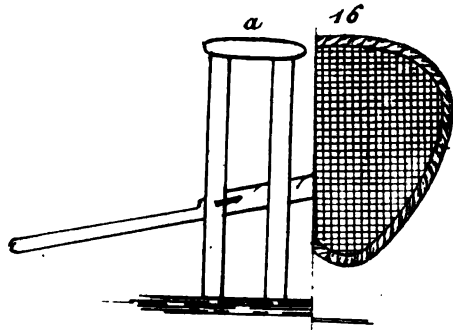
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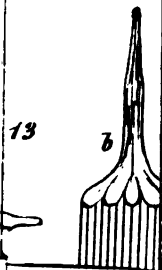
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**REFERENCES**

- 1 Plough for one buffalo
- 2 Do for 2 buffalos
- 3 Sisir or harrow
- 4 Wooden roller
- 5 A Drag
- 6 Sickle
- 7 Rake
- 8 Tajak with and without a handle
- 9 Hoe



## CHAPTER FIRST.

### *Climate—Soil—Geological formation of the Hills.*

THOSE who have long resided on Penang must have noticed a considerable increase of late in agricultural activity and spirit, a change for the better which may be attributed both to depression of commerce and to increase of population. It is to be hoped that the stimulus which has been given—from whatever source derived—will not be suffered to relax, nor perhaps will it be unreasonable to anticipate still more vigorous exertions from the opening which the new charter of the East India Company gives to agricultural speculators. The following reflections, therefore, the gleanings of experience, have been thrown together with the view of smoothing the path and lessening the risk to the adventurous planter.

#### CLIMATE.

The climates of Penang and of Province Wellesley slightly differ in some respects from each other, but both are adapted to all the purposes of intertropical agriculture. Hurricanes have never visited either of these places, although strong squalls have occasionally done considerable mischief to plantations. The evil has happily seldom extended beyond shaking fruit off the trees, prostrating a weak tree here and there, and breaking a few branches. Droughts of considerable duration occur at intervals of four or five years—and severer ones at longer periods. The planter can always provide by tanks and wells against any material loss from drought. A superabundance of rain is an

▲

inconvenience rather than a mischief, but it increases the cost of cultivation by one-third. The Island and the Province owe the exuberant vegetation which covers them to the general humidity of their climates throughout the year. Rains likewise fall more copiously at intervals : thus rain fell almost every day betwixt October 1789 and June 1790 ; and rain fell on 145 days betwixt May 1833 and April 1834 inclusive, on Penang plains, and 166 days on the Flag-staff Hill, and on 228 days in Province Wellesley. The *atmosphere* of Penang is more loaded with aqueous vapor than that of Province Wellesley owing to the latter being removed from so close a proximity to the mountains as the former. The average temperature of Penang is about one degree higher during the day than that of the opposite coast. The dews are heaviest perhaps in Province Wellesley. The northern half of the Province is swept by the strong sea breeze during the day, and generally by a cool land wind at night. A hot wind is not known at either, nor within the straits. The climate of Province Wellesley generally, is believed to be more healthy than that of Penang Plain. This must be chiefly attributed to its being better ventilated. The best manifestation of the nature of the climates of both; as regards the feeling is that, in Penang a punkah is indispensable, in Province Wellesley its absence is not felt. The temperature in the interior on the opposite coast was observed one day in January last at, 5 P. M., to be 65° of Far :

*Inc. 10ths.*

From May 1833 to April 1834 both inclusive, there fell on the Flag-staff Hill on Penang. 116. 6  
 Penang Plain ..... 65. 5  
 Province Wellesley ..... 79. 1½  
 Mean temp : of Penang Plain is about 80½d. of Farenheit—that of Province Wellesley 79½d.

## SOIL.

The Soil of Penang is, for the most part, decomposed granite. The alluvial soil, owing to the absence of large rivers, is confined almost entirely to some tracts of low-lying rice swamp. The lands skirting the hills extend by gentle undulations towards the sea, excepting where interrupted by the swamps alluded to. The soil of these lands, generally considered, is of a lighter quality and is inferior in fertility to either the hill or rice lands, and the deficiency must be supplied by composts. The narrow vallies which penetrate the mountains have slopes covered with a description of mould holding a middle rank betwixt these two. The soil on the hills is formed of the most recently decomposed granite, and the process of disintegration proceeds, in some places, with a rapidity that would not be suspected by a person unacquainted with the nature of that rock under certain circumstances. But as it is of unequal composition the soil partakes also of the irregularity. Where quartz prevails, as a component part of the granite, a sandy gritty soil must be expected; where felspar is superabundant, a rich white clay will be produced, and where mica is in excess, the resulting soil will be tinged of a red or dark brown colour, owing to the iron contained in that substance becoming oxydized. The granite which, on disintegration, yields the best soil, will therefore be that in which mica and felspar predominate. The advantages of cultivating the hills consist in the general good quality of their soil—in the constant supply of moisture in the shape of rain and mist, or clouds, and in elevation above the heated and drying air of the valley. The disadvantages are the deterioration—unless pains be taken by encouraging the growth of binding grasses—of the soil by the rain washing or filtrating it away; the impracticability of effectually using the plough and

the inconvenience of distance and consequent enhancement in the pay of labourers and cost of conveying produce to town. Some of the swampy land, before alluded to, might be rendered available to the planter by deep draining, trenching and raising; but very partial attempts only have been made to attain these purposes, for agriculturists have rarely deviated from old and half obsolete customs. The richest soil, could it be recovered from the sea, is that in which the mangrove grows—being composed of the finest alluvions of the continental rivers and the hill streams of Penang, which are carried by the currents and deposited along the coasts. The process of recovery is now slowly going along the coast of Province Wellesley, by the recession of the sea, or rather by the depositions alluded to.

The soil in Province Wellesley is by no means uniform in quality. The coast line exhibits a narrow sandy belt of low land to the northward and eastward, while to the southward the arable or habitable tracts are hemmed in, excepting in a few high points, by a broad mud, flat covered with mangrove trees, and which is flooded at high water. Beyond the sandy belt and mangrove are extensive alluvial tracts under rice cultivation, alternating with ridges of light soil running parallel to the coast. These ridges, in the centre of the Province and towards the frontier, give place to irregularly shaped dry alluvial plains stretching north and south. A few hills of moderate elevation are scattered throughout the district. The soil of the alluvial plains and rice grounds is superior in fertility to lands of the same classes on Penang. That of the hills is much the same in both. Extensive roads have been and are now being made to facilitate intercourse, and three large rivers, besides numerous creeks, afford ready access to many parts of the country. The ma-

materials for building are obtained either in the Province or from the country immediately beyond, and all ordinary supplies, such as cattle, poultry and butter &c. &c. are abundant, and indeed, Penang is now chiefly provided with these supplies from this Province.

The facilities for cultivating come next to be considered. Dry waste land for plantations may be obtained from the Government on leases of 20 years endurance, at a quit-rent varying according to its locality, but not on the average exceeding 2 Rs. an orlong, from 2 to 5 years being allowed rent free, and the rent gradually increasing to the maximum; and persons desirous of growing spices or other valuable products may, it is believed, on application to the Government, have the term extended.

A very large portion of the land at Penang and Province Wellesley is held by grants in perpetuity at various rates of quit-rent, the latter rarely exceeding one tenth per centum of the gross grain produce, and never more than one-fifth, which is less than one-third of the average of rent in England—that being about 33 per cent. and is much below the rent taken by Government in any other part of British India. Quit-rents of long occupied land in Penang and of some lands in Province Wellesley do not exceed *one* per cent. of the value of the gross grain produce. The assessment for roads on Penang lands has hitherto been  $2\frac{1}{2}$  per cent. on the estimated clear rental, and is confined to the Island as yet, for many substantial reasons. Land thus held and not cultivated, with valuable trees, are daily in the market, the price varying from 10 up to 40 dollars an orlong, equal to one-and-a-third of an acre. The original cost of clearing primeval forest cannot be averaged at less than 10 Spanish dollars an orlong, under the most favorable circumstances,

and 15 or even 20 dollars may not be considered too high an estimate for many of the stronger soils. The cost of keeping it clear depends on many varying circumstances.

Some speculators have proposed cultivating lands in the neighbouring states of Perak and Keddah—but it will be obvious to any one, on reflection, that independent of other circumstances, the despotic nature of the governments of both interposes many obstacles to success. Most of the Malayan mahomedan governments are regulated on similar principles. That of Keddah (which country is now under the more refined despotism of the Siamese) as it existed previous to the late conquest, may be taken as a type of the rest. The sovereign was lord of the soil, which the orang bindang, or ryots, cultivated under regular tenures. The chief one was termed *Surat Putus*, under which the occupier paid, at the outset, the price of one mas, or rupee, for every orlong of ground. He received this deed from the Raja, and it was stamped with the chops of the latter and his ministers. It was in perpetuity and could not be alienated, but was subject to resumption by the government if the possessor allowed the land to go to waste within a given period—sometimes 30 years. Instead of a regular quit-rent, each ryot, capable of labor, was subjected to a capitation-tax of 16 gantangs of paddy and one of cleaned rice, which would now be equivalent to nearly a dollar. This was occasionally commuted into a copper payment. But the ryot was obliged to sustain a much more grievous tax in the annual feudal service required of him at the will of the prince, and which cannot be computed at a lower yearly average than 4 rupees a head. The Siamese following the code of Menu, affect to exact only one-tenth of the gross produce value—but the tax is more than

doubled in practice, and forced service is much heavier than amongst the Malays. Every house which had a wooden door was taxed according to the dimensions of the house, and wooden staircases half a dollar each. Occasional contributions, or forced loans, were also made or imposed on urgent occasions, and these were never repaid. Grain-holders, moreover, were forced to deliver the rice into the Rajah's granaries at the price he chose to fix on it, and which always left him a profit of about 20 per cent., nor could they sell grain without special permission. Trade was monopolized by the Rajahs and his Chiefs. The ryot was obliged also to pay for keeping up bands of music and state-elephants. His children were liable to be forcibly taken from him—the girls for the seraglio, and the youths for public works or for war, where they got no pay and but precarious supplies of food.

#### LABOR.

If good wages be indicative of the prosperity of a community, then Penang and its dependency must be flourishing. Should this position be questioned in a superlative sense, still the fact that such wages are paid, may be considered as proving the absence of distress; and it is, in a philanthropic point of view, satisfactory to think, that although the *fixed native* population of the Island now exceeds 46,000 and that of Province Wellesley is upwards of 47,000 souls, the rate of wages has not been so materially affected as to degrade the labouring class, while it has been reduced in a degree sufficient to give a stimulus to cultivation and encouragement to settlers. The fact is that the bulk of the non-commercial native population is composed of independent land-owners, and that those who are not proprietors, are either farmers of land, or persons engaged in various occupations,

which, unless in times of scarcity, supply all their wants. But such is the character of the Malay that, with occasional exceptions, he will, rather than take a spade in hand for hire, content himself with a bare pittance not exceeding half of the sum he might gain by labor in the plantation of a planter. These remarks apply perhaps more strongly to the Province than to Penang, because rice is there more abundant and a livelihood may be obtained in various ways not requiring constant application. The same disinclination to exertion, not imperiously called for by necessity, prevents the native land-owners, not being Chinese, embarking to a useful extent in any sort of cultivation requiring considerable capital: and it is observable that the most unenterprising part of the community consists of those native proprietors who pay but a nominal quit-rent, and can afford to live in frugal indolence, which, with their simple habits, is luxury to them; so—reverting to the old adage,—necessity—which, in these days, originates in artificial wants and refinements as well as in natural impulses—is the parent of invention, or in other words, prosperity in its fullest sense. In 1828, I imported silk-worms from Calcutta and offered them gratis to the natives, but not one was accepted, although the mulberry thrives there, requiring only a very small degree of care to be bestowed on it. The same fate had nearly attended my offer of seed coffee, and other plants and grains; some of the Malays have, however, cultivated the foreign tobacco-seeds obtained from Calcutta. The settled habits which the people are now gradually adopting will bring artificial wants in their train and induce innovations on the confined agricultural system hitherto pursued. The Chinese are the only native class who are really deserving of the name of spirited cultivators. But they are prejudiced too, and they

feel no inclination to raise produce which will not yield a speedy return, such as pepper, sugar, gambier or cutch, indigo and vegetables, or to adopt European improvements. Chinese labourers can scarcely be had for less than nine sicca rupees monthly—Chuliahs, from the Madras side of India, are now paid about six rupees and the same rate or even less is given to Malays. Malayan women receive for hoeing about six cents of a dollar daily and children from three to six. The labor of three able-bodied Chinese may be considered equivalent, under due superintendence, to that of five Chuliahs or Malays; but were the balance of hire to operate against the former, which it does not, still it would generally be found advantageous to employ them where very systematic work is to be done. It is, however, undoubtedly the interest of agriculturalists to encourage all of these classes; at the same time, especially guarding against the monopolizing spirit of the Chinese, and an increase beyond the present rate of daily labor, by affording to the Chuliahs such hire as may induce them to resort, as they have done, to the Island. Planters generally engage labourers by the month, but wages are given by most of them according to the actual number of days only in which work is performed. There is no parallel in Europe to the labor attending the cultivation of a plantation here, and indeed any where near the line. In the course of a couple of months, the best cleared land, if left to itself, will be choked with a rank crop of tall weeds, and wiry, or reedy grasses. No sooner has the forest "*bowed beneath the sturdy stroke*" of the Malayan billiong, or axe, and the stumps been grubbed up and burned, than the lallang grass (*gramen caricosum* of Marsden), strives for mastery. This grass must be quickly eradicated or it will cost, when its roots have struck deep, twenty dollars an orlong to destroy it in light soils,

and from 40 to 80 dollars in stiff clayey soils. To destroy it effectually, not a root or a joint of one must be left. No valuable exotic will thrive where its roots are invaded by this pest. It will kill spice trees, coffee plants and sugar cane; and interferes greatly with the growth of the hardier cocoanut tree. Having once got rid of this bane, vigilance will be required to prevent new crops arising from seed brought by the winds; for unfortunately, like the seeds of the thistle and of some other plants, these are winged plagues. This grass abounds on the Malabar Coast where it is annually burned. A line of fire may then be seen at night extending for many miles in length. It grows in the Bengal provinces where it is termed *ooloo ghans*, likewise in Ava, Tennassarim and the Eastern Archipelago and in Sumatra. With reference to Continental India, the price of labor at Penang must be considered high; but it bears a favorable comparison with the bad wages given at the *Mauritius*, and those who have experience in the *West Indies* may not, perhaps, deny that it falls short of the cost of labor there under both former and present circumstances.

Colonel Flinter; in his account of *Puerto Rico*, states the price of free labor at 1s. a day,—about 6 Sp. dollars a month. Each slave costs, on an average, the same sum daily, four Sundays being deducted, besides losses and other expenses. But *Puerto Rico* seems almost, if not, the only island in the *West Indies* where free labor can be so obtained. The subject of labor will be again adverted to.

#### AGRICULTURAL IMPLEMENTS.

The Agricultural Implements used in Penang and in Province Wellesley are :—

1. *Tengala*—An iron-shod Malayan plough of weak power. The Chinese plough, which turns over the soil, is better than the *tengala*, the Bengalee

plough, which is inferior in power to the Chinese and the Kling or Coromandel Coast plough. These have only one handle. The population are far behind England in this arm of agriculture—value 2 to 5 drs.

2. *Chankool*—Hoes of sizes, the largest being full 11½ inches long, 5½ inches broad at top, and 6¾ at the bottom, and weighing 6½ lbs. The Chinese work best with this last. The size for the Klings and Malays is about 1 or ¾ pound less in weight. No large straight spades are used. *Chankools* should be well shod with steel, as the workmen scruple not to cut through roots of trees and soft rocks with them—value of the largest size, 60 cents to 75 cents of a Sp. dollar.

3. *Kappa*—A large axe. The English axe is sparingly used—value ¼ dollar.

4. *Billiong*—The Malayan axe. The broad part is only 4 inches in length and 2¾ inches broad at the edge. The shaft is 8 inches long from the broad part and this is attached to a long wooden handle: with this small but penetrating instrument, a Malay will fell the hardest tree more expeditiously than an European, perhaps, could with his heavy axe—value ¼ dollar, weight, near 2lbs.

5. *Sisir*—Harrow of iron or of wood, having one row of teeth—price 1 rupee, and requiring a man to follow and press it down by means of a bar of wood raised 3 feet above it. Wooden and iron rakes are likewise employed. As hay is never made and even straw seldom preserved, there are no pitchforks in use.

6. *Pingiling*—A wooden roller divided into five or six leaves like those of a grain winnow, which are sometimes shod with iron: in revolving, it cuts and tears up grass, and weeds—price ¾ dollar.

7. *Bintang*—Sledge for drawing logs of wood.—*Anor*—A wooden sledge or partly of wood, with mat or bamboo sides—price 1 rupee. It is dragged by a

buffaloe and slides over muddy paths where a cart-wheel would sink.

8. *Creta*—Chinese cart—two-wheeled, with iron axle—value 20 dollars. It is dragged by one buffaloe and is above the size of a common English one. Also a small light cart with solid wheels of wood.

9. *Sadap* and *Pingeau*—the first is an iron sickle rather smaller than the English one—value 12 cents or pice. The pingeau has a long crook at the back to pull up the fallen corn when laid in the water by wind, or other accidents, value 15 pice or cents.

10. *Ringgum*—A small, sharp, iron instrument used to crop the ripe grain—value 5 cents. It is a simple and ingenious contrivance, and women nip off the ears of grain with it quickly and expertly.

11. *Tajak*—A valuable instrument ranking betwixt a scythe and a hoe. It is used to pare the surface and destroy weeds and long grass—value  $\frac{1}{4}$  of a dollar; weight 2lbs. full. It is fixed to a much more upright handle than that of a scythe, and the workman wields it much in the way that a golf-player does his club. Every cultivator has several of sizes.

12. *Kree*—A small sort of tajah—value 12 cents.

13. *Kookoo Cambing*—"Sheep's hoof." A two pronged or cloven iron instrument used to plant rice plants—value 5 cents.

14. *Pingait roomput*—like the kree in some respects, but more crooked—value 10 cents.

*Pisau krat roomput*, is a grass knife.

15. *Parang Lading*—A powerful knife used for cutting brushwood and grass; also, unfortunately, as a too convenient weapon of offence by gang-robbers—value 25 cents of a dollar. It nearly resembles the knife used in Malabar and Canara.

16. *Papatel*—A wood-cutter's knife or hatchet—value, 25 cents of a dollar.

17. *Parang Bongko*—A crooked knife used for cutting jungle—value 25 cents of a dollar.

18. *Golo*—A knife for splitting wood—price 25 cents of a dollar.

19. *Chop*—Small straight spade used in transplanting young trees.

20. *Pisau wali*—Pruning knives for betel vines and pepper vines.

21. *Ayahan and Nyeen Jarang*—Sieves and scoops. *Panniela*—Scoop for baling out water from a field.

22. *Pengooroo*—Grain-farmers' winnowers, only used by the Chinese, who travel about with them in Province Wellesley just after harvest, and make good gleanings.

23. *Kisaran*—Stone corn-mills, turned by men or by a couple of oxen ; chiefly the former.

*Pangiling*—Hand-mills.

24. *Lusong tumbook tangan—Lusong kesar*—A wooden mortar with a heavy pestle to beat out grain from the husk.

25. *Eenee*—A foot grain-beater. The beater is attached to a lever which is moved by the foot: women are chiefly employed to work it.

26. *Jalapang*—Granary of bark or plank. If of bark, it is often plastered with mud.

27. A pruning knife.

28. *Gallak*—A hook for pulling fruit off trees.

29. A hand flour-mill, consisting of two inverted baskets with grinding stones betwixt them ; the shape is like an hour-glass.

The foregoing articles are made by Chinese or Malayan workmen. A few hoes and parangs have been imported from England ; but the iron was not sufficiently tempered. No doubt, were pains taken to supply substantial hardware of this sort at lower prices

than the natives can manufacture them for, a considerable quantity might be disposed of in the Straits. There is hardly a Malay who does not daily use a parang, or has not many of the other articles here enumerated. Many minor accessories to agricultural operations will readily occur to those having occasion for them and need not be here enlarged on.

#### DRAFT CATTLE.

Draft buffaloes and oxen are abundant and may be had at from seven to twelve dollars a-head. They are much inferior to the horse for the field labor. The buffalo, strong as he may seem, has a delicate constitution and is easily put out of condition; without careful tending, he will be useless after two years' work or even after a much shorter time. He soon becomes jaded if worked in the sun, and he is very liable to sudden attacks of disease. The Chinese appear to prefer the red, and the Malays the black buffalo. The preference seems due to the black as it is the hardiest. Oxen are never used in the plough and only occasionally in drawing light carts; they are active animals, but far inferior in power to the English or to the Indian service-bullock. Elephants abound in the forests bordering Province Wellesley, and when the demand was great for them, vessels annually carried numbers to Madras. They may be procured at the following rates and, without doubt, might be employed in field labour, carrying water up heights, &c. and produce to market. The tin from the Patani and Perak mines is chiefly conveyed to the depots on elephants. For an elephant 4 feet 6 inches high.....120 drs.

Ditto. 5 feet 3 inches.....200

Ditto. 6 feet.....220

Ditto. 6 feet 9 inches.....400

Ditto. 7 feet 6 inches.....420

Those exceeding this height are paid for at an advance on the last mentioned rate of 20 dollars for 1 foot 6 inches. If above 8 feet 3 inches, then an addition of 40 dollars for each 1 foot 6 inches is charged. Elephants 10 feet 6 inches in height are taken by the Siamese to the capital, and it is not permitted to sell them. The Keddah chiefs used formerly to breed elephants, a speculation rarely if ever attempted elsewhere. There is, however, a difference in the measure of Malay-an and Siamese elephants. The hista, or cubit, of the first is nearly 1 foot 6 inches, that of the latter is three fingers breadth, or about two inches more for every hista. Perak elephants, from 3 cubits up to 4 cubits and a half in height are sold at the rate of 35 dollars for each cubit. Up to 5 cubits the price is uncertain, above that height a thousand dollars are demanded according to the disposition &c. of the animal, so is the price asked for those exceeding this height. Coromandel native traders were, until late years, constantly in the habit of loading vessels with elephants for that coast. They run up the Pry river in Province Wellesley, and having cut down one side of the vessel and moored in deep water close to the bank, the Elephants were enticed to an inclined slide which introduced them to the hold before they could make any resistance.

But these last remarks may appear a digression from the original subject, which now leads to a consideration of the various produce of the soil.

#### AGRICULTURAL PRODUCE.

Penang has been a spice island from the period nearly of its first settlement. Pepper engrossed the consideration of capitalists for many years and, until the price fell so low that the returns no more than repaid the outlay. But previous to this check another source of gain opened by the introduction to the island of the nutmeg and clove tree.

In 1798, a few spice plants were imported from the Dutch Spice Islands, but in the year 1800, there were brought from Amboyna, five thousand nutmeg and fifteen thousand clove plants. In 1802, a further and larger number arrived, the collection of the Government agent, Mr. Hunter. This consisted of 25,026 seedling nutmeg trees, and 175 plants of ages, varying from four to seven years.

Shortly before this last period, a Government spice garden had been established, embracing one hundred and thirty acres of land, lying on the slopes which skirt the base of the hill near Amie's Mills, a romantic spot and well watered by a running stream now called Ayer Putih. This plantation, in some respects a mere nursery, contained in the above year the number of 19,628 nutmeg plants, varying from one up to four years old, 3,460 being four years of age. There were also 6,259 clove trees, of which 669 were above six, and under seven years old.

In the same year 1802, Mr. Smith, the Honorable Company's botanist, reported, that he had imported in all, to the island, at that date, 71,266 nutmeg, and 55,264 clove plants, out of which a few were reserved for the botanical gardens at Kew, Calcutta and Madras. These plants were distributed to the following places on the island. A few to the flag-staff hill, a number to the botanical garden on the Ayer Etam road, also to Batu Lanchang, Balley Pulo, Pulo Ti-coose, and Mount Olivia. Some remnants of these plantations are still to be found at those places, but it can hardly be matter of surprise that they should have nearly disappeared, when it is considered that the trees were huddled together and occupied less than half of the area of land which they should have had, and were moreover, in most instances, planted under huge forest trees, and thus denied the dews and

vivifying light and heat. The total number of spice plants on the Island was, at the same period, estimated at 33,000 only, but scarcely one of these had yet come into bearing. That such large importations should so speedily have dwindled down to the comparatively small number, was owing, at first, to the shyness of the cultivators, and the carelessness with which the newly arrived plants were treated, and subsequently, to the prevailing ignorance as to the proper method of cultivating these exotics; for the community were unfortunately taught, and credulously believed, even while the true sources of information lay open to it, that spice trees grew almost without culture. In spite, nevertheless, of the distrust which partial failure created, and the absorbment of capital in the vortex of commerce, the nutmeg and clove trees held fast possession of the soil, and it is to be hoped the prescriptive right they have established will be now supported by due attention to them. It cannot be positively affirmed that either has so naturalized itself as to spread spontaneously; yet, it is known that most of the plantations, now in a productive state, have been created by plants raised from nuts yielded by trees of the original importations, and a number of nutmeg trees which had been planted on the face of a hill and abandoned, were, after a lapse of about four years, rescued from thick jungle and found to be in a lively condition and in bearing. The wild nutmeg tree is indigenous to Pinang, being an inhabitant of the hills. It is a tall forest tree and bears a more oval-shaped fruit than the true nutmeg tree. Both the nut and mace are less pungent and more astringent than the true spice, yet the Chuliah have been in the habit of gathering them and selling them, in the native bazars. Strange as it may seem, this tree was, about thirty-four years ago, publicly reported to the home authorities as the true nutmeg

tree, so well had the Dutch guarded the *Hesperides* of the Moluccas. A wild species of the nutmeg tree has been discovered on the Andaman Islands and, it has been asserted also, on some island lying off the west coast of Africa. In the Moluccas, a wild species is generally found in the vicinity of the real one, and it often served as a guide to the Dutch forest-rangers, when an attempt was made by that nation to extirpate from most of those islands the true clove and nutmeg trees. The policy was vain; for nature asserted her rights, and the deep woods were soon again replenished from the seed which had been scattered about.

A wild kind grows also on the Malabar hills, and as Mr. Crawford has remarked, in Cochin-china, and New Holland. According to him, there are eight varieties of this tree. It would be unscientific and unbotanical were it to be inferred, from these facts, that the clove tree and true varieties of the genus *myristica* might be raised at all of the places above named; for the varieties of a genus of plants are often found under most dissimilar climates and latitudes.

The cultivation of the true nutmeg and clove tree began nearly about the same time at Bencoolen and Penang, and the greater success which attended it at the former Settlement than at the latter, was no doubt, owing to the fact above alluded to, of Penang having been then a mercantile rather than a cultivating community.

There are, however, several varieties of the *cultivated* nutmeg on Penang, distinguished from each other by the tinge of the leaf and shape of the nut. In some, the former is small and light in color, in others, dark and large. In one, the nut is oval or egg-shaped, each nut hanging on a tendril of four or five inches in length; in another, it resembles a small peach; and in a third, it is small and nearly circular.

In 1805, there were only 23 bearing clove trees in the Company's gardens, and in October of this year these gardens were sold for the trifling sum of nine thousand six hundred and fifty-six dollars. They contained then 5,100 nutmeg trees, 1,625 clove trees and 1,050 seedlings. The whole being sold in lots, many of the trees were dug up and transplanted to other quarters of the island and thus dispersed;—numbers were lost from mismanagement. Had the Government persevered in the experiment, the result would no doubt have proved satisfactory, but it very naturally distrusted the reports of the botanical superintendents when their success had proved so equivocal, and the results so expensive.

In 1810, the total number of nutmeg trees on the island was about 13,000, several *hundreds* of which only were in bearing, and from such clove trees as were then bearing, a supply of *twenty thousand* plants was obtained.

The sale of the Government plantations gave a temporary stimulus to the private planter; yet the continued ignorance of the proper method of cultivating spices—necessarily followed by tardy crops,—seems to have at length induced such an apathy regarding them that they ran the risk of a speedy extinction.

It is to the late David Brown, Esqre. that the public, (for that the public are interested in this case will, it is hoped, appear in the sequel) is mainly indebted for the revival of so valuable a branch of Straits cultivation. He stood alone in 1810 as a spice-planter on an extensive scale; but instead of finding encouragement in the sympathy of those around him, he was inconsiderately supposed by many to be in search of an El Dorado, and no one ventured to follow his steps. Bold and provident as was this attempt, its success was long retarded by the obstacles which always op-

pose themselves to agricultural innovators and it might even after a great outlay of capital, have been doubtful on the decease of that gentleman, had not his son, the late and lamented George Brown, Esqre., managed the estate with a spirit and judgement which finally overcame every difficulty, and displayed, for the first time, after thirty years of perilous trial, the full value of the pursuit.

In 1818, the bearing nutmeg trees on the island were estimated to be 6,900. Since that period spices have been more extensively cultivated. There are now upwards of thirty spice plantations at this settlement, including Province Wellesley, and these may be classed as follows:—

Five plantations containing from 4,000 up to 20,000 trees.

Eight from 500 up to 10,000 trees.

Seventeen from 50 up to 2,000, containing in the aggregate, about 80,000 trees, of which number 45,000 are estimated to be in bearing. When Bencoolen was ceded to the Dutch, the plantations there were estimated to contain 22,000 bearing trees only.

The gross annual produce from the plantations may be roughly estimated at 130,000 *lbs.* but young trees are yearly coming into bearing to swell this quantity; should the cultivation meet with no serious interruption, it may, perhaps, in time, supply the whole of the English market with spices.

Having thus traced the history of Penang spice cultivation through the difficulties it has so successfully struggled with, up to the present day, it remains to show how it stands affected by extraneous circumstances, its value to the mother country, and the modes in which it may be permanently upheld. The reader will, it is hoped, excuse the, perhaps in his eyes, lengthened details necessary for the above purpose, since, in

agricultural investigations, the useful must often dispense with the ornamental.

The Straits spice-planter ought not to be discouraged because only a few of the plantations have as yet returned the capital sunk in forming them. Let him recollect that he has got experience, a boon denied to his precursors; that prices have never yet fallen, and it may, with safety be said, are never likely to fall so low as to cut off *all* profits; and that by a continuance, it is to be hoped, of the provident liberality of the British government, a lighter duty will still be imposed on his produce than on Dutch spices imported to England and Bengal.

The London dealers have long since unequivocally pronounced the Penang mace and cloves to be the finest in the world, the former being more substantial and flaky, the latter more full and more luscious in colour than the importations from Amboyna; while the nutmegs are preferred to all others on account of their general superiority and freshness.

But the English market, even were Penang capable of supplying it, is not the only one to which the planter has to look. A demand exists amidst the myriads of India, the ultimate extent of which, who will venture to appreciate? China, the whole of the American States, Egypt, and Turkey are a few of the countries which now bear the impress of civil and moral regeneration; for,

“Bright Improvement on the car of time,  
 “Now rules the spacious world, from clime to clime;  
 “Her handmaid arts now every wild explore,  
 “Trace every wave and culture every shore.

“On *Mudas*\* banks where tigers stole along,  
 “And the dark Samang † yelled a dismal song,  
 “The wandering Devas of the forest glen—  
 “Now start to view the glittering haunts of men,

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\* A river bounding Province Wellesley.

† A wild, woolly-headed race of men who wander about the forests,

"And Silence, throned on Cherai\* cloven mound,  
 "Now hears the gurbang's† chime and gong's deep mellow  
 sound."

In other terms, the *Dominie* is now stalking amongst the nations ; with his right hand he majestically waves over their heads the talismanic rod for their mental correction and enlightenment, and with his left he scatters amongst them the seeds of science and art.

Those who hold different opinions will not, of course, plant spices, but will solace themselves perhaps with the cold philosophical reflection, that the prospect of gain is dimmed by the risks of war and of other political or moral changes which, spectral-like, float before their eyes.

In 1803, the Court of Directors desired that every reasonable encouragement should be given to the spice planters at Penang, for Dr. Roxburgh, their botanist, had, in 1802, reported his decided opinion that this island was "the most eligible spot of all the East India Company's possessions for the cultivation of nutmeg and clove trees." The Penang planters, it is believed, only now desire that they may be relieved from all duties at present imposed on their spices; that the duties now exacted be still levied on Dutch spices, and that the Dutch traders be prohibited from taking advantage, as they now do, of the very provision which the legislature had, in its liberality, accorded for, as it should seem, the express encouragement and protection of British colonial planters. Batavian merchants have lately,—whether legally or otherwise does not yet appear,—been in the habit of conveying the spices of the *Moluccas* to *Singapore* and *Malacca*, from which places they are shipped for England and Bengal and consequently *pass free of the extra duty of*

\* The Keddah Peak, a lofty mountain with a remarkable cleft in it.

† Gurbang, or musical bowls.

one shilling per pound imposed on spices from other than British colonies.

If the Dutch spice-grower never has been known to relax his system of monopoly, but has, whenever he had the power to do it, made the British consumer pay his own prices, he ought not to grumble at an extra duty on his produce which, by infusing greater life and energy into Penang planters, *the only now existing checks, worth mentioning, to a renewal of that monopoly*, gives to the British Public the advantage of cheaper and better spices.

The question here, in which spice *consumers* are interested, is not one of mere speculative competition betwixt rival colonies, or one which may be gaged by the principles of the free trade system. Spices cannot, like sugar, coffee, and a few other valuable products, be cultivated every where within the tropics. Dutch and British spices now unfortunately, as has been before shewn, enter the English market on equal terms; the competition is almost wholly confined to the Amboynas and Penang, as will presently appear, and may be supposed to incline in favor of the former, since the cultivation at the latter island has been barely rescued from the trammels of experiment. Will the comparatively trifling revenue derived from duties on Straits spices, the produce of British plantations, prove an equivalent for the risk of throwing back the monopoly into the hands of the Dutch, either by discouraging British planters, or exposing them to the temptation which the Amboyna planters might offer, of prices considerably above the usual market rates! for could the latter obtain the full command of these British spices he would doubly repay himself out of the profits of one year's monopoly.

When Bencoolen was given up to the Dutch government, it was stipulated in the Treaty that the Bri-

tish inhabitants were to enjoy, until the 8th of June 1820, the unfettered liberty of disposing of themselves and property.

Since the expiration of the above period, a duty of 36 per centum has been levied there on the exportation of all spices—unless these have been sold to the Dutch government,—in which case, they have been exempted from duty altogether. It cannot be supposed that the Dutch will readily abandon the policy of centuries and foster in their own bosom that which is subversive of it.

Bencoolen, to any nation which shall possess it, must prove as it ever has proved, an expensive post. Is it not therefore probable that it will be held no longer than the period of the spice plantations cease to be?—accordingly, we find that the formation of new plantations is discouraged within the limits of the Settlement; that estates of such proprietors as have died intestate are believed to be under the management of government authorities—and that ten of the plantations, formerly reckoned the best, and lying within the limits, have gone to waste and ruin from want of funds or labourers to keep them in order, and that there are only two spice estates remaining, which pay any rent to the proprietors! It will be remembered that the Bencoolen spice estates within the limits, belonged to British inhabitants, most, if not all of whom, have left Bencoolen. It may also be observed that the wages given there now to fickle Malayan labourers are the same as able-bodied Chinese receive at Penang.

In pursuance of the foregoing reasoning, it becomes of importance to notice that the geographical limits which nature seems to have originally assigned to the true nutmeg and clove—more especially to the former—are singularly contracted, and that as yet the circle for

either has not been very widely extended by the ingenuity of man. They originally grew on the proper Molucca Islands of *Ternate* and *Tidor* only. These Islands were first visited in 1510 when Albuquerque penetrated to the Eastern Archipelago. In 1521, one of Magellan's companions established at *Tidor* a factory for the purpose of collecting spices.

In 1515, the Portuguese introduced spices into Amboyna; and on *these dying off*, the stock was again replenished in 1650.

The Dutch who supplanted the Portuguese, confined the cultivation of spices to *Amboyna* and *Banda* with their circumjacent dependencies, in order to secure the exclusive monopoly of them. *Ternate* and *Tidor*, as do the other Molucca Isles, lie on the great volcanic belt which stretches from *Kampskatka* to *Barren Island* in the Bay of Bengal, and are a little more than ten degrees distant from that portentous focus of volcanic energy, *Sumbawa*. Was the era of the appearance of the clove and nutmeg, on this globe, coeval with that, when these islands were first heaved up from the bosom of the deep? If so, their antiquity must be considerable, for the clove was known to the ancient Egyptians.

Leaving such speculations, may it not be conjectured, from analogy, that places lying, like Penang, near to the prolongation of this volcanic belt—and about the same distance to the north of the Line that the *Moluccas* are to the south of it—will be found most congenial to the growth of spices: more particularly to the nutmeg, which is partial to islands, and pines under an arid atmosphere.

It may likewise be supposed that altho' spices may be found to grow in other regions, the produce will be inferior to that of the eastern portions of the globe where they are, if not actually indigenous, now success-

fully cultivated. The vicinity of the latter to populous nations, ready to sell their labour at a moderate price, must give to them a decided advantage over, at least, slave-employing states in all that relates to mere manual labour. It is well known that attempts have been made to cultivate the nutmeg and clove in the Peninsula of *India*, *Ceylon*, the *Mauritius*, *Bourbon* and the *West Indies*; but had success been commensurate with expectation, the world would, long ere this, have been aware of it by its effect in reducing prices far below the scale to which they have ever descended. That they should have ever fallen to the average of late years may be ascribed to attempts of planters at the Moluccas to glut the market in order to discourage competition.

The Straits planter has now passed through the ordeal of experiment, and can build hopes on known premises; but in those parts of the world where the trial remains to be made, the speculator will pause to calculate the odds of an eight years' stake of time and capital.

A few years previous to the introduction of the clove and nutmeg on Penang, some plants had been obtained by the old French government; a part of which were planted at Bourbon, and the rest were conveyed to Cayenne which last place is free from hurricanes. The clove tree has, since that period, been cultivated at Bourbon, but the produce has ever been held as second rate to that of Amboyna and Penang. The clove succeeded at Cayenne, but the nutmeg trees failed. The Abbe Raynal alluded probably to these first when he described clove trees there which yielded from forty to fifty pounds of fruit each.

M. W. Urban Buce, a French planter, in his memoir sent to the British Colonial office in 1796, states that he had then planted out fifteen hundred clove plants on his estate at Dominica, which he had raised

from seed or mother-cloves procured accidentally at Martinico and that he expected them to bear in 1799. What became of this and the Cayenne plantation does not appear; yet surely had they been found profitable speculations we should not afterwards, with the appliances which the West Indies afforded, have heard of such a thing as a Dutch monopoly of cloves.

A few nutmeg trees have been seen growing in a deep valley in the Mauritius; but the price of labor and devastating hurricanes are against the extension of spice cultivation there, even should soil and climate be really favorable; which, however, has not been shewn.

If the account which appeared about a year and a half ago in a Liverpool paper may be credited, an attempt has been made to cultivate the nutmeg at Trinidad on an extensive scale, and no doubt a better site for such an experiment could not have been chosen, since that island is beyond the tract of the hurricanes. But even should the nutmeg thrive there, the cost of production will, it is believed, be very heavy.

The hire of a labourer there cannot be reckoned under fifteen Spanish dollars a month, and may perhaps much exceed that rate: for, on one occasion an endeavour was made, which failed, to induce Chinese to go there; and we know these people would hardly work for less at such a distance from their country. There are a few nutmeg trees cultivated in gardens at Brazil, but hitherto merely as exotics: the planters there seem now to be almost exclusively bent on supplanting the staple of the Celestial Empire, tea—by tea of their own raising.

The reduced prices at which spices have been occasionally sold during late years have undoubtedly increased the consumption; but the cultivation of them is too expensive a speculation to admit of continued low rates and it may be questioned whether they could have

fallen so low as they have done had the Amboyna plantations been, like those of Bencoolen and Penang, in the hands of *private planters*—for the cultivation at Amboyna, too, is expensive—and there is perhaps no other transportable vegetable product of the tropics which requires so many years to reach maturity. The gap—as Dr. Johnson once observed of planting in general—is a fearful one betwixt planting and reaping.

The cultivation of spices is the next subject for consideration ; although it is not my intention to enter into all its minor details which may be left to the planter's judgment and practice.

The valuable account published by Dr. Lumsdaine in the year 1820, and lately republished in the *Singapore Chronicle*, of the mode of cultivating spices at Bencoolen may be consulted with advantage, the Straits planter making due allowances for the differences in the two localities and the appliances available at each.\*

He who would enter the arena as a spice planter should have the bump of perseverance *myristically* developed; he should be impervious to compunctious

#### NOTE.

\* The following are the most essential perhaps, of the remarks made on spice cultivation by Dr. Lumsdaine.

1. The beds of the trees are kept free from grass and noxious weeds by the hoe, and the plough is occasionally run along the interjacent spaces to eradicate the lallang grass.

The trees are generally manured once a year in the rainy season, with cow dung and burnt earth ; in the proportion of two-thirds of the latter to one of the former. The pruning knife should not be too sparingly used. The plantation must be protected from prevailing winds—as the trees are liable to be uprooted by them. No large trees should be suffered to grow in a spice plantation.

2. In originating a plantation ripe nuts must be selected, and set one foot apart in a rich soil, with a slight covering of mould. They are to be protected from the sun, and in dry weather to be watered every other day.

feelings on opening his purse ; his temperament ought to be sanguine ; and his trust in native operatives should be the reverse of overweening.

Without these preliminary qualifications he will assuredly falter, waver, and stumble in his career—thereby risking his own ruin, and what abstractedly is of more

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When 4 feet high they are to be planted out 30 feet asunder—at the commencement of the rains. They are then to be screened from the violence of the sun and wind. It is a matter of essential importance that the ground be well opened and the cohesion diminished.

The trees must be watered every other day in sultry weather. Each tree must be shaded from the sun until the fifth year, and have 4 garden-baskets full of the manure, before stated, given to them yearly.

After the 5th year, until the 15th, the compost will consist of one half burnt earth and half cow dung—and from 8 to 12 baskets full of the compost will be given to each *bearing tree*, a lesser proportion being distributed to the males. After the 15th year the stimulus must be increased, and from 12 to 16 baskets full will be given to each tree biennially. The compost should previously be spread out for three or four days in the sun.

The manure should be applied in a circular furrow in immediate contact with the extremities of the fibrous roots of the trees. Other stimuli will readily occur to the intelligent planter.

The roots of the trees should be kept properly covered with the mould. The growth of the lateral branches is to be encouraged, and all suckers and dead and unproductive branches will be removed. Creepers are to be dislodged and the lower verticles lopped off to admit air to the stem. When the lallang has been eradicated, innoxious grasses will be encouraged in the spaces betwixt the rows. Seven months generally intervene betwixt the appearance of the blossom and ripening of the fruit.

The fruit having ripened, the outer integument bursts spontaneously, and is gathered by a hook attached to a long stick, and the mace, being cautiously stripped off and flattened by the hands in single layers, is placed on mats for 3 or 4 days in the sun to dry.

The nuts being liberated from the mace are carried to the brick-constructed drying house, and dried on stages of split nibongs elevated 10 feet above the floor or lathes slightly separated so as to admit the heat from a smouldering fire underneath. The heat should not

importance, deterring others with stronger nerves from benefiting the public by engaging in the same pursuit. Numerous, truly, are the vexations, anxieties and obstacles which the planter has to encounter ; and although, in estimation, these are outweighed by advantages, the *intending* planter should reflect with the poet, whose immortal verse harmonizes with our subject, that

“ ’Tis distance lends enchantment to the view,  
“ And robes the mountain in a *spicy* hue.”

His hand having fairly grasped the ploughman’s ribands, it is to be hoped that his mind will be sunned and

“ Blest by visionary thoughts that stray,  
“ To count the joys of fortune’s better day.”

And will be also soothed in the verdant bosom of nature herself with the hope that

“ In her sweet garden grow,  
“ Wreaths for each toil, a charm for every woe.”

#### COST OF CULTIVATING.

As no uniform system of planting spices has yet been adopted here, it becomes somewhat difficult to state the precise expense attending it.

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exceed 140° of Farenheit. The fire is lighted in the evening and kept up for the whole of the night. The nuts are turned every 2nd. or 3rd. day: after 2 complete months smoking, and when they rattle freely in the shell, they are cracked with wooden mallets and packed.

#### THE CLOVE.

The mother-cloves are planted at 12 inches apart, screened from the sun and duly watered. They germinate within five weeks and when 4 or 5 feet high are to be planted out at about 30 feet apart, and are to be cultivated in the same way as nutmegs are, only that when full-grown they require  $\frac{1}{4}$ rd. less manure.

The clove loses about 60 per cent. in drying.

For a plantation of 1000 spice trees at Bencoolen, which would require in Penang about 17 orlongs of land, Dr. Lumsdaine reckoned that it would be requisite to keep 7 Chinese labourers or Bengalees, 50 head of cattle, and 2 ploughs, independent of collecting the clove harvest.

The cost at the outset was enormous, and it has gradually decreased as experience has been gained. The following, after patient investigation, seems to me a fair average of expenses as they are likely to be in *future*.

Assuming a plantation to be one hundred orlongs (or about one hundred and thirty-three acres) in extent, the items will run thus :—

*(First Cost.)*

|                                                            | <i>Sp. Dollars.</i> |
|------------------------------------------------------------|---------------------|
| 100 orlongs of cleared land on a grant in perpetuity ..... | 2,000               |
| Plants, planting, ditching, hedging and nursery .....      | 1,600               |
| Buildings, implements, and cattle, .....                   | 400                 |
|                                                            | <hr/>               |
|                                                            | 4,000               |

This estimate may perhaps be found too low on account of the increasing value of land.

*(Seven Years' Expenses.)*

|                                                                                                                                                   |        |
|---------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| One overseer, 50 Chinese labourers or 70 Chuliahs, cattle, (or else manure,) carts, ploughs, quit-rent, and compound interest on the outlay ..... | 39,000 |
|---------------------------------------------------------------------------------------------------------------------------------------------------|--------|

making a total of Sp. dollars ..... 43,000

But it ought also to be noticed that the cost varies according to localities. A soil that is light and friable, and which may be easily freed from the lallang grass, may be cultivated at less expense than one of an alluvial nature. In the long run, however, the latter makes ample amends in its superior productiveness. Nor ought a plantation, which has come into bearing, to be valued at its mere *prime cost*; for to it, a sum, equal to one-third at least of this last, may fairly be

added on the score of great risks and prospective profits, and perhaps few planters would be found willing to sell even at this rate. A flourishing nutmeg tree, from 10 to 15 years old in full bearing, cannot, on the lowest possible estimate, be valued under 10 Spanish dollars; nor that of a similarly circumstanced clove tree, under 5 dollars.

The cost which would attend a plantation of the dimension above stated, at Bencoolen could not be reduced below 70,000 Spanish dollars, and it is probable that with negro labor a plantation of the same size in the West India Islands would cost about an equal sum; while, with free labor it would, it is supposed, exceed this sum by about one-fourth part; for it is taken for granted that the rate of 15 dollars per mensem, as given to a day-labourer at the Brazil, is pretty generally applicable to those islands.

#### THE NUTMEG.

The cultivation of the nutmeg is of primary import. It has been sufficiently proved that the tree will flourish here on soils of the most contrary qualities; for it might be difficult to pronounce decidedly what kind of soil is best adapted for its growth and longevity; for its existence as yet on Penang is comprised within about thirty years, while we know that in the Moluccas it attains the age of one hundred and eighty years. We find it, however, growing luxuriantly on Penang at an elevation of 2,000 feet above the level of the sea, on gentle slopes, on low rocky-hills, and on deep alluvial soil scarcely elevated above high water mark. In the mountain valleys it yields heavy crops without the application of manure and the produce is of a very superior description.

On the slopes skirting the base of the hills, and on the plains, the system of manuring as described by Dr. Lumsdaine to have been followed at Bencoolen is rigid-

ly adopted ; but nothing in the shape of agricultural science has been brought to bear on this point ; whatever the nature of the soil may have been, the quantity of manure applied has been invariably the same. By the judicious application of manure, a plantation, laid out on second-rate soil, may, for many years, be kept on a level with one on the best description of land, but the latter ought not to require the stimulus which is identified, apparently, with the prosperity of the former.

The trees on Amboyna and Banda stand, or stood, partly on rich black or red mould, and partly on a light soil, both being there deemed equally congenial to their growth. The soil throughout the Bencoolen plantations, generally, is, a red bricklike mould with stoney fragments interspersed—nought but persevering industry could have rendered this soil so productive as it has proved to be. The mould seems to be a decomposing laterite and too strongly impregnated with iron to be very fertile. A somewhat similar soil is found in the neighbourhood of Malacca, at Singapore, and in Province Wellesley. In the latter district it merges into a steatitic or argillaceous earth which is highly prolific.

Dr. Lumsdaine was of opinion that alluvial lands were entitled to preference from their acknowledged fertility and capability of retaining moisture. In 1804, the whole face of the island of Banda—as described by the agents of the Bengal government, who superintended there the collection of plants from the Moluccas for Penang—resembled the then rude state of the latter Island, excepting that the low thick jungles, where the nutmeg trees were planted, had been cleared away.

The gentleman above alluded to, notices a tree which grew in an alluvial soil at Moco Moco in Bencoolen, and which at the age of 23 years, measured 38 inches in circumference.—There is now one at Dettesham

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estate on Penang which, at the age of about 20 years, measures 42 inches in girth at a level with the ground, and 30 inches at three feet above the surface: one of 20 years of age at Ayer Etam measures also 42 inches round the stem, and there are many in other plantations of nearly similar dimensions.

The nutmeg tree has but a slender lateral hold of the soil until it attains to the age of 12 or 15 years, but its tap-root serves to steady it by striking from four to five feet deep; notwithstanding all this, my belief is that the tap-root might be pruned with advantage in many situations before planting.

It has not yet, I believe, been discovered how the male and female trees are to be distinguished from each other previous to the period of inflorescence. If any planter be in possession, or thinks he is in possession, of the secret, it has not apparently betrayed itself in results. Should any one be led by accident or genius to the discovery, and liberally give the planting community the advantage of it, he will not only deserve the myristicatic wreath but more solid marks of gratitude; for there can be no doubt that ignorance on this vital point enhances the cost of cultivation one-third beyond what it would otherwise be, independent of the serious loss of time it entails. Thus, after the sixth year, the sexes may perhaps be known; the superabundant male trees—with the exception of one for every ten females, or as some planters will say, one for every twenty female trees—must be cut down and young plants placed in their stead. Many of these will, in their turn, prove of the sturdier sex and require to be removed, thereby postponing to an indefinite period, perhaps for twenty years, the final arrangement of the plantation. Dr. Lumsdaine has averaged the unproductive trees in a plantation, before thinning, at one-third of the whole; but it seems to me that there will be greater

safety in rating it at one-half of the total number. The planter will also have to take accidents into the account. The trees which have both male and female blossoms cannot be much depended on, and must of necessity yield a less quantity of fruit than the female trees, and they appear to decrease in fertility in proportion to the increase of stimulus in shape of manure. It is a remarkable fact that during the unprecedented drought of four months in 1832, during which only  $4\frac{1}{2}$  inches of rain fell, many old nutmeg trees in Glugor plantation, which had never before been known to exhibit other than male blossoms, were suddenly,—and permanently it should seem—transformed into *monoecious* trees and bore crops of fruit, while female trees remained unchanged. A drought of such continuance would not be thought extraordinary in many tropical regions; but here, where there are frequent showers and heavy dews nearly throughout the year, the unmitigated fervor of the sun's rays was felt severely. The leaves of the spice tree fell off and the fruit shrivelled up, and by plentiful watering alone were many plantations saved. It may here be observed that artificial watering will not compensate for aridity in the atmosphere or insure a competent produce. Excepting the loss of part of their leaves, the clove trees did not suffer and they bore abundantly at the ensuing season; but the nutmeg trees did not quite recover the shock for a year.

During this drought, numbers of tall fruit trees, indigenous to the climate, died, and in the flat alluvial lands of Province Wellesley patches of high forest trees became so dissicated that they caught fire and were consumed; while water could only be had by digging sixteen feet deep.

A moist atmosphere appears essential towards the perfecting of the nutmeg and mace. The male tree

here, I have observed, are invariably more precocious than the females. The planter will often therefore be mortified to find here and there a continuous row of his most luxuriant and hopeful young trees, on which he had been wont to look with pride, suddenly put forth the obnoxious and unprofitable blossom. The remedies for this evil proposed by Dr. Lumsdaine of either grafting or inarching on male stocks to obtain monoecious trees, or of setting the plants in a nursery at four feet distance and forcing them, by lifting them frequently out of their bed, to shew their sex, are perhaps too problematical to be attempted at first on a large scale, yet they should be made on a small one. I have, however, of late noted a valuable peculiarity in this tree. Many young trees, when they first came into flower exhibited male blossoms only. But after these had been shed, and a few months had elapsed, a new crop of female blossoms appeared. When two successive crops of male flowers appear, the case is *rather* doubtful, yet not hopeless.

The nutmeg tree fruits on Penang about the seventh year, but very rarely about the sixth, following thereby a rule of nature which is applicable, with but very few exceptions, to all the indigenous fruit trees in this part of the world. At Bencoolen they are in a full state of productiveness about the fifteenth year. A rapid approach to productiveness by no means indicates permanent vigor. In the Moluccas, as it is said, the nutmeg trees do not often bear till the ninth year. They then go on there increasing in productiveness up to their eightieth year, after which they gradually decline during nearly an equal period. Pear and apple trees in England have been known to attain the age of nine hundred years.

The observation of Dr. Lumsdaine respecting the quantity of produce yielded by nutmeg trees at Ben-

coolen, may be pretty aptly applied to that obtained from Penang trees, namely, about 5 *lbs.* of nutmeg and 1½ *lb.* of mace from each tree in good bearing, taking them one with another ; for some trees bear heavy crops while others give scanty ones.

On Penang, the trees bear all the year round, but the chief crop is in the months of March, April and May, instead of September and the three following months, which are, as observed by Dr. Lumsdaine, the Bencoolen harvest months. Besides the above principal crop, there is, here at Penang, a second-rate one in October and November. The quantity and quality of nutmegs and mace are very liable to be affected by heavy falls of rain—which cause the nutmeg to burst prematurely—especially if succeeded by a hot sun. While the indigenous fruit trees are subjected to the serious depredations of the monkey tribe, vampires or flying foxes, squirrels and the musang, or *fox cat*, the nutmeg and clove remain unmolested by them provided the fruit be removed at the proper time. But of late, some plantations have been extensively preyed on by human depredators, and no doubt planters would deem it no inconsiderable boon were a local law to be vouchsafed for their protection, making it a punishable offence or misdemeanor for any one to have spice plants in possession without being able satisfactorily to account for them.

• Spice trees, like others, have however their natural enemies. There is an insect which occasionally perforates the stem and branches, especially of the clove tree, and the white ants and a blight sometimes injure a few trees. The former make their nests and pile up the earth around the stem, impeding its vigor. But by a bountiful provision of nature, these wholesale consumers are not partial to live wood and therefore do little more injury; were the case otherwise, what forest, however majestic, could withstand their attack.

## THE CLOVE.

There are several species of the Clove: Mr. Crawford has enumerated five sorts; the *ordinary*—the *female* clove with a pale stem—the *keeree* or *loory* clove, the *royal* clove—and the wild sort. The most productive sort in Penang appears to be one having a slightly curled and small leaf. The clove tree flourishes best on elevated sites. On the plain here, it grows during the first six or eight years with an almost supernatural vigor, the precursor of premature decay. After the tenth year, it exhibits a shaggy aspect with frequently a withered top. It is probable that, in such a locality, it will rarely survive to any useful purpose, the fifteenth or twentieth year. In Bencoolen, as we find by Dr. Lumsdaine's account, the tree decayed after the 24th year. The life of a clove tree at Amboyna is supposed to be limited to 75 years.

It thrives well, however, on this Island, on the undulating grounds skirting the hills, and there are trees thirty years old yet vigorous in such situations; but an elevation of from 300 to 1000 feet above the level of the sea would seem best adapted to it. There are nevertheless trees about thirty years old and  $2\frac{1}{2}$  feet in girth, on the flag-staff hill, at an elevation of 2,200 feet, which are yet lively and bear tolerable crops. In the Moluccas, the clove tree, it is said, thrives on soil which is hardly fit for any other; but there it is in *situ*. It is never manured on the hills, in Penang; but on the plain the stimulus is requisite.

The roots of this tree should be allowed to spread freely even above the surface; nothing destroys it sooner than clogging the lower part of the stem with earth or allowing any water to remain soaking on the upper roots and stem.

Tapping is not here practised as at the Moluccas.

The principal plantations here lie on undulating land

and on the tops, slopes and ridges of hills—only a few straggling trees are to be found as yet in Province Wellesley. Penang cloves are deemed first-rate in the English market. Since 1821, the cultivation of the clove has rapidly advanced, an additional number of about 50,000 having been planted.

A clove plantation is not *infested* by male trees like one of nutmeg trees; every tree bears—although some trees yield more fruit than others. It is rather a capricious tree and it is seldom that all the trees in a plantation bear at the same time. More than two crops in three years cannot be expected. Allowing for this break in its round of productiveness, the quantity of produce of a plantation of ten years standing cannot be estimated higher on an average of years, than five pounds of dried fruit for each tree, one with another; although some trees will yield occasionally from 20 up to 40 *lbs.* of dried produce. This tree, as in its native country the Moluccas, throws out new shoots here in May, from which the blossoms are to come; thus arguing a similarity in the climates of these Islands and Penang.

The clove harvest may be generally expected to commence about the beginning or middle of November, and to be over by the middle of January.

The mother-clove does not ripen for three or four months after. The Chinese have taken a fancy to the dried mother-clove, considering it medicinal, and a quantity is annually exported to China. Some planters are of opinion,—and it is perhaps a right one,—that the mother-clove exhausts the tree. The clove tree can be multiplied by layers, but not to any profitable purpose in so far as experiment has yet gone, the progeny being stunted.

The spice planter at Penang should, until circumstances alter, continue to act the part of tenant—for the

Chinese are the only class disposed to take a spice plantation on a lease; and it should be generally made known, that rent, in their apprehension, means the sharing the produce *equally* with the landlord, while, —unless bound down under a high penalty which few can obtain security for—they invariably resort to such a stimulating and forcing mode of culture, that the trees, if not ruined, will be so exhausted on the expiration of the lease as to require years for their recovery.

Having now brought the account of these valuable branches of cultivation to a close, the next product for consideration is

#### PEPPER.

Pepper was, during many years, the staple product of Penang soil, the average annual quantity having been nearly four millions of pounds; but previous to the year 1810, the above amount had decreased to about two and a half millions of pounds, which was the result of the continental system.

The price having fallen at length to 3 and 3½ dollars the picul—with only a few occasional exceptions of rises,—the cultivation of this spice was gradually abandoned and the total produce at this day does not exceed 2,000 piculs. The original cost, when pepper was at a high price—together with charges of transporting it to Europe,—amounted to £36,357 for every five hundred tons, and the loss by wastage was estimated at £5,405. In 1818, there remained on the island 1,480,265 pepper vines in bearing, and the average value of exports of pepper from Penang, including that received from other places, was averaged at 106,870 Sp. dollars.

As might have been foreseen, the fall of prices has so greatly diminished the cultivation of pepper to the eastward, that a reaction is likely to take place; and has in fact partially shewn itself already. Some Chinese in Penang and Province Wellesley seem to be prepar-

ing to renew the cultivation. There is abundant scope for this purpose on both sides of the harbour, and every facility is at hand for carrying it on.

The pepper plant, or vine, requires a good soil, the richer the better, but the *red* soil of the higher hills is not congenial, the Chinese think, to it. The undulations skirting the bases of the hills, and the deep alluvial lands, where not saturated with water, or liable to be overflowed, are preferred.

The Chinese have always been the chief cultivators, and when the speculation flourished, they received advances from the merchants, which they paid back in produce at fixed rates.

The plants are set out at intervals, *every way*, of from seven to twelve feet, according to the degree of fertility of the soil, so that there are from 800 to 1,000 vines in one orlong of land; to each vine is allotted a prop of from ten to thirteen feet high, cut from the thorny tree called *diddap*, or where that is scarce, from the less durable *boonglai*: these props take root, thus affording both shade and support to the plant. The plants may be raised from seed pepper, but this plan is not approved of, cuttings being preferable, as they soonest come into bearing. The pits in which these cuttings are set, should be a foot and a half square and two feet in depth; manure is not often applied, and then it is only some turf ashes. However unpicturesque a pepper plantation may be, still its neat and uniform appearance, renders the landscape lively, and there can be little doubt, that the Island has suffered in its salubrity since the jungle usurped the extensive tracts formerly under pepper cultivation.

When the vine has reached the height of three or four feet, it is bent down and laid in the earth, and about five of the strongest shoots which now spring

up, are retained and carefully trained up the prop, to which they are tied by means of ligatures of some strong creeping plants, such as the *ukar meedin*.

One Chinese, after the plantation has been formed, can take care of two orlongs of land. The usual mode is this : an advance is made by the capitalist to the labourer for building a house and for agricultural implements ; he then receives two dollars monthly to subsist on, until the end of the third year, when the estate or plantation is equally divided betwixt the contracting parties.

The Chinese, and even European cultivators used formerly to engage the Chinese, who had just arrived from China ; they paid off their passage-money, and then allowed them two dollars monthly, for provisions, for one year, with a suit of clothes, by which means the cost of the labor of one man averaged about three dollars monthly ; but this plan is attended with risks.

The cost attendant on the cultivation of two orlongs of land, with pepper, for three years,—the Chinese labourer receiving the usual hire of *five* Spanish dollars monthly,—will be nearly as follows:—

|                                                                          |         |     |
|--------------------------------------------------------------------------|---------|-----|
| Price of land, clearing and planting . . . . .                           | Sp.Drs. | 40  |
| Quit-rent @ 75 cents $\text{\pounds}$ annum, $\text{\pounds}$ orlong, .. |         | 9   |
| Two thousand plants . . . . .                                            | ..      | 4   |
| Ditto diddap props, . . . . .                                            | ..      | 6   |
| Implements, . . . . .                                                    | ..      | 6   |
| House, . . . . .                                                         | ..      | 10  |
| Labor . . . . .                                                          | ..      | 200 |
| Interest, loosely calculated at . . . . .                                | ..      | 30  |

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Total, Spanish Dollars, 305

In a very good soil, a pepper vine will yield about  $\frac{1}{3}$ th of a pound of dry produce at the end of the first year ; at the end of the second, about a quarter of a pound, and at the expiration of the third, probably one

pound. At the end of the 4th, from 3 to 3½ pounds; ditto 5th, from 8 to 10 pounds. After the fifth year up to the fifteenth, or even the twentieth year, about ten pounds of dry merchantable produce may be obtained from each vine, under favorable circumstances. The Chinese speculator used to rent out his half-share of a new plantation for five years to his cultivating partner, after the expiration of the first three years at the rate of 30 piculs per annum, the total produce of these five years giving about 56 piculs annually, as an average.

A pepper plantation never survives the thirtieth year, unless in extremely rich soil, and then it is unproductive; nor will the young vine thrive on old worn out pepper land, a peculiarity which is applicable to the coffee tree. The chief crop lasts from August to February. Four pounds of dry produce, for ten of green, is considered a fair estimate. Great care is requisite in the management of the vine, and especially in training and tying it on the props. It is subject to be injured by the attacks of a small insect. The green pepper dries in two or three days, and if it is intended that it shall be black, it is pulled before it is quite ripe. To make white pepper, the berry is allowed to remain somewhat longer on the vine; it is, when plucked, immersed in boiling water, by means of which process and subsequent friction, before drying, the husk is separated.

#### THE COCOANUT TREE.

The cultivation of this Tree deserves particular notice, since its fruit, not only forms part of the daily food of all classes of the community, but is an exportable article to neighbouring regions, and as of late years, the oil, which it yields, has been rendered available in the manufacture of candles in England.

On a rough estimate,—for an actual enumeration has not been lately taken—the total number of *bearing trees* on Penang may be stated at 50,000, and those in Province Wellesley at 20,000 ; but very large accessions to these numbers, have of late years, been made. The tree is partial to a sandy soil in the vicinity of the sea, and Province Wellesley offers, therefore, greater facilities, perhaps, for its cultivation than Penang does, as its line of clear beach is longer, and has many narrow strips of light or sandy land lying betwixt the alluvial flats inland. There are several kinds of this tree known here ; one has a yellowish colour, observable both on the branches and unripe fruit ; its branches do not droop much : a second has green, spreading, branches more drooping than the former, the fruit being green-coloured until ripe, and this is perhaps the most prolific ; it also bears the soonest, if we except the dwarf cocoanut, which fruits at the second or third year, before the stem has got above one foot high. This last kind was brought from Malacca ; it attains in time to the height of the common sort. Its fruit is small and round and of course less valuable than the other sorts ; there is also a cocoanut so saturated with green, that the oil, expressed from its kernel, partakes of that colour.

It is a mistaken supposition that the cocoanut tree will flourish without care being taken of it. The idea has been induced by the luxuriant state of trees in close proximity to houses and villages, and in small coves where its roots are washed by the sea. In such circumstances, a tree from being kept clear about the roots, from being shaded, and from occasional stimuli, advances rapidly to perfection ; but in an extended plantation, a regular and not inexpensive system of culture must be followed to ensure success.

The nuts being selected, when perfectly ripe from middle-aged trees of the best sorts, are to be laid on the ground under shades, and after the roots and middle shoot, with two branches, have appeared, the sooner they are planted the better. Out of 100 nuts only two-thirds, on an average, will be found to vegetate. The plants are then to be set out at intervals of 30 or 40 feet,—the latter, if ground can be spared,—and the depth will be regulated by the nature of the soil, and the nut must not be covered with earth. The plants require, in exposed situations, to be shaded for one or even two years, and noalang grass must be permitted, to encroach on their roots. A nursery must be always held in readiness to supply the numerous vacancies which will occur from deaths and accidents. The following may be considered the average cost of a plantation, until it comes into bearing :—

**FIRST COST;****100 ORLONGS OF LAND.**

|                                                   |                |
|---------------------------------------------------|----------------|
| Purchase money of land, ready for planting ..     | 1,000          |
| 7,000 Nuts @ 1½ dlr. ₧ 100 .....                  | 105            |
| Houses of coplies, carts, buffaloes, &c. &c. .... | 100            |
|                                                   | <hr/>          |
|                                                   | Sp. Drs. 1,205 |

**YEARLY COST FOR 7 YEARS;**

|                                                                     |     |
|---------------------------------------------------------------------|-----|
| 1st. year, 10 labourers @ 3 drs. ₧ month, including carts, &c. .... | 300 |
| Tear and wear of buildings, carts & implements.                     | 50  |
| Overseer @ 7 drs. ₧ month, .....                                    | 84  |
| Quit-rent, average .....                                            | 50  |
| Nursery and contingencies .....                                     | 50  |

Total, ₧ annum ... 594

Seven years at this rate will be .. 4,158

Total, Spanish dollars 4,752

To this sum, interest will have to be added, making perhaps a sum total of Spanish dollars 6,000, and this estimate will make each tree, up to its coming into bearing, cost one Spanish dollar at the lowest. The young cocoanut tree requires manure, such as putrid fish and stimulating compounds, containing a portion of salt. On the Coromandel Coast the natives put a handful of salt below each nut on planting it.

The chief natural enemy of this tree is a species of elephant-beetle, which begins by nibbling the leaves into the shape of a fan; it then perforates the central pithy fibre, so that the leaf snaps off, and lastly, it descends into the folds of the upper shoot, where it bores itself a nest, and if not speedily extracted, or killed, will soon destroy the tree. It has been found impossible to cultivate the cocoanut tree at Singapore, on account of the depredations of this creature.

In Penang and Province Wellesley, it has only been observed, within the last two years, and is believed to have come from Keddah. A similar kind of beetle is, however, known on the Coromandel Coast, and it is extracted by means of a long iron needle or probe, having a barb like that of a fish-hook. By using this and by pouring salt or brine on the top of the tree, so as to descend amongst the folds of the upper shoot, the evil may be prevented or got rid of. The natives of Keddah say that this insect appears at intervals of two, three or more years. The cultivators here adopt a very slovenly expedient for collecting the fruit. Instead of climbing the tree in the manner practised on the Coromandel Coast, by help of a hoop passing round the tree and the body of the climber, and a ligature so connecting the feet as to enable him to clasp the tree with them, the Malays cut deep notches, or steps, in the trunk in a zig-zag

manner, sufficient to support the toes or the side of the foot, and thus ascend with the extra aid only of their arms. This mode is also a dangerous one, as a false step, when near the top of a high tree, generally precipitates the climber to the ground. This notching cannot prove otherwise than injurious to the tree. But the besetting sin of the planter of cocoanuts, and other productive trees, is that of crowding. Cocoanut trees, whose roots occupy, when full-grown, circles of 40 to 50 feet in diameter, may often be found planted within eight or ten feet of each other, and in the native campongs all sorts of indigenous fruit trees are jumbled together, with so little space to spread in, that they mostly assume the aspect of forest trees and yield but sparing crops.

The common kinds of the cocoanut, under very favorable circumstances, begin to bear at six years of age ; but little produce can be expected until the middle or end of the 7th year. The yearly produce, one tree with another, may be averaged at 80 nuts the tree; where the plantation is a *flourishing* one,—assuming the number of trees, in one hundred orlongs, to be 5,000,—the annual produce will be four hundred thousand nuts, the minimum local market value of which will be four thousand Spanish dollars, and the maximum 8,000 dollars. From either of these sums six per cent. must be deducted for the cost of collecting and carriage, &c. The quantity of oil which can be manufactured from the above number of nuts will be, as nearly as possible, 834 China piculs of 133½ lbs.

|                                              |       |
|----------------------------------------------|-------|
| The average price of this quantity at 7 drs. |       |
| per picul .....                              | 5,838 |

|                                                                                          |       |
|------------------------------------------------------------------------------------------|-------|
| Deduct cost of manufacturing, averaged at one-fourth, and collecting, watching, &c. .... | 2,059 |
|------------------------------------------------------------------------------------------|-------|

|                         |       |
|-------------------------|-------|
| Profit, Spanish dollars | 3,779 |
|-------------------------|-------|

The Chinese, who are the principal manufacturers of the oil, readily give a picul of it in exchange for 710 ripe nuts, being about 563 piculs of oil out of the total produce of the plantation of 100 orlongs. The price of cocoanut oil has been so high in the London market as from £30 to £35 per ton, or about an average of ten dollars per picul. But it rose last year to 15 dollars per picul in Penang, and is now at 9 drs. It is said, that English casks have not been found tight enough for the conveyance of this oil to Europe, but if the article is really in great demand, a method will, no doubt, be discovered to obviate this inconvenience.

So long, however, as the cultivator can obtain a dollar and a half, or even one dollar for 100 nuts, he will not find it profitable to make oil, unless its price rises greatly.

Soap is manufactured at Pondicherry from this oil, but it is not seemingly in repute; the attempt has not been made in Penang with a view to a market.

There is scarcely any coir rope manufactured at this island, so that the profit which might (were labour cheaper) rise from this application of the cocoanut fibre, is lost. The shell makes good charcoal; the leaves are scarcely put to any purpose, the nipah being a superior material for thatching.

The cocoanut tree is exceedingly apt to be struck by lightning, and in such cases, it is generally destroyed. It is a dangerous tree, therefore, to have close to a house.

If the trees are widely planted, Coffee may be cultivated under their shade. It is generally believed that the extracting of toddy from this tree hastens its decline.

The Nicobar and Lancavi Islands used partly to supply the Penang market with this indispensable ar-

ticle; but their depopulation has greatly reduced the quantity.

On the whole it may be said, that there is no cultivation which insures the return of produce with so much certainty as that of the cocoanut tree; and as Rangoon, the Tenasserim Coast, and Singapore will, probably, always remain good markets for the raw nut, there appears to be every chance of the value of that produce, affording ample remuneration to the planter.

#### SUGAR.

The Sugar-cane is partially cultivated on Penang, but extensively in Province Wellesley, especially in the central and southern portions of it. To these last, the Chinese were allured by the richness of the soil, the facility of water communications and cheapness of fire-wood. The plantations there occupy about nine hundred acres of land, and very small portions only of these, are permitted to lie fallow.

When prices are remunerating, clayed sugar is the principal product—otherwise, a coarse black sugar is made. Under very favorable prices, the average quantity of clayed sugar, manufactured in the season of from 14 to 16 months, may be estimated at eleven thousand piculs on an average, or about 654 tons, and from four to five thousand piculs of coarse black sugar. About 16,750 piculs of clayed sugar, might, if exclusively manufactured, be got from the quantity of sugar-land cleared, and that now lying fallow. When compared with a West India Island's produce, this quantity is indeed insignificant, yet it is encouraging here, for it is the result of the labor, in a new country, of freemen whose tastes are even luxurious, on a tract of land, which, but a few years ago, was a wild forest. There are about 2,000 Chinese collected, as cultivators, or otherwise, on these

plantations. At present they may be considered as the sole sugar-makers at this settlement ; for the cane, which, to a considerable additional extent, is raised by Malayan settlers, is partly sold in its raw state, and partly converted into jaggery, and also into a coarse black sugar, and syrup, which all find a speedy sale amongst the population. There is no doubt, much land is still available for sugar plantations, and the capitalist will perhaps be enabled, by a perusal of the details which follow, to form his own judgment regarding the probable results of sugar-planting.

It is not known, nor is it a matter of consequence that it should be so, at what period or from whence the sugar-cane was introduced amongst the Malays of Keddah ; it has, however, been cultivated by them from times beyond the reach of tradition.

They class the cane into several varieties.

1. The large Cane or *Tubboo*, (the generic term) *bittong iyang tiyada beraboo*, which, as this designation implies, is comparatively free from the ashy powder found on several other kinds. The Malays consider it to be less sweet than the *tubboo etam*.

2. *Tubboo bittong beraboo*, the powdery bark cane.

3. *Tubboo merah*, a red cane, the juice of which is considered more acidulous than the two foregoing. This appears to be analogous to the species found at Tavoy, on the Tenasserim Coast, when it was captured by the British.

4. *Tubboo rotan*. The rattan cane, thin & hard.

5. *Tubboo kookoo karbau*. Buffalo-hoof cane, a hard cane, with a chocolate-colored rind.

6. *Tubboo etam*, a black cane, esteemed by the Malays ; will attain to the height of 12 feet.

The Chinese have selected the first-mentioned variety, because they think, it yields the most juice and

is freest from colouring matter. The average height of the cane, under good cultivation, is here about 7 feet, reckoning from the stole to the upper joint; ten, is, however, not uncommon, or even 12 feet, in virgin soil.

Superior as the Chinese must be allowed to be to the various classes of Straits' native cultivators, in the application of hereditary tact and unceasing industry to whatever they undertake, they yet fall far short of the point to which—did not habit and prejudice interfere—European science and skill might conduct them.

Their mode of manufacturing raw sugar, superior as it is to the native method employed in Hindostan, is yet very imperfect and would, by a West India planter, be thought rude, slovenly and inefficient. The ground having been first well cleaned and trenched, the cane-plants are set out in rows which are six feet apart; the plants are at intervals of  $2\frac{1}{2}$  feet, or 2 feet 7 inches; the trenches or hollows betwixt the rows are from 1 to 2 feet deep. The most approved months for planting are April and May; but canes of all ages may be seen in the plantations, for the Chinese cannot afford to be regular, and were all the canes ripe at once, they would not have a sufficiency of mills to clear them off.

On the quality of the soil and the care bestowed on its culture, depends the period of maturity of the cane. It is generally, however, ripe at the end of the fourteenth month, in favorable sites. In other situations, its maturity is delayed to the sixteenth or even to the eighteenth month. There are, on an average, about 3,400 bunches in one orlong, each bunch having from 5 to 8 or 10 canes. The ground is cleaned four several times, betwixt planting and cutting, and the leaves are stripped off, to the proper extent, five times. To each bunch a catty of putrid fish is allowed

as manure. The cost of cultivating, until the produce is ready to be carried to the mill, may be stated as under.

### EXPENSE OF CULTIVATING

100 ORLONGS FOR 14 MONTHS.

*Sp. Drs.*

|                                                                            |       |
|----------------------------------------------------------------------------|-------|
| Cost of land already cleared (or of cleaning forest land) .. . . .         | 2,000 |
| Chinese overseer, @ 10 drs. $\frac{1}{2}$ month, ..                        | 140   |
| 50 Chinese labourers @ 5 drs. $\frac{1}{2}$ do. ..                         | 3,500 |
| Agricultural implements .. ..                                              | 100   |
| Houses for people .. ..                                                    | 50    |
| Quit-rent, (at a medium rate) .. ..                                        | 75    |
| Manure, 35 piculs of fish, or 1 catty to each bunch, and carriage .. . . . | 10    |

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Total cost of first year, Sp. drs. 5,875

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Total of 2d. year, or season of 14 months, Sp. drs. 3,825

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The mill consists of two vertical rollers, which are either of granite, or sections of the largest and hardest tree, which the frontier forest yields. These are put in motion by a pair of buffaloes, working on a long crooked beam, which is attached to the central axis. These rollers are generally two feet in diameter, and they rest on a platform of wood, which is raised only about two feet above the buffalo's circular path; betwixt the latter and the mill, on a level with the buffalo's path, a barrel is sunk in the ground to receive the cane juice; to each mill, six buffaloes are attached, and they work in pairs, and are relieved every two hours, each pair working four hours; in all, six reliefs are only thus effected in every twenty-hours, and there are occasional stops and delays.

The boiling apparatus is under the same wide open shed with the mill, and on the opposite side to it of

the buffalo path, it is raised only three or four feet above the latter. The fire-place is well constructed with brick and mortar, and vaulted. There are three iron boilers in all ; a large barrel for the cane-juice, which, instead of being conveyed in a pipe or gutter directly from the mill, is brought in pails to this barrel from the first barrel, also a reservoir which stands at the side of one of the boilers, having a syphon at the bottom, and lastly, a cooler into which the boiled and clarified juice is put.

The canes are brought on men's shoulders to the mill, where they are cut into convenient lengths. One man feeds the mill and another relieves it of the pressed cane. The cane is passed thrice through it, and it is then cane-trash, which is used along with the firewood when that is dear. Thus, much time is lost ; with a powerful mill, it would not be required to pass the cane more than once, or at most, twice through.

It was found, by experiment, that one hundred canes were pressed the first time in nine minutes ; the second time in 12 minutes, and the third in eight minutes. The length of this middle period indicates some defect in the mill, or an over-feeding of it by the workmen. On an average, the quantity expressed every day, during twelve hours' work, should be,—were no stops to take place or reliefs,—nearly 2,500 canes. Allowing, however, one orlong to yield about 20,400 canes, the mill will be occupied, during nearly eight days, (twelve hours each) in clearing them off. With West India machinery, and its ceaseless operation, this number of canes would be pressed in about *twenty hours*.

One hundred (unselected) canes yielded 32 gallons and 116 ounces, by measure, of juice ; and the produce in clayed sugar of first and second sort, from twenty hours milling, averaged 3 piculs ; thus giving about twenty-four piculs for one orlong of canes.

Twenty-five ought, however, to be obtained from the best land.

The cane-juice flows from the mill through a gutter to the barrel which, as before stated, is sunk nearly to the rim in the earthen floor; from this it is carried in pails to the other barrel at the boilers. The head sugar-maker stands and keeps supplying the juice to the quallies or shallow iron-boilers. It may be observed that these are imbedded in brick work, extending a foot or more above their rim, and smoothly plastered inside, so as to prevent loss by the juice boiling over. No particular attention is paid to the temperature of the liquor at any stage of the operation—the whole being *guessed*, by the force of practice. When the juice boils too violently, some cocoanut oil is thrown in to check the ebullition. When the juice has been sufficiently heated in the first boiler, it is poured into the clarifier, or flat bottomed wooden reservoir, from which it is, after feculences have subsided, let off by the syphon into the second, and so on to the third boiler. In this last, it receives an addition of about a sixth, or even more, of a chupah (a chupah is about one quarter and a sixteenth of a gallon) of fine shell-lime, as an adjuvant. The juice is here examined, in small quantities, on a shallow saucer, and when ready, it is put into the cooler. After remaining there a few minutes, it is poured into conical baked earthenware jars, each calculated to hold 50 catties of sugar. Twelve of these jars are usually filled at each milling of 12 hours, and each jar, after the claying process, ought to yield from 24 to 25 catties (the catty is  $1\frac{1}{3}$  lb.) of sugar, about 20 catties of which are of a fair description, the remaining being dark coloured. These jars or pots are filled gradually from the cooler, by about one quarter of a jar at a time, to allow of

chrystalization taking place. They are then arranged under a shed of slight materials on a flat form of split nibong or palm wood, raised about two feet above the ground ; below are ducts, formed of the large bamboo, which is split longitudinally into equal parts for the purpose, to collect the molasses. About twelve days after these jars have been filled, when the molasses have well drained off, cakes of finely kneaded and moistened clay are laid over their contents.

The clay is removed two or three times and a portion of sugar is scraped off the top at each renewal. The sugar thus clayed, is dried in the sun, in wooden trays, and then packed up in wicker baskets lined with palm leaves. From the above mentioned number of twelve pots, molasses are obtained in the proportion of one-half of the weight of the sugar procured, or perhaps a little more, owing to the water used with the clay. The molasses are not in much request, so that the Chinese pay little attention to the way in which they are collected. They are generally filled with dead ants, flies, wasps, and other insects which swarm in the claying house.

No attempt has been yet made to distil rum. The Chinese make a sort of arrack by distilling a fermented mixture of rice and molasses.

The process in making coarse dark sugar, is the same as that described for the fine raw sugar, only that, instead of the concentrated syrup being put into claying jars, it is poured into shallow troughs and stirred about with a wooden pole, until it becomes sufficiently chrystallized to be packed up. It is too much saturated with molasses, to be easily exported.

For the sake of perspicuity, the calculations which follow, have been made for a larger scale than any individual planter has yet ventured on here. They

are, however, founded on Chinese practise and on the average rate of productiveness on the very first description of soils. The shortest period within which these last can be made productive, have also been assumed.

Four months have been allowed, as the time for gathering in the crop and manufacturing the sugar. For this period, eight mills have been allotted for the one hundred orlongs; but *three* mills would suffice, were they to be kept constantly going, as they would be under European management.

#### COST OF MANUFACTURING

CLAYED SUGAR FROM CANES, THE PRODUCE OF 100 ORLONGS OF LAND, OR 133- $\frac{1}{3}$  ACRES.

##### FIRST COST.

|                                     |       |
|-------------------------------------|-------|
| 8 Mills at 200 drs. each .....      | 1,600 |
| 50 Buffaloes, at 10 drs. each ..... | 500   |
| Houses.....                         | 400   |
| Incidental charges,.....            | 100   |

---

Spanish dollars, 2,600

|                                                                                                                        |       |
|------------------------------------------------------------------------------------------------------------------------|-------|
| Cost of manufacturing the canes on 100 orlongs into sugar, at the above rate, these being cleared off in 4 months..... | 3,200 |
| Add for tear & wear and loss by accidents ..                                                                           | 400   |
| Packing and conveying to market.....                                                                                   | 200   |
| Interest on Capital, say .....                                                                                         | 300   |

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6,700

Add, cost of cultivation as before .....

5,875

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Total cost at the expiration of the first season of 14 months. .... Spanish dollars, 12,575

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## PRODUCE.

|                                              |        |
|----------------------------------------------|--------|
| 2,000 piculs of fair-clayed sugar @ 6 drs. ₤ |        |
| picul, and 400 do. dark, @ 3½ per do. ....   | 13,400 |
| 26,300 gantangs of molasses, @ 15 pice ₤     |        |
| gantang .....                                | 2,945  |
|                                              | <hr/>  |
|                                              | 16,345 |
|                                              | <hr/>  |

Balance of profit, Sp. dollars, 3,770

The poorer Chinese hire a mill, at one Spanish dollar ₤ day, without buffaloes, or attendants.

## DAILY EXPENSES OF WORKING EACH MILL.

|                                                                                                       | Drs. Cents. |       |
|-------------------------------------------------------------------------------------------------------|-------------|-------|
| 1 Tinda', or manufacturer .. .. .                                                                     | 0           | 50    |
| 1 Fire-feeder .. .. .                                                                                 | 0           | 20    |
| 1 Mill-feeder .. .. .                                                                                 | 0           | 25    |
| 1 Withdrawer of cane-trash, who also carries the cane juice to the boiling place,                     | 0           | 30    |
| 1 Buffalo-driver .. .. .                                                                              | 0           | 20    |
| Hire of cane-cutters and carriers of ditto, to the mill .. .. .                                       | 1           | 00    |
| 50 billets of firewood .. .. .                                                                        | 0           | 90    |
| Lime and oil, &c. .. .. .                                                                             | 0           | 5     |
| 12 claying pots, at one-third of their prime cost, as they last, on an average, for 3 seasons .. .. . | 0           | 60    |
|                                                                                                       | <hr/>       | <hr/> |
| Total, Spanish dollars,                                                                               | 4           | 00    |

Eight days' expenses, being for one orlong's produce .... Sp. dollars, 32

Prices remaining as above, the profit of each subsequent season ought to increase beyond the above

sum to an extent equivalent to the amount of capital expended originally in the purchase of land, mills, cattle, &c. and in erecting buildings, the same having been recovered the first season.

The Chinese are not very willing to admit that they gain at all by the cultivation ; but they are monopolists whenever they can possibly become so, and it is well known that numbers have returned from the sugar plantations to China with well-filled purses.

Perhaps, however, it might be safest, in originating a sugar plantation, to reckon only an average produce of .22 piculs of sugar, and the usual proportion of molasses, instead of what has been given above, since it might be difficult to get a large tract of land of uniform quality.

The Chinese have occasionally received from 8 to 9 drs.  $\frac{1}{2}$  picul, for their sugar ; there is hardly any imported to Penang from other countries, since its growers here can keep down the price by glutting the market when there is competition, and rendering the speculation a losing one. Finally, the speculator is warned against believing all that the Chinese may tell him regarding sugar-making. It is against their interest to speak the truth.

#### TARUM—INDIGO.

There are three species of the Indigo plant, known to the Malays of this Coast,—the *Tarum rinne*, or true sort, (*Indigo-fera tinctoria*) or Anil ;—the *Tarum besar kukor*, the creeping, broad-leaved kind ;—and the *Tarum akar*, also a creeping indigo, which is a strong perennial plant, found in great abundance, growing wild in the islands, lying near Junk-ceylon, and those in the vicinity of Trang. This last species was, in 1798, conveyed from Sumatra to India by Colonel Kyd.

The two first mentioned kinds are chiefly cultivated in Penang and Province Wellesley, and merely to an extent sufficient to supply the cultivators and the local market.

The manufacture of indigo is yet in its infancy, and the product is too crude to be fit for the European markets. It is either of a thickish liquid, or of a coarse, concrete, semi-chrySTALLIZED mass, with an inordinate proportion of lime for its base, and of a light-blue color. I have been credily informed by a Dutch gentleman, that the dried indigo plant, was, in former times, often carried from the Dutch colonies to Holland and there manufactured into the dye.

In 1822, the then superintendent of Province Wellesley, made an experiment, with the aid of a native from Bengal, to ascertain the probability of manufacturing indigo there. The result was a product which, by competent judges in Calcutta, was pronounced to be a fair, merchantable indigo, of the second quality. There cannot be any doubt that the first quality might be produced ; for the plant thrives luxuriantly and is not subjected to the accidents of floods and droughts, as in India. There is abundance of land here fit for growing indigo, and the only drawback to its extensive cultivation by Europeans, might be, the high price of wages, compared with Indian rates.

The Chinese are the only regular cultivators of the Tarum. The plant is generally renewed every year, in weak soils. But with proper management, it will continue very productive for two years. The seed is first raised in a nursery and then carefully transplanted. Shell-lime is employed to kill the insects on the leaves, a decoction of *akar tuba*, (a strong creeping plant) is applied to the root to kill insects. The Chinese have a bed of this shrub in all their gardens. It is a powerful narcotic, and the juice, in-

fused in water, is said to stupify fish. It is an efficacious remedy in that irritating disorder, the ring-worm, when applied *externally*, it must be remembered ; internally, it would be poison. The first cutting commences at the end of the second or third month after the seed has been put in the ground ; about seven cuttings may be taken as the average of two years. The plants are cleared once a month, and after each cutting, a cattie of fish is given as manure to each plant.

The cost of cultivating for two years may be estimated as follows :—

| 10 ORLONGS OF LAND.        |       |
|----------------------------|-------|
| Cleared land .....         | 200   |
| 10 labourers @ 5 drs. .... | 1,200 |
| Seed and implements .....  | 30    |
| House .....                | 20    |
| Quit-rent, averaged .....  | 15    |

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Total, Spanish dollars, 1,465 .

PRODUCE OF 2 YEARS.

|                                                          |       |
|----------------------------------------------------------|-------|
| 700 piculs of wet Indigo, being 70 $\frac{1}{2}$ orlong, |       |
| @ 6 drs. $\frac{1}{2}$ picul. ....                       | 4,200 |

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Spanish dollars, 2,735

|                                                                        |     |
|------------------------------------------------------------------------|-----|
| Deduct for losses by accidents, repairs of<br>houses and vats &c. .... | 200 |
|------------------------------------------------------------------------|-----|

---

Balance profit, Spanish dollars, 2,535

The above is the favorable side of the subject. Should the cultivation increase a little beyond its present extent, prices will fall so greatly in this article, ill-adapted as it is to profitable exportation, that little or no gain can accrue. The case might be reversed were the Chinese and Malays wise enough

to adopt the most approved method of manufacturing the article.

The Chinese allow one picul of *dry* indigo as the average quantity obtained from twenty piculs of wet. But how much of the former consists of lime and other impurities must depend on the will of the maker. The Malays mix it in the proportion of nearly one-half the weight of the liquid indigo. The weed is steeped in mud wells lined with chunam, and a large tub is, perhaps, attached to the garden. The fermentation is guessed at : at the end of the second or third day, the process is complete. The whole apparatus does not cost above 8 or 10 dollars, on the above number of orlongs, provided the crops can be cut in different months.

The liquid indigo has occasionally been imported from Siam to Penang, in earthen jars.

#### NILAM.

This plant does not appear to have attracted the attention of botanists. From the name, it might, possibly, be confounded with *Nila* or Indigo. It is, however, quite distinct from the latter, and is useless as a dye. The plant resembles a small, rough-leaved geranium, and seldom rises above two feet high. It is propagated by cuttings, as it bears no seed. The cuttings are planted in good forest land, two or three feet apart, in dry and sheltered situations, but it thrives well enough exposed to the sun. The plants are stripped of their leaves three times in a year, and the shrub will sometimes last to the end of the third year. The leaves are merely dried in the sun and loosely packed for sale—they have an agreeable aromatic smell. Arab traders take, occasionally, considerable quantities of nilam, and lately, it has found its way to Calcutta in smaller quantities. The leaves are considered by the Arabs as a luxury, on account

of their supposed warmth, when used as stuffing for mattresses and pillows, and their agreeable fragrance. The demand is either on the decline, or the supply has increased beyond it; for the cultivator now gets about 3 Sp. drs. the picul, instead of from 9 to 13 dollars, as formerly.

The native country of this plant has not been, I believe, ascertained. The Malays suppose, that it was introduced from Sumatra. The value of an orlong's produce now being from 25 to 30 dollars, the profit, after deducting labor, is not remunerating.

A Bangkok Siamese describes this plant as being cultivated at Siam. He states, that the people there prepare an article used in perfumery, internally as a medicine, and as a cure for tooth-ache, from a mixture of nilam and the leaves of a plant called by the Malays, *daun chapa*, or wild sage; these are infused into water and the whole is distilled by means of an apparatus, consisting of three pots, placed one above the other. The product is collected from the surface of the upper one, on which, it is condensed in shape of a white, concrete substance. It sells high. Wild sage abounds in Penang,

#### GAMBIR

Is described in Marsden's Dictionary, as a shrubby plant, from the leaves of which, an extract called *Gatah Gambir*, is procured, by decoction and formed in little balls or cakes, in order to its being eaten with betel. Its culture is described in the Batavia Transactions, which do not happen to be at hand, so I have had recourse to the Chinese for information. This shrub was, at one period, cultivated with success at Penang and other places to the eastward, but as Java was the principal market for the produce, and the Dutch had levied a duty of 12 Java rupees  $\frac{1}{4}$  picul on it, the cultivation at the former island did

not repay its cost, and it was accordingly, abandoned. Prices have been lately advancing and the Chinese are talking of trying it again. The plant is partial to hilly land or slopes at the skirts of hills. Two hundred plants are usually placed on one orlong of land, being six feet asunder. They are raised from seed, and are topped to 8 or 10 feet, when the gambir is to be prepared. The Chinese dry the seed slightly, and sow in rainy weather. They superstitiously believe, that the plants will not thrive, should a woman approach them, or the workmen drink arrack while employed in planting them. The seeds vegetate in 40 days, and are planted out in the second or third month afterwards.

At the expiration of 14 months, the first cutting of the branches, with the leaves on, is made. These are put into a boiler, and when the juice has been extracted, the branches and refuse are thrown away, and the boiling is continued until the liquor has obtained the proper consistence; when it is put into shallow troughs, dried, and cut into slices for sale. The second cutting takes place 8 months subsequently to the first. The plant now grows strong and admits of frequent cropping, and it will endure for 20 years. No manure is used—but the plantation is kept clean.

The Chinese consider the refuse of the boiling as a very excellent manure for pepper vines, and that the two kinds of cultivation might be advantageously combined.

ESTIMATE COST OF CULTIVATING 10 ORLONGS.

|                                        |       |
|----------------------------------------|-------|
| Value of cleared land, 10 orlongs..... | 200   |
| Six labourers, $\varphi$ annum .....   | 360   |
| Quit-rent.....                         | 7     |
| Boilers, firewood and implements ..... | 20    |
| Houses.....                            | 50    |
| Accidental.....                        | 30    |
| Total, 1st year, Spanish dollars,      | 667   |
| 2nd. year.....                         | 397   |
| Sp. dollars,                           | 1,064 |

The six labourers on the plantation will, after the above period, be constantly employed in cutting and preparing the gambir; the average produce will be 15 piculs monthly, which, at 3 drs.  $\frac{1}{2}$  picul, will be 45 drs. monthly, or 540 drs.  $\frac{1}{2}$  annum. This, as before stated, is the account obtained by collating different Chinese statements.

*“Nauclea Gambir, producing the Gambir, Catechu, or Terra Japonica of Commerce.*

BY DR. BENNETT.

“The *Nauclea Gambir* is placed by JUSSIEU under the natural order Rubiaceæ: it is a shrub attaining the height of six to eight feet, branchy; the leaves are ovate, pointed, smooth, waving, distinctly veined transversely underneath, of dark green colour, and, when chewed, they have a bitter astringent taste, leaving, however, afterwards, a sweetish taste in the mouth, not unlike liquorice; the flowers are aggregate, globular, composed of numerous florets, crowded on a globular, naked receptacle; tubes of the corolla of a pinkish colour; the upper part of the corolla fine, cleft, and of a greenish yellow colour; the stamina are five in number, and short; the pistil is longer than the corolla; the flowers are destitute of fragrance; the capsules (as correctly stated by Mr HUNTER,) are stalked oblong, incrusted and crowned with a calyx; tapering to a point below; two-celled, two-valved, the valves adhering at the apex, splitting at the sides; seeds very numerous, oblong, very small, compressed, furnished at both ends with a membranous pappus.”

From observations made at Singapore, I am induced to consider the tree as diœcious, from observing numerous trees, among which some were in full flower, of which the corolla falls off, leaving the calyx, which withers without any appearance of the ovarium

becoming perfect; others were covered with immature and mature capsules; but the fertile appearance of the stigma in the specimens I collected, would cause me, in some degree, to doubt the fact of its being diœcious: I, however, mention the circumstance for future investigation. The shrubs also, I observed at Singapore, were not climbing.

The shrub yields the Gambir, Terra Japonica, or Catechu\* of commerce, and is an extract prepared from the leaves; a catechu is also prepared in India from a species of acacia (A catechu,) which is found growing plentifully in Hindoostan, on the mountain of Kahnana; and there are also two kinds said to be produced from the nut of the Areka palm, named in India, Cattacamboô and Cashcutti, and both are used by the Indian practitioners.†

Its medicinal properties are astringent, and it is considered useful in diarrhœa and dysentery, in gleet, catarrhal affections, &c. Alkaline salts destroy its astringent powers, and metallic salts and solution of isinglass are incompatibles. The dose is usually from twelve grains to one drachm.

The Gambir shrub is propagated either by seeds or cuttings, but the latter are preferred. It was formerly cultivated to some extent at Singapore, (where I had an opportunity of observing it in November 1830,) but the cultivation of the shrub and preparation of the extract is now neglected; the reason assigned for which was, that the gambir can be imported cheaper from the islands in the vicinity, more especially at the Dutch settlement at Rhio; a smaller quantity, however, is grown by some of the Chinese settlers for their own immediate consumption,

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\* *Kate* signifies a tree, and *Chu* juice, in the Oriental language.

† Thomson's Dispensatory, p. 120.

but not so extensively as to form an article of commerce.

The extract is used extensively by the natives of India, Eastern Archipelago, Cochin China, and Cambodia, as a masticatory, wrapped up with the betel.

There are different qualities of extract: the first and best is white, brittle, and has an earthy appearance when rubbed between the fingers, (which earthy appearance gave it the name of Terra Japonica, being supposed, at first also, to come from Japan,) and is formed into very small round cakes. This is the dearest kind, and most refined, but it is not unfrequently adulterated with sago: this kind is brought in the greatest quantity from the island of Sumatra. The second quality is of a brownish yellow colour, is formed into oblong cakes, and, when broken has a light brown, earthy appearance; it is also made into a solid cube form: it is sold in the bazars in small packets, each containing five or six. The third quality contains more impurities than the preceding, is formed in small circular cakes, and is sold in packages of five or six in the bazar.

The method employed in preparing the extract is thus correctly related by FINLAYSON: "the leaves are collected three or four times a year; they are thrown into a large cauldron, the bottom of which is formed of iron, the upper part of bark, and boiled for five or six hours, until a strong decoction is obtained; the leaves are then withdrawn, and allowed to strain over the vessel, which is kept boiling for as many hours more, until the decoction is inspissated; it is then allowed to cool when the catechu subsides. The water is drawn off; a soft soapy substance remains, which is cut into large masses; these are further divided by a knife into small cubes, about an inch square, or into still smaller pieces, which are laid in frames to dry. This catechu has more of a

granular, uniform appearance, than that of Bengal: it is, perhaps also less pure."

A gambir manufactory is usually observed near a pepper plantation, as the pepper vine does not thrive in the soil of Singapore unless well manured: the refuse of the leaves, &c. used in the manufacture of the extract is found excellent for the purpose of manuring the vines,

The younger leaves of the shrub are said to produce the whitest and best gambir: the older, a brown and inferior sort. There are other species of *nauclea* indigenous to Singapore, but they do not produce any extract."

*Singapore Chronicle, Nov. 14, 1834.*

#### TOBACCO

Is raised in small quantities by the Malays for their own consumption. The quality is inferior; but Persian and American tobacco seed have been distributed in Province Wellesley, and may prove advantageous to the ryots. There is nothing, apparently, to prevent the culture of this plant from being greatly extended. The Malays are much less addicted to the use, by smoking of this succedaneum for what their prophet has denied them, wine or spirits, than the Chinese and Burmans. A Chinese has always his bamboo pipe at his elbow, while the Burman places his sileet or cigar—clerk-like—behind his ear. The Malay, however, rivals Jack in the elegant compound of tobacco, gambir, &c. with which he ornaments the space betwixt his upper lip and teeth, a custom even more disgusting than the mode in which it is retained for use by the former.

#### COFFEE.

This plant thrives luxuriantly on the plains in the shade, and on the hills, without shade.

Several years ago, large tracts of mountain-land were cleared and planted with it, and good crops were obtained, notwithstanding the depredations of monkeys and musangs; but the price of coffee fluctuated so much that its cultivation for exportation, was abandoned. A few thousand plants yet remain on the hill-plantations, which have been converted to spice ones.

The quality of that now obtained, to the amount of perhaps, 100 piculs yearly, is considered equal to the average of that taken to the Europe market from other regions, excepting Mocha.

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#### COTTON.

Cotton has never been extensively cultivated at this settlement. It has, however, been long introduced, and the staple of one of the varieties now cultivated,—but whence obtained cannot be easily ascertained—is of a very superior quality. It thrives luxuriantly on the light as well as the stiff soils, and equally well on the hills, as in the valley. The chief obstacles to the cultivation are, the price of labor, and the sudden vicissitudes of climate from dry to wet—the latter being apt to injure the pod.

Bushes of the above mentioned variety—which has a yellow blossom—have been observed, for the last six years, in almost constant bearing. They begin to bear in six or eight months after planting.

The following calculation was given to me, several years ago, by an intelligent Chinese who intended cultivating cotton, but abandoned the project for a more lucrative one.

One hundred orlongs will contain 435,600 bushes, and each bush will yield, annually, 50 buds of cotton, or one tael—which is the lowest averaged rate—being 272 piculs and 25 catties for one year's produce.

The expense of cultivation and cleaning the cotton—about 1,100 drs. after the first cost—will be nearly 2,000 drs. yearly.

## SIRIH, OR THE BETEL VINE.

The Malays are great consumers of betel. Custom frequently changes beauty to deformity and calls it lovely—so it is with the Malay. The best looking person of this class—for there are numerous handsome individuals of both sexes in it, notwithstanding the generally received and sceptical opinion to the contrary—very speedily mars his good looks, in an European eye, by an immoderate use of the betel mixture. It is, however, a very harmless indulgence and perhaps serves to check the intemperate use of more demoralizing luxuries. The use of the leaf, by itself, would not excite disgusting impressions and would be salutary as an aromatic, but the heterogeneous compound of the leaf, areca, shell-lime, tobacco, and gambir!!—Well, let it pass, no moral injury is sustained from its use by any individual, or the community. The old men carry about with them a sort of metal tube, having a ramrod-looking pestle with which they busy themselves in pounding the mixture. The young make daily nut-crackers of their jaws, and although the mixture, perhaps, rather tends to preserve the teeth, still the exercise on the nut must be a little too violent for them, and the Malays say it injures the sight. The Chinese are not much addicted to the use of betel.

Betel-leaf is a commodity which will bear exportation to a considerable distance. It cannot be preserved, in a sound state, beyond eight days; but by being prepared over a fire and rolled into balls, in which state it is called *chenai*, it will keep a year, only the quality is much deteriorated. The betel now raised in Penang and in Province Wellesley exceeds the con-

sumption and admits of a considerable quantity being sent to Keddah, which last country formerly supplied Penang with a large portion of its annual demand. About 6,000 cuttings are planted by Malays in one orlong; but 3,000 would be a sufficient number to insure permanency to the plantation. To each plant a post of bongo or some other durable wood, from 7 to 10 feet high, is fixed; when the vine has reached the height of about 6 feet, it is bent down and laid in the earth, which process is, by some planters, twice performed, and one of the strongest shoots arising from it is trained up the post; it is twice detached at top from the post, bent down about a foot or two, then twisted and again trained.

The plucking begins about the 6th or 8th month; care is taken not to pluck oftener than once in every 20 days in dry weather. The number of pluckings, in a year, is about twenty-five, and the average of each is 50 leaves for each vine.

The produce, during the succeeding twelve months, will be 63,000 bundles.

The rental, yearly, of the above number of vines is now about £13 Sp. dollars, and the amount which may be realized by a leisurely sale of the same may be considered nearly 5 Sp. dollars @ £100, land included. In this instance, as with mostly every other Penang product, the real value of a plantation cannot be ascertained from knowing the rent it bears, and *vice versa*. The rows are cleaned once in two months, and manure is applied twice a year where the soil requires it; the vines are topped in a line with the heads of the poles, which, being portions of a split tree, are rough and afford sinuosities for the vine to cling to; the leaves of the lateral branches and of the smaller shoots only are pulled. In Penang, the betel-leaf is, within certain limits, farmed out for revenue. Within these li-

mits the price of 100 bundles is about 6 dollars; beyond them, the average is about  $1\frac{1}{2}$  both on the island and in Province Wellesley, for picked leaves. In the latter district 50 cents, are given for 100 bundles. The cost of cultivation averages as follows :—

ONE ORLONG, FIRST COST.

|                                           |    |
|-------------------------------------------|----|
| Value of land .....                       | 10 |
| Digging, holing and planting .....        | 35 |
| 6,000 posts @ $1\frac{1}{2}$ ₤ 100 .....  | 90 |
| Implements .....                          | 2  |
| Withes .....                              | 1  |
| 2 coolies for 4 months, @ 8 dollars ..... | 64 |

---

Cost, when the vines begin to yield, Sp. dollars 202

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ANNUAL PRODUCE, SECOND COST.

|                                             |     |
|---------------------------------------------|-----|
| Of 6,000 vines or 63,000 bundles @ 50 cents |     |
| ₤ 100 bundles .....                         | 315 |
| Expense of cultivation and incidental ..... | 100 |

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Lowest rate of profit at the end of 20 months, Drs. 215

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Two hundred dollars are frequently given as rent for 6,000 plants, which, were the risk of low prices left out of the question, might be considered as an enormous profit; but, in fact, the risk is great. An orlong covered with 6,000 flourishing betel vines will hardly sell for more than 360 Spanish dollars !! But the disproportion greater or less—according to circumstances—than the above, betwixt actual outlay and rent, and betwixt the rent and the market value, obtains with reference to mostly every other kind of produce.

Any very *considerable* increase to the present amount of cultivation of betel, without an increase in the demand accompanying it—which, until the population has greatly advanced cannot be expected—

must be attended with a fall of profit sufficient to deter the speculator. The profit now is assuredly very remunerating.

The consumption of betel by the inhabitants of Penang and Province Wellesley may fairly be stated at 6,211,440 bundles, of 100 leaves each, equal in value to 31,057 Sp. dollars ; which would be the produce of about 98 orlongs of land, planted regularly. But allowing for the various distances different cultivators give betwixt the plants, according to their individual fancy, about 110 orlongs may be assumed.

#### PENANG—THE ARECA, OR BETEL NUT.

This tree has given its name to the Island of Penang, not from its growing there in larger numbers or being more luxuriant than elsewhere, but because it was the tree chiefly cultivated by the Malays who first occupied the island. It now better deserves the title, from its having been the emporium for all the betel-nut (not intercepted in its way), raised on the east coast of Sumatra. The cultivation of it in Penang, as an exportable article, is very insignificant ; yet it is capable of advantageous extension. The tree is too stiff and uniform to be beautiful, yet a grove of it has a picturesqueness of its own, derived from the slender and wavy appearance of the stem and the tuft of leaves high over head, leaving all below open to the breeze. The flower, too, casts a delicious perfume around and a creeping plant attaches itself to the stem, bearing a number of white flowers equally odoriferous.

The cultivation of this tree has, hitherto, been almost exclusively confined to natives ; although large plantations of it were contemplated by Government on the first settlement of the island.

It was, however, in this instance as in others, found best conducive to the prosperity of the place to leave it to individual enterprise.

The tree is raised from seed. Four hundred should be planted (after reaching a foot in height in the nursery) on one orlong of land, at 12 feet asunder and kept clear of jungle and lallang, which may be done twice a year. Some trees bear at the fourth year, but five may be allowed. The expense of cultivating 100 orlongs, until the tree bears well, may be estimated as follows :—

|                              |       |
|------------------------------|-------|
| 100 orlongs of land .....    | 1,100 |
| 40,000 plants .....          | 50    |
| Clearing and planting .....  | 400   |
| Cultivating for 5 years .... | 1,000 |
| Incidental and losses .....  | 200   |
| Quit-rent (average) .....    | 250   |

---

Total, Spanish dollars, 3,000

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Each tree, in good bearing, yields on an average, six bunches of from 100 to 150 nuts, each, yearly. The highest price is 3 cents  $\frac{1}{2}$  100 nuts; the lowest 2 cents. Therefore, assuming the lowest of these rates, the yearly produce value would be 4,800 Spanish dollars, or 2 Sp. dollars the koti or laksa (10,000) which is the usual native mode of computing.

#### NIPAH AND OTHER PALMITES.

The *Nipah* is a low species of palm, (*nypa fructicans*) which grows in marshy situations near the seashore and principally on the banks of rivers and creeks. In the latter situations, its stem and half of the shoots and leaves are covered with water at every flow of the tide. It is found abundantly, and interspersed with tall trees and low shrubs, in the *Ootan bakau* or mangrove belt, which lines a great portion of the coasts both of Penang and Province Wellesley. It is a valuable palm. From it the Malays extract a saccharine juice, or *nira* which, when quite fresh, is pleasant to the

taste, but a little too cloying; and becomes, like the juice of the cocoanut and other cultivated palms, inebriating in a few hours, owing to the rapid fermentation it undergoes. When boiled in the manner that the juice of the sugar-cane is, a thick syrup is obtained called *Manisan*. It is rarely boiled to the point which would produce sugar. The fruit grows in large bunches, and although rather tasteless, is preserved as a sweetmeat.

The Island of Penang contains but a small number of trees, compared with the opposite coast where it is very abundant. Although it grows wild, yet those who make it their business to collect and boil the juice, take much pains to cultivate it.

The plants are thinned, so that they shall be about 12 feet asunder. If the juice is not to be extracted, the palms are thinned of their long leaves twice in a year, leaving 4 leaves on each. These are freed from the central pith, and then doubled and fastened by split rattans, over laths of the nibong palm. In this form they are under the name of *artap*, used for roofing houses. If the leaves be large, this thatch, where not exposed to violent winds, will last for four years, although three years is the average period. An orlong will yield annually, about 8,000 leaves, the value of which before they have been converted into *artap*, may be about 4 Sp. dollars. This leaf is ignited with much more difficulty than the cocoanut leaf, which is used as thatch in Malabar and Canara, or than the grasses which are used for the same purpose in other parts of *India*; yet, employment of it in a town, where much property is at stake, would be highly dangerous.

When *Nira* is to be extracted and syrup made, the fruit-bearing shoot or sheath called mayong, is lopped to within about one-third part of its length of

the stem: an earthen pot is suspended to this at night, and the juice is collected in bamboos before sun-rise the next morning. A shoot, or mayong, lasts about three months and yields, daily, on an average, one half of a chupah of juice. Only one shoot is tapped at a time; this lasts for about 3 months, when another shoot is ready—which lasts for three months longer. The tree is then left for one year to recover itself. The Nipah is said to sustain this treatment for a long series of years, without suffering much in vigor. In 800 pirdoos or bushes, only about 400 are in bearing at a time. The fruit appears about the third year after planting and it continues to flower yearly afterwards. Until that period, nira cannot be drawn from the palm. When the syrup is converted into sugar, the latter is made up into cakes, about three inches in diameter, and half an inch thick, the rim being cased with a leaf. But owing to some saline particles, perhaps from the plant growing in brackish water, the sugar from the cocoanut palm is preferred by the natives.

The cultivation of one orlong, 800 palms, produces, yearly, of juice 9,000 gantangs, or 4,500 gantangs of syrup; which at 3 pice ½ gantang, is . . . . . Drs. 135

3 men @ 4 drs. ½ month, for 6 months. . 72

Stock, viz. boiler, vat, knife, axe, crooked

knife, gollok, billiong, barrel or vase, &c. 5

77

58

Deduct for quit-rent, accidents, &c. . . . . 10

Profit yearly, Sp. dollars, 48

The above is calculated for the lowest rate of profit.

The juice is occasionally converted into vinegar. The above calculation is for a plantation in full bearing, which it cannot be expected to be until the 5th year.

## IBOOS,

This is a low palm with fan-like leaves, broad and durable. The Javanese cut the leaves into thread and weave it into sail-cloth. It is then brought here and sold in the bazars under the name of *kadoot layer*. The shrimp-catchers use it for their nets or *siring*. Although the shrub grows here, the leaves are rarely manufactured. This cloth is not here in much request. It costs 6 coupangs for 14 cubits. The finer sort might be dyed and used for light blinds and would even be a good substitute for mosquito gauze. It makes excellent grain bags.

## KICHUM

Is a low, forest palm, found on elevated ground. Its leaves strike off at the level of the soil. They are used, like those of the nipah, for thatch and are more durable, although they do not appear so neat or sit so close as the artaps. The nipah being unknown inland, this leaf is chiefly used. It has been known to last for 50 years on the Lancavy Islands, where it especially abounds. The leaves are plaited and tied together in broad rolls, ten of which will cover a house, 20 feet by 10 feet in *dimensions*. The price, 1½ Dr.

## BERTAM

Is a low, dark-leaved palm. The pithy part of the leaf is flattened, and is then used for partition walls of houses; even the outer walls. It has a light and clean appearance.

## DANGSA

Is a sort of spungy palm, the stem of which is used for temporary fences, as it requires no peeling or dressing.

NIBONG.—(*Caryota urens*, Lin.).

This palm is valuable. The houses of the natives are chiefly built with it. It forms ready-made *ni-*

*bong bulut*, or pillars, and when split, is used for the open sort of flooring and high walls of the houses of the bulk of the ryots. It forms excellent and durable light rafters, even under a tiled roof. The pirates have large bundles of *sligi*, or lances, formed of this wood which they throw before coming to close quarters. As the fibre is apt to detach itself in sharp spikes, a common wound from such a weapon is dangerous. The sheath of its fruit, which is a little smaller than that of the areca, is extensively manufactured into those light, water-buckets named *timba*, which are in universal use. The deeply-planted fishing-stakes are chiefly formed of nibong.

## MOONGKWANG

Is a low, prickly palmite, cultivated by the ryots as a fence for their lands. The branches spread along the ground or at about a foot above it. Its prickly or serrated leaf is about six feet long. It is dried, cut up, and formed into mats and grain bags.

One hundred bushes rent for a dollar yearly, but they harbour rats; so that it is doubtful if more is not lost by the destruction they occasion to the paddy, than is gained in rent.

## PUDAK

(*Pandanus odoratissimus*,) is the fragrant Pandanus. Its fruit much resembles a pine-apple, but is larger. It is a straggling palmite, seldom rising above fifteen feet in height. The flowers are sold at one pice each, but the fragrance is too overpowering for Europeans. The women cut it into shreds and fold them in their hair.

## PANDAN.

*The Pandanus.* A low, palmite-looking shrub.

## MOONGKWANG LAYER, OR HUTAN.

This palmite-like shrub grows in the jungles. Its leaf is often fifteen feet long and slightly serrated.

It is commonly used by the Malay, for making sails. A sail about 18 by 16 feet, costs about 3Sp. dollars.

#### KOOMBAR

Is a palmite which grows in marshy places. There is hardly any stem. The leaves are often 30 feet long and their pithy, central part is of the thickness of the wrist of a man. This pith is extensively used for the gunwales of boats, being laid lengthways and kept tight down by transverse wooden pins. This material, from its lightness, acts like a cork plank, and will prevent a boat, even if full of water and light merchandize, from sinking.

The taste or desire for sugar, salt, and intoxicating, or to use a softer word still, exhilarating substances, appears to be inherent in the constitution of man—and few portions of the globe, inhabited by him, can be pointed out where nature has not furnished him with the means of gratifying it.

The mangrove here forms a *marine* forest of various breadths. In some places it is upwards of a mile broad. To convert the deep mud on which this grows into dry land, would be a Herculean labor even for the amphibious Hollander. At a distance, this—the outskirts of Neptune's domains—has a lively appearance, exhibiting every tint of green, with a bright foliated tree glancing out here and there. But on reaching it, all is found to be dismal and nearly impenetrable; an agitated mass of waves and branches at high tide, and a noisome, low, tract of splashy mud interspersed with deep pools at low water. Unsightly, and at first view, apparently useless as this sea-wood may appear, it is only one of the many instances where we shall find that nature proposes utility as the end where beauty and grandeur are denied; besides the constant supply this tract affords of artaps, it yields almost the whole of the fire-wood used in

Penang and by the shipping, and this fuel is considered far superior to the wood of trees growing on the dry land. Another of its products is the bark of the tree, properly called *Bakkau*, which is of a reddish colour and is employed in the tanning of leather and fishing nets.

The *koombar* forms excellent fishing rods, with which the whole population, of all ages, upwards of 3 years, are well supplied, and of which they make constant use.

#### TAI OR TAL

Is a high, fan-palm. It yields abundantly a sweet juice which is boiled up into syrup. It is a very scarce tree here, but is abundant in Keddah.

#### NOW OR ANAU

Is a high palm tree; (*Borassus gomutus* of Linn:)

It is not very plentiful. It yields excellent toddy, and some sago. The *ijoo* or horse-hair-looking envelope of its stem, near the top, is of value for making cordage, and when thick enough, forms the writing pens of the Malays.

The *ijoo* or *gamuto*, as it is also called down the Straits, is better adapted than rattans for fastenings of roofs or palings where exposed to the weather.

#### KALOObI.

This is a palmite which grows in deep swamps. Its branches are slender and covered with very sharp thorns or spikes. The fruit grows in large bunches, is about the size of a nutmeg, of a crimson brown colour and contains a very acid, medular substance. It is sold in all the bazars under the term of *assam kaloobi* and is used in curries.



## CHAPTER SECOND.



## C O R N .

RICE is the grain chiefly cultivated in the Straits of Malacca. On the Island of Penang the field is confined, owing to the generally hilly nature of the surface ; but Province Wellesley which is an alluvial district, offers a wider range, and to it, therefore, the following observations will principally apply. The area of this province has not yet been fully ascertained owing to the incorrectness of all the maps of it, these having been constructed when it was in a jungle state, and to the irregular line of its boundary. But judging from a series of triangles which have been taken, preparatory to a more correct plan, the area cannot well be less than one hundred and twenty square miles. How much of this superficies is well fitted for rice cultivation will be known perhaps in a very few years hence, when all the sawah land shall have been cleared of forest ; until when it can only be generally asserted that several detached patches remain to be located, some of which consist of upwards of 500 orlongs. The Malays of this Peninsula are strongly attached to agriculture. The unmaritime Malay could not exist without his *bindang* or rice field—and to the preparation of it, every other passion, for a while, gives way. His enthusiasm in the work is such, that a positive and greater gain could hardly bribe him from it. With such a predisposition, the Malay is a useful subject, where the cultivation of grain and

the obtaining of those supplies, which naturally arise out of or follow that cultivation, are desirable objects. Beyond this, Malayan agriculture is deficient in method, too often slovenly, and always falls far short of the fullest productive point. But the Malay is not stubborn, although he is indolent and capricious. Example and prospects of gain, may in time, as they now partially do, stimulate his dormant faculties to useful efforts.

Malayan husbandry differs considerably from that practised by the ryots of India; the former is not subject to the village system so prevalent in the latter region. The British Malayan ryot or landholder, after having paid his rent or quit-rent, is quite independent, and his threshing-floor is never beset by those needy dependants, who take *custom* from that of the more enduring Hindoo; such as barbers, watchmen, astrologers, brahmins, fackeers, and washermen. He is a mussulman, but can rarely, if ever, be charged with bigotry, fanaticism or intolerance. That part of his creed which is based on natural religion takes but little out of his purse, and that little he can, although the Hindoo may not, withhold should his avarice master his devotion; while the superstitious portion of it, from its being mixed up with rites and games tending to amuse rather than to instruct, he enjoys too well to have any inducement to evade a voluntary contribution for its support. It would be well for the orang Malayu of this coast were he to imitate the thriftiness, perseverance and foresight of the Hindoo. If he finds it difficult to get money, he finds it much more so to keep it when obtained. His habits are all of a lavish or a thoughtless cast, and may fairly be traced to the insecurity caused by native despotism, before the Malayan power of Keddah became extinct, and to the creed

which locks up his money by forbidding him to take interest. Trade and buying of landed property, are the only means left to him of partially evading this law. It has been supposed that the Malays branched off from a Tartar stock. This position, probable as it may be seem, might perhaps be controverted by the argument that the Tartaric and Malayan languages, are apparently *radically* distinct. If the assumption, on the other hand, be well founded, it may serve to account for the erratic propensities of the Malays; or at least, of the maritime portion of them. But the population of Keddah and Patani—from which ours has chiefly been drained off—has a decidedly agricultural character, and is not more disposed to locomotion, betwixt harvest and harvest, than any other people so situated would be.

Province Wellesley was long the seat of the government of Keddah before Buddhism was supplanted there by Islamism; a fact which is proved by written records and architectural monuments. It bears traces of having been fully cultivated—but it must have lain under forest for several centuries, and until the British ensign became the signal for the tide of population to roll back from the northward.

The Malays are not, however, the only rice cultivators either in Penang or Province Wellesley, although they are in the proportion of about 41 to 4 of the other classes.

There are in the latter some native christians—for the most part Roman catholics—a good many people from Bengal and the Coromandel Coast—a number of Samsams; a class who speak the Siamese language and worship Buddah—and a few Bugese—Chinese—Burinese and true Siamese. The Chinese, with the exception of a few of those from Macao, look with contempt on paddie-planters. Yet what but

lack of a paddie-field forced them from their country?

*Paddie* means rice in the husk—*Rice* the grain, when unhusked; a distinction to be kept in mind when adverting to the calculations which follow.

Data are wanting from which a very *precise* estimate might be formed of the quantity of rice grown on Penang. It is pretty certain that the quantity of sawah, or proper *paddie land*, actually under cultivation, does not exceed 700 orlongs. No prospective estimate can ever be formed of the quantity of dry, or *omah*, land likely to be used for light paddie crops, since the Malay can never, if he can avoid it, cultivate such lands for two seasons successively. The quantity of jungle cleared for such cultivation for the ensuing season, may be rated at 200 orlongs.

Neither can the actual extent of rice land, cultivated in Province Wellesley, be yet ascertained, owing to the quantity of new land constantly coming under tillage, and as such, is not surveyed until well cleared. But there are sufficient data for enabling us to rate it at not less than 15,000 orlongs, or twenty thousand acres, which is rather more than thrice the quantity which was under culture in 1825. At the latter period, Government was induced to advance cash to the cultivators and to give them rice lands at a rate of quit-rent almost nominal. This liberality was but ill repaid. Few of the Malays who received advances, cultivated the land allotted, or returned the loan; while the worst consequence was, that they began to think that their services could not be dispensed with, and thus a great incentive to exertion was removed. From the period that the ryots were thrown on their own resources, (1826) the competition for land, and as a sure consequence, its value, has rapidly increased. It is estimated that about 30,000 acres of land of every description are in cultivation within the Province.

The population of Penang and Province Wellesley combined, excluding troops and their followers—but including convicts—amounts to 84,500 souls, or very nearly so.\* The annual consumption of rice, by this number, will be presently estimated.

The average number of persons composing a family is assumed to be five, which, from actual observation, is pretty near the truth. The daily average consumption by each family is rated at  $3\frac{1}{4}$  chupahs of rice. If there be any error here, it will, it is believed, be found to be of *excess*; since the population does not subsist on a mere grain diet, but is abundantly supplied with fish, plantains, Indian corn, pulses, and sweet potatoes, poultry and butcher's meat.

The common Malays are not over-nice in their choice of flesh and fish. They prefer the flesh of the buffalo to that of the ox, and that of the young ground shark is in request at all times.

Religion and prejudice deny to every Malay the use of pork, which is here excellent, as the pigs are fed with great care in sties by the Chinese on rice and the kaladie plant—the latter being brought to Penang from Province Wellesley by Malays and sold at 4 pice the burden. A thorough stickler for the creed of the prophet would loathe the idea of carrying pigs' provender to market. The Malays admit that their own Prophet, Mahomed, was an epicure in pork, which was his favorite dish. Once on a time, say they, Mahomed gave a feast to the men in authority, and the pork which formed one of the chief dishes was very soon discussed. Not feeling

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\*This Dissertation, having been written at intervals, the population will be found in the sequel to have increased beyond the above amount.

satisfied, he addressed his daughter *Fatima*, and enquired if any remained uncooked;—she, supposing that all had been dressed, replied in the negative. After dinner, Mahomed went to the kitchen and there found a large joint of the meat lying uncooked; feeling angry at the disappointment he and his guests had met with, he pronounced the flesh of the hog to be *haram* (forbidden) thenceforward.

The Samsams in Province Wellesley are partial to pork. They hunt the wild hog by dogs, either spearing him or drawing him into a rattan trap; which last, being attached to a branch of a tree bent down for the purpose is, like a mole trap, suddenly flung up into the air with the astonished occupant. Their prophet too, or teacher Buddha, was fond of pork.

The flesh of the turtle is also *haram* to the Malay, although he is permitted to eat its eggs. These are sought for in the sand with great avidity; as are the eggs of the tuntong, or river turtle, which are oblong and less oily than those of the sea turtle. The Malays assign two reasons for the interdiction; one that as it keeps its head withdrawn within the shell, its sacrifice, or *simbileh*, cannot be made, nor the *bismillah*, or ordinary invocation, repeated according to orthodox custom;—the other that it is amphibious, or, as they express it, *hayoon fit darainee*, possessed of two distinct lives, one adapted to the land, the other to the water. The fine rock crab is likewise eschewed by strict followers of Islam, because, as they say, it exhibits on its shell an impression of the foot of the hog, and in fact, all amphibious creatures are *haram*.

The Burmese and Siamese are the grossest feeders and the greatest consumers of rice. The Ava government, during the late war with the British, gave the following rations to each soldier :

## RICE,

|                                          |                                     |
|------------------------------------------|-------------------------------------|
| being nearly 34 chupahs by measure ..... | 64 lb.                              |
| Blachang .....                           | 3 $\frac{3}{8}$ „                   |
| Chillies .....                           | 4 „                                 |
| Salt .....                               | 3 $\frac{5}{8}$ „                   |
| Salt-fish occasionally only .. .. .      | <u>10<math>\frac{1}{8}</math> „</u> |

The Siamese require about a similar supply.

A *common* labouring Malay requires, monthly:

|                                              |                 |
|----------------------------------------------|-----------------|
| Rice, 30 chupahs or 56 lbs. (value in cents) | 90              |
| Salt, 1 $\frac{1}{2}$ chupah .. .. .         | 2 $\frac{1}{4}$ |
| Fish .. .. .                                 | 30              |
| Chilli and other condiments .. .. .          | 15              |
| Tobacco, sireh, areca, lime and gambir . . . | 60              |

Total, pice, or cents 197 $\frac{1}{4}$

The value of pice is fluctuating, and is now 106  
 $\frac{1}{4}$  Spanish dollar.

For a family of five persons, an addition of ninety cents monthly will be required to the above items, and rice in proportion.

The expense of the year will therefore be, 2,367 pice or cents, which at an average of 105 cents or pice per Spanish dollar will be Sp. dollars 22. 57

## • CLOTHING &amp; HOUSING.

|                                              |              |
|----------------------------------------------|--------------|
| A man, 2 sarongs .....                       | cents 60     |
| 1 bajoo or jacket .....                      | „ 30         |
| 1 pair pantaloons .. .. .                    | „ 30         |
| 1 head-dress or kerchief .. .. .             | „ 20         |
|                                              | <u>1. 45</u> |
| A Woman, 4 sarongs .. .. .                   | cents 120    |
| 2 bajoos .. .. .                             | „ 70         |
|                                              | <u>190</u>   |
| Housing .. .. .                              | 1            |
| Extra luxuries, such as durians, &c. &c. . . | 2            |

Total, yearly expenses, Drs. 27. 02

A substantial ryot lives much better and will wear out yearly 2 sarongs, two long sashes, called kain panjang, two bajeos or jackets, 2 pairs of pantaloons, two kerchiefs, two handkerchiefs, besides keeping by him a complete festival suit of these clothes. It has been estimated by writers on India that the poorer ryot of Hindoostan expends in living only fourteen rupees a year. The Chinese and the Malays consume nearly an equal quantity of rice, but the former use much more animal food than the latter and dress much better, in the lower classes.

Upon an average, it will be found that those Malay-an householders *who have been several years settled*, and who occupy from two to five acres of land in perpetuity are possessed of personal property, to an amount varying from ten up to a hundred dollars. This property consists of, per chance, a koran, also brass kitchen utensils, cuspidors of brass, about a dozen China cups and plates, bedding and musquito curtains of coarse muslin, and mats, water jars—often of Peguan manufacture—a chest, rice mortars and sieves, betel-box and apparatus of brass, fishing apparatus, grain and oil measures; a spear and kris, and knife or parang, baskets of rattan work, a boat when close to the sea or on the bank of a river;—massive gold earrings, for the women of the family, also gold and silver buttons and silver bracelets, chains and other ornaments;—silk and cotton dresses.

The wordly goods and chattels of a ryot of the poorest class who occupies an orlong of land, or perhaps who is merely a tenant for the year, may be of the average value of ten dollars. His house may be worth five or six.

The dresses worn by the female portion of a substantial yeoman\* are becoming and often costly.

\* I use the word yeoman as the most appropriate term for an independent proprietor.

The gown, sarong and cloak or rather plaid, called *Jong-sarat*, are frequently of silk interwoven with gold thread, and a complete dress will cost from 30 to 40 Spanish dollars. They wear gold earrings worth about 15 dollars the set; a gold filligree sash plate of an oblong form, valued at from 20 to 60 dollars, and often set with stones of small value, and gold hair pins which cost from 3 to 6 dollars; also gold and silver rings set with precious stones of moderate value. The workmanship of all of these is, on the whole, not inelegant. Married women do not wear the bracelet.

The Malays delight in seeing their children loaded with gold chains and plates, which would be a dangerous gratification in a crowded city, on even a large village; where, as is the case in India, children are often murdered for the sake of an ornament not worth more than a rupee.

*Estimated yearly consumption of Rice,*

PENANG.

|                                                                        |        |             |
|------------------------------------------------------------------------|--------|-------------|
| By the fixed and fluctuating population, exclusive of troops . . . . . | coyans | 3,500       |
| By 200 horses, and by cattle &c. . . . .                               | „      | 280         |
|                                                                        |        | <hr/> 3,780 |

PROVINCE WELLESLEY.

|                                                                               |                 |
|-------------------------------------------------------------------------------|-----------------|
| By fixed and fluctuating population . . . . .                                 | 3,378           |
| Seed grain on Penang, $3\frac{1}{2}$ coyans paddy, or..                       | $1\frac{1}{2}$  |
| Do. do. in Province Wellesley or 75 coyans of paddie, being in rice . . . . . | $37\frac{1}{2}$ |
| Loss . . . . .                                                                | 5               |

Total estimated consumption, coyans, 

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7,202 $\frac{1}{4}$ 

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Rice land in Penang yields a return which may not be averaged higher than 75 fold—or nearly 300 gantangs of paddie for each orlong; but it has been

considered advisable to rate it here at 60-fold only. The rice land, or *bindang*, of Province Wellesley gives an average return of  $117\frac{1}{2}$  fold; the maximum degree of productiveness being six hundred guntangs of paddie or an orlong (or  $1\frac{1}{3}$  acre) of well-flooded, alluvial land, or 150-fold; which number of guntangs are equal to 300 guntangs of rice, weighing nearly 4,520 English pounds. The present average produce has been very *moderately* estimated in this account at 470 guntangs the orlong, of paddie. The quantity of seed invariably allotted for an orlong of land is 4 guntangs. In the estimate of *future* produce as available for the support of the local population, 480 guntangs an orlong have been assumed as the *net* average produce, this increase being admissible on the score of the improving productiveness of the land. The average produce now derivable, as above specified, from one square mile of *bindang* land will be  $248\frac{1}{2}$  coyans of paddie, or  $142\frac{1}{2}$  coyans of rice, affording food sufficient for the support of 1,915 souls; so that were every orlong to have its complement, the population of this Province might be more than doubled without outrunning the means of subsistence. Prospectively viewed, the number which a square mile will be sufficient to support may be rated at 1,936 souls. In Siam forty-fold is estimated a good average produce. At Tavoy, on the Tenasserim Coast, the maximum rate of productiveness of the rice land was, in 1825—and is still believed to be—nearly the same as the *average* of Siam; while the *average* was only 20-fold, at which last rate the produce of a square mile would support about 1000 souls. There the return for seed sown is not only thus small, compared with the return for the quantity sown here, but to obtain the above average of 20-fold, or 260 guntangs of paddie from one orlong of land, it would be requisite to sow thir-

teen guntangs of seed. The difference in favor of this local Malayan husbandry is therefore 219 guntangs of paddie for each orlong cultivated—besides the profit arising to the latter by the saving of labor. To obtain, on the Tavoy coast, the clear return of 470 guntangs of paddie,—being the average above stated for Province Wellesley, including land newly cleared, and not yet become fully productive,—it would be required to cultivate 1 & 4-6th orlong and to sow  $23\frac{1}{2}$  guntangs of seed.

The total present population of the latter Province could be supported on the average quantity of rice raised on 24 square miles of superficies; while on the Coast alluded to, an area of about 43 square miles would be required to supply food to such a population.

The very superior fertility of the Province Wellesley soil depends on its alluvial composition, and on its being level and easily accessible to water—and in some localities, on its being comparatively new; but this last circumstance does not seem to operate as might be supposed: for some land, which has been longest under cultivation, or upwards of 20 years, yields the largest crops.

The soil of Mautama or Martaban Province, of which Molamein formed a part, seemed to me, while travelling over its plains in 1825, to approach nearest to the standard of this coast. Pegu, however, being for the most part an extensive delta composed of alluvion, its soil perhaps takes the lead of ours. The productiveness of the soil of Malacca or of Singapore will scarcely, it is supposed, reach our standard: 30-fold is the estimated average at Malacca. Out of 42.667 orlongs, the quantity supposed to be available at Malacca for rice cultivation, only 3,297 orlongs were under tillage three years ago. According to the “Malayan Annals,” and they are rendered credible by

European contemporary accounts,—the population of the city of Malacca, when first attacked by the Portuguese, amounted, independent of the country or interior population, to 190,000 souls. If this number—or say 200,000 for the whole,—were supported by the grain produce of that country, it must have required an extent of  $102\frac{1}{2}$  square miles or 49,602 orlongs to have been under rice cultivation, supposing the fertility to have equalled that of the Keddah coast as above given. Being a commercial state, however, it is probable that it received grain from other countries. It is only in those Malayan states where agriculture seems to have never been entirely subordinate to trade, that we now find a fixed agricultural population of any considerable magnitude. Java was one of these; Keddah, Perak, Patani and Tranganoo, with Ligor, and Sangora, were probably also in the list. Keddah, from its position and general features, must always have been a grain country. Its commerce, never extensive, was in the hands of its rajahs, and their favorites, and when that was all but annihilated by the drain caused by the new channels into which trade flowed consequent on the proximity of European settlements, the population sustained little comparative diminution; and continued to raise supplies of grain for its neighbours as well as itself, until, falling under foreign dominion, its energies were paralysed and its population dispersed.

The Imports and Exports of Rice for this Settlement are as follow :—

|                                    | IMPORTS.            |               |                          |
|------------------------------------|---------------------|---------------|--------------------------|
|                                    | <i>Coyans.</i>      | <i>Bags ;</i> | <i>Coyans. Guntangs.</i> |
| For the year ending                |                     |               |                          |
| 30th September 1833                | 3,197 $\frac{1}{4}$ | 6,052         |                          |
| For the $\frac{1}{2}$ -year ending |                     |               |                          |
| 30th Sept. 1834..                  | 721                 | 11,482        |                          |
|                                    | Total               |               | 80                       |
|                                    | 4,357               |               |                          |

## EXPORTS.

For the above 18 months ..... *Coyans, Bags; Coyans, Guntangs.*  
 1,478 25

---

Total 1,478 500

*Excess of Imports over Exports,* 2,878 380

Total estimated consumption by the fixed population—itinerants—cattle, &c. &c. &c. in Penang and Province Wellesley for 18 months—seed grain for the half-year excluded; consumption of troops also excluded.....

10,740 600

Total excess of consumption over importation for 18 months as above 7,862 220

The Produce to meet this is estimated as under;

## PENANG.

Fixed cultivation for 18 months 197

Fugitive crops..... 50

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247

Being equal to nearly one month's consumption.

## PROVINCE WELLESLEY.

Fixed cultivation for above period 6,604½

Irregular and fugitive do..... 300

---

6,904½

---

7,151 400

Total deficiency unaccounted for, being excess of consumption over the balance remaining of Exports and Imports and amount of produce added *thereto*.. ..

710 820

There is no reason to doubt the accuracy of the statement of exports and imports, yet it is highly probable that a good deal of rice has been imported in small quantities through numerous channels both into Penang and the opposite coast without being observed. The crops for the last two years in Province Wellesley were very abundant, as the present promises to be, and perhaps the produce for these has exceeded the average assumed here. The produce of partially cleared lands too, may have been somewhat underrated. The grain-dealers may also have had a supply in hand at the beginning of 1833. Some of these causes must have been in operation. Besides the registered exports too, it is well-known that considerable quantities of rice have been exported occasionally from Province Wellesley to the borders of Keddah and Perak.

The grain season commences about the middle or end of July on Penang, and about the middle of August in Province Wellesley. In the latter, the ryots continue planting until the middle of October, being regulated by the degrees in which their fields are flooded. The grain is ripe within from 5 to 8 months after planting.

The rice produced here is of the same description as that raised in Keddah, and it ranks next to Bengal rice in the market.

The varieties of rice are very considerable and they are nicely discriminated by the Malays. At first, one might feel disposed to think these people fanciful, but on a narrow inspection, the different kinds of rice are observed to possess distinct features.

The following are those sorts best known, and they have been arranged as nearly as may be, according to their generally received value. The first five may be cut by the sickle and are termed *Giyau*.

FOR SAWAH OR WET LAND CULTIVATION.

*Sri raja, sri bumi, riyong, sri bangsa, sri men-*

*jadi*, ripen in 7 months and are denoted as of the first class by the word *Sri* (excellent) prefixed.

*Mayang srai*, white and short; *mayang tilor*, yellowish grain; *mayang boeh*, white grain; *mayang pinang*, reddish grain; *mayang kudong*, white grain; *mayan tilooi*, dark grain; *bujong besar*, white grain; *sisat*, white and long grain; *bumban*, *unak libbah*, reddish grain; *chak pauh*, dark grain. These ripen within 7 months.

*Mayang sapangko*, white, *sultan bersindain*, *bodool*, ripen in 8 months.

*Mayang kooning*, *mayang gading*, *boonga machang*, *boonga sena*, *sunting mamplai*, *boonga pandan*, *riyong kichel*, *unak ikan*, *borat*, *chanda berime*, ripen in 6 months.

*Ekor*, *srip mas*, *jaroom puak*, *rumboot*, *sawa*, *taring plandoh*, *piring*, *bawang*, ripen in 6 months.

*Panget-so*, lately introduced from China, ripens in 100 days.

The following are different kinds of the *oryza glutinosa*, or pooloot rice:—

*Pooloot etam*, *pooloot galah*, ripen 5 months.

*Pooloot gharoo*, *pooloot kilah*, *pooloot santan*, *pooloot salambar nibong*, *pooloot hoeching likat*, *pooloot gading*, *pooloot guntongalo*, *pooloot naga bilei*, *pooloot kajang*, *pooloot sippat*, *pooloot indan*, *pooloot sekuppal*, ripen in 7 months.

*Paddie Jagong*. This species is said to be cultivated in Keddah, and to give two crops in one rainy season.

The following are varieties of the upland rice, or *paddie oomah*, which will not thrive on flooded land:

*Mayang jagong*, *biji trong*, *saboon*, *jarum perak*, ripen in 4 months.

*Tuma*, *Soonkal*, *Bruang*, (the bear,) *kala*, (scorpion,) *anak morei*, *langsar*, ripen in 5 months.

*Jintan, Jibbat*, ripen in 6 months.

The Malays here have not attempted double cropping as on the continent of India. There are no tanks, and it is only at a very few spots that they could be made. Most of the Malayan wet land rice requires so long a period to reach maturity, that there would be a deficiency of water for a second crop were an attempt to be made to grow one. But the Malays are obstinate in asserting that, were water abundant, still the rice sown here will not fructify after the rainy season has passed. But the jagong rice before noticed seems an exception.

The *Chinese*, last year, introduced from China a species of rice termed by them *Panget-so*, which is short grained, of a reddish color and goes to ear in 3 months and ten days after planting, and as it is a species which requires to be flooded it promises to be an acquisition, although a very light grain.

There are considerable tracts of land bordering the bakkau or mangrove flats, which at present lie waste. It is understood that there is a kind of rice cultivated in Chittagong which is not injured by brackish or salt water occasionally reaching it; were this also introduced, much benefit might accrue.

The Malays never manure their rice fields, nor is there any occasion as yet for doing so, especially while the system continues of allowing the field to lie from 6 to 8 months fallow every year. The people of Bengal render rice capable of being preserved for a long time by dipping it in boiling water so as to destroy the germ. The Malays have not adopted this plan and therefore beat or grind out the rice from the husk just before it is to be used. The Burmese, the Siamese, and it is believed all the Indo Chinese governments, maintain large granaries. The object is political, with reference to their exposure to frequent

warfare ; yet it is of vast utility in times when the crops fail.

#### SEED TIME.

Four guntangs of paddie are sown upon a well-watered and cleared spot of land of the extent of about a sixteenth part of an orlong. In about 40 days the plants attain sufficient vigor to admit of their being removed to the bindang, or paddie field.

The task of transplanting is commonly performed by the women. Before the seed is sown in the nursery, it is twice measured, in order to ascertain that none has *escaped* preternaturally !

The samai or rice plants are pulled up by their roots in bunches of sufficient size to be easily grasped with one hand. The roots are rapidly cleaned with the other and the tops are cut off. A few of the whitest stalks are then selected and carried separately to the field. *Ayer badak*, a fragrant cosmetic dissolved in water, is now sprinkled over the ground in order to propitiate the spirit of the paddie ; the Malayan *Ceres*, for whom the Malays have no distinct appellative but express their meaning by the words, *Samangat Paddie*,—the *Chaba Yendai* of the Burmese—which implies that the spirit of the paddie vanishes through terror when not conciliated.

The spot on the field where propitiatory evocation is made, they term *Bumi Putra*, which are Sanscrit words denoting "*Prince's ground*." This might be supposed to imply that the spirit evoked is deemed masculine. But the nature of the invocations which follow rather leave this in doubt. The selected stalks are placed on a rest along with offerings of dressed eggs—pooloot rice or *oryza glutinosa*—sugar cane—cocoanut, and sweet-meats. These offerings are afterwards commonly left on the spot ; but some ryots take them home and eat them.

Sri Dangomala, Sri Dangomani!  
 Hundah kerim anak sambilan bulan;  
 Segala Inang, segala Pengassoh;  
 Jangan bri sakit, jangan bri dummum;  
 Jangan bri killoo dan pinning;  
 Kichel menjadi besar;  
 Tuah jadi mudah;  
 Yang ta kijup de per kijap;  
 Yang ta sama de per sama;  
 Yang ta hijau de per hijau;  
 Yang ta tingi de per tingi;  
 Hijau siperti ayer laut;  
 Tingi siperti Bukit Kaf.

O illustrious Dāngomāl and Dāngomani !  
Let there be fruit (offspring) nine months hence.  
O royal nurses all—preserve it from sickness, fever and  
                vertigo and headache.

May it reach the full stature.  
May the old become young again.  
Where backward may it be forward.  
Where unequal may it be made equal.  
Where colourless may it become green.  
Where short let it become long.  
Green as the waters of the ocean.  
High as the mountains of Caucasus.

Bintang mara choacha limpahi ;  
Kadua limpah de langit ;  
Katiga limpah de bumi ;  
Ka-empat ayer sambayang ;  
Ka-lima pinto lahap (by some madahap) ;  
Ka-anam pinto rizukki ;  
Ka-tujuh pankat (or pinto maleegei) ;  
Ka-d'hulapan pankat surga ;

**M**

Ka-sambilan anak de kandong ibu;

Ka-sepuluh Mahomed jadi.

Jadi siklian jadi.

Ooma tanaman jadi.

Bayan nollah de dallam rongga batu,

Lagi ada rizukki ;

Deri hooloo deri hilir,

Sarep mengarep ;

Deri seenang kitta seenang,

Menghuntut rizukki,

Ber tambah ber tamboon.

The gloriously resplendent stars lighting the firmament  
are the first ;

The full refulgence is the second ;

The fullness spreading over the earth is the third—caus-  
ing abundance ;

The fourth the blessed waters, harbingers of fertility ;

The fifth the four gates of the world, pouring out plenty ;

The sixth the door to abundance of food ;

The seventh the portal of the upper story of the palace ;

The eight the floor of Surga or Heaven ;

The ninth the pregnant mother ;

The tenth—(may the grain harvest be lucky as) the birth-  
day of Mahomed.

May all prove prosperous.

May dry grain prosper.

May the hand of the Almighty appear in the filling of the  
husk, as a hole in a rock is shut up by degrees.

From above, from below, let plenty always flow.

From east and west, may abundance ever increasing  
pour in.

Adam and Hawah our first parents, say our Ma-  
lays, had two sons and two daughters ; the daughters  
to whom they give the precedence were Normani and  
Aski.

The sons were Soorbani and Aknini.

The earth did not then yield enough food for the  
subsistence of mankind ; *Adam* therefore conveyed,  
by divine command, one son and one daughter into  
the plains, and having sacrificed them and chopped

them into small fragments, he scattered these over the ground. On his returning home, Hawah inquired what had become of her children. Adam replied that they were abroad in the field. Six months afterwards she again asked where they were. Adam said, "come and I will shew you them." They then both went forth to the plain and called on the children by name bidding them return.

The other two children who had followed them out answered "we are coming." Adam and Hawah now beheld with wonder the wide plain waving with a golden harvest. On a sudden, the whole grain became *samangat*, or instinct with life, and then rising in the air like dense swarms of bees, poured onwards with a loud buzzing noise until it entered the habitation of the first man and woman from whom it had its birth. Hence it is incumbent on cultivators to treat paddie with respect.

One of the singular customs which may be observed at this Settlement—amongst a population composed of many races and where about twelve distinct Asiatic languages are spoken by considerable numbers—is the search for Ceres or Proserpine by the Chinese.

They, being ignorant of the real origin of the rite, call it a search for charmed roots and medicinal substances. Four men carry on their shoulders a small painted wooden or bamboo box, with a canopy and open in front. In this an image of Choo Sookong, one of their deified mortals, is placed. A Juzzuzen, or physician, places himself in front and the whole move off over the country at a double quick pace.

The Siamese and Samsam cultivators who are Buddhists, call their Ceres "Me Pho Sòp Chau" the exalted mother of grain. In their legends it is recorded, that of old when mankind were yet in a state

of innocence, grain grew spontaneously on the earth. At length the women began to steal, and men compassionating their weakness, pardoned their error four successive times. It then became necessary to have a king who should control the evil now first appearing in the world. The men, however, soon followed in the steps of the women; and they even ventured to show every degree of disrespect to Me Pho Sop in the rough manner in which they cultivated the corn. At length, disgusted with the insults heaped on her and at the crimes of the human race, she fled and took refuge in a deep cave on a high mountain. Famine now ravaged the earth. To avert this calamity holy men were sent in search of the lost goddess. Following the course of a river, they perceived some husks of grain floating on its surface and were thus directed to the cave. Here they observed the seeds of grain attached to the roof, and after much supplication, induced Me Pho Sop to return and diffuse plenty around to a race now first aware of her value.

The Buddhist ryots, when about to plant the rice, propitiate this goddess by offerings of the kaboo fish or harocan (which abounds in the paddie-fields during rains,) eggs, fruits, sugar, the oriza glutinosa, and betel leaf. The goddess is represented by a bunch of the rice plants, which are tied together by white thread. Waxen tapers are lighted and incense burned, and scented water is sprinkled over the typical bunch, which is then covered with a white cloth raised into the shape of a canopy.

This ceremony generally takes place early in the morning. All the ryots present then evoke Me Pho Sop to favor the paddie crop. When the grain approaches to fullness, similar rites are performed and *acid* fruits are added to the oblation; because, say the Siamese, the predilection belongs to it as

well as to the sex in general under similar circumstances.

✓The paddie-planter is provided with a short stick, with a fork at the end. Having inserted from five to nine stalks or plants into this fork, he pushes it down into the mud, to the depth of from 3 to 6 inches according to the nature of the soil. Superstition enjoins that decorum should be observed during that operation and that no one should speak during the planting of every seven bunches. These bunches are set at distances, varying from half a foot to one and a half foot. In the richest soils even two feet might be allowed, as the bushes expand sufficiently to cover the intervals. The owner afterwards inspects his field occasionally, sees that it has the requisite quantity of water and destroys weeds and vermin. As the year begins to fill, he stretches ropes over the field and attaches scarecrows to them, and he erects a high covered perch in which one of his family constantly watches—at the eminent risk at night of being picked off by a tiger. Birds and rats, which occasionally appear in great numbers, contrive, notwithstanding, to take heavy *custom* out of the crops.

Newly-occupied land near forest, is most subject to their inroads : several insects also infest the rice fields. It is almost incredible the swarms of rats which overrun the plains and paddie-fields of Province Wellesley last year. They did much partial damage to the young grain, but the crop was nevertheless most abundant. It is probable that such an uncommon invasion was from the interior. These swarms disappeared nearly as sudden as they came ; yet they are sufficiently numerous at all times to form one of the legitimate subjects for grumbling to the farmer. They are most destructive in rainy nights, such, say the ryots, protecting them from their enemies, the owl,

snakes, &c. The Malays are obstinate in believing that they swam across from Penang because a great many had been observed floundering in the mud after the retreat of the tide ; but the most current opinion with them is that these rats were produced in oyster or other shells !

As the year of the rice appears, the water is generally allowed gradually to drain off to hasten its filling, but it will fully ripen without this precaution. The ryots assist each other both in sowing and reaping.

The grain is cut with the sickle when it has been laid down by its own weight or by wind, or is otherwise in jeopardy. But as the straw is here of little or no value, grass being abundant throughout the year, and as the grain is often, from perhaps an intermixture of different sorts, not all ripe at once ; and as the ryots do not readily walk out of the path which their forefathers followed, recourse is generally had to the more dilatory and expensive method of cutting by *pingeau*, by which only enough of the stalk is left to admit of its being grasped by the hand and tied up in bunches.

Viewed with the eye of an economist, it is a beautiful object, a ripe waving paddie-field of ten miles or more in extent. The whole air is perfumed by the mellow aroma. The Malay then is in his glory, and all the old women and elderly matrons are seen with conical straw hats plucking the ears of corn ; the married women and spinters under a certain age are left at the distaff and loom and other household duties.

The Malays hold sacred the first three days of harvest, and the presiding spirit of the grain is again evoked and propitiated. These days are *pantang* or under an interdict ; or tabooed, as the African would express himself ; and until they are past, the cultiva-

tor is careful not to permit any thing to be removed from his house. On the first day, waxen tapers are lighted and incense burned. Parts of the *Foorkhan* or Koran are recited, the right being termed *Kandari*—all the assembly calling out *Ameen* at the close of each sentence.

An iron nail is carried, on the first day, to the field in order to avert some planetary influence—for the planets, it is well known, had, in ancient mythology, their types in the several metals. It is stuck into the earth, where it is left until all the grain has been cut. This charm may remind one, too, of the sailor's horse shoe. It is afterwards placed in the granary as a charm to prevent the paddie becoming *samangat*; namely, taking fright and vanishing, as it did of old ! A rude altar is then raised on the field on which are laid offerings of rice, plantain, flour, eggs, oil, water, perfumes: a white cloth is thrown gently over all and the peasant evokes the spirit in the following strain :

Marilah Che, marilah Tuan;  
 Hundah puluh maligei mas maligei perak.  
 Lama sudah main angin dan ombak,  
 Tumput iyang sinnang iyang selesa.  
 Come O young Lord and Master,  
 Return to the golden and silver palace.  
 Long hast thou disported in the wind and rippling waters;  
 Return now to a place of repose and enjoyment.

On the same day, one male and one female stalk (the distinction is perhaps fanciful) are selected; on each a gold or silver ring is put; both are then tied together with a white thread, wrapped up in white cloth, and conveyed along with one basket-full of the ripe ears to the granary. Some ryots cut seven instead of two stalks in commemoration of *seven mothers* who became *samangat*—perhaps the *seven rishiis*, or stars of Hindoo mythology.

On the second day two, and on the third, three baskets full are cut and consecrated in like manner. When

these first have been thus, with due rites, housed in the granary, a jar of water is placed beside them and the harvest is begun in earnest. Many ryots, either from having been weaned from these besetting superstitions or out of carelessness or perversity, neglect to perform the ceremonies in whole or in part.

The true Siamese, when they first sow the seed in the nursery, set up a white triangular flag on the spot. It has a square compartment near the upper part within which another square is inscribed, the angles of which rest on the centre of the faces of the outer square: four triangular compartments are thus formed. The cardinal points, with four intermediate ones on the outer square, are denoted by the Phra Khawany (light in all) or guardian spirits described in their Bali legends. Betwixt each figure is a unit (1); within the two upper triangles are written Bali syllables, Na Mo, symbolical of two Buddhas: in the centre Phoot, and the lower angles, Tha and Ya, or Phoothaya, the name of Buddha in the Siamese-Bali language.

The flag being hoisted, the ryots invoke in a sitting posture, by name, Phra Een or *Indra*, the protector of mankind, and Nang Phra Thoranee, the goddess of earth, and Chau Deen, the spirits, lords of the soil; who, it may be here observed, are much dreaded and are propitiated by beastial sacrifices when a tin or other mine is to be opened—also Britheeo a spirit which guards the surface of the ground; Phra Plrom or six superior gods; Phra Yom or Yama, god of the infernal regions, Phra Kan, the angel of death and guide of the liberated souls of those mortals who have been doomed to expiate their crimes in hell; besides many other deities and sprites belonging to the copious pantheon of the Hindoos and Boodhists. When the grain is ripe they tie nine bunches (before

pulling them up or cutting them) together with white thread and then invoke Buddha, the Bali and the Heirarchy, exclaiming also "*aa khachahee mo nee Me ma*"; come come, come here, mother come! They then rise and again invoke the same triad. No fire must be taken out of a house for the ensuing 3 days. The nine bunches on the fourth day are cut and placed in the granary as consecrated first-fruits.

The Samsams after their pooja, or as they call it poocha, or its accompanying offerings to Me Pho Sop, select one hundred and eight paddie stalks, this being the number told by Boodhist priests on their rosary in memory or honor of the Holy Foot of their deified saint before noticed. These stalks are then fashioned into the figure of a female, much in the same manner as the harvest maiden is formed in some northern counties of Britain. This figure is clothed and being then considered the representative of Me Pho Sop, offerings are made to it of rice and fruits, and it is duly consecrated by five Buddhist priests. It is afterwards placed above the new grain in the granary, and five stones are laid on it to prevent its escape. When any grain is to be beaten out, this image is also brought forth and told what quantity is required.

The harvest home in this Province is celebrated by games, theatricals and other festivities, several of which seem of Hindoo origin. Much money, after favorable crops, is thus spent, and the Madras jugglers continue to get a share of it.

Buffalo fights once formed here, the grand harvest-home amusement, and they were conducted with much decorum—the presence of the police being scarcely wanted.

A ring of about one hundred and fifty yards in diameter, was surrounded by high stands or scaffolding

with considerable intervals betwixt them. On these were assembled the most respectable proprietors and farmers with their families of all ages and both sexes, dressed in clean holyday suits, while several thousands of people filled up these intervals. The Spaniard and John Bull would have considered the whole affair exceedingly tame. Here no barbarities were practised, there was no quarrelling and no drunkenness or other brutalities exhibited. The buffaloes were successively led out in pairs by their owners, one pair at a time into the arena, and when sufficiently close, were allowed to come of their own accord to the scratch. The owners did not mount their buffaloes after the Tavoy or Burman fashion, but got quickly out of the way of the animals. Many buffaloes declined the contest; and very few fought beyond five minutes, when one generally scampered off across the country followed by the victor; blood was very rarely drawn, and no deaths occurred. The only *science* displayed on the last occasion, was by a buffalo, the property of an old Malay woman and named by her *bintang be-rali*, "*the shifting star*." This animal generally contrived, by a dexterous manœuvre, to get one of its horns under the lower jaw of its adversary, and by twisting his neck, to bring him on his side to the ground. The defeated buffalo rarely ran a second course, but made off as fast as it could, without any further attempt of the victor to injure it.

Buffalo-baiting is of course disallowed by English law, and has been therefore discouraged within the Province; if indeed this animal can be called a *bull*. Still, as the animal spirits of any population, much more of one just emerging from the middle grade of civilization, will have an outlet in some way or other, it is doubtful whether the indulgence in this sport under so mild a form compared with that which it takes in

Europe, was not productive of good in the main. The same apology cannot be made for systematic cock-fighting. The Malays, it is well known, are passionately attached to this barbarity, called by them *sabong ayam*. Can enlightened England condemn them when she looks into her own bosom? The Malays are perhaps equally *scientific* as the most *civilized* European in the selecting, training, and *arming* of their game-cocks. This demoralizing and ruinous sport has been long, happily, suppressed on Penang and the opposite coast. Of course, the suppression cannot extend to the birds themselves; so neighbours occasionally enjoy the sight of their making use of nature's weapons in their private quarrels, about the right and title to some favorite belle of the roost. In proportion as these channels to over-excitement have been closed, have gaming with dice, or *po*, and its attendants poverty, robbery and theft increased, and these mischiefs have, it may safely be said, been aggravated since gambling was removed from fiscal controul and left free of tythe to the cognizance of the law. To eradicate the passion is perhaps impossible; for it is linked with several natural and beneficial faculties and aspirations, as well as evil ones, of the human mind. To keep it down to such a level that it shall not break occasional gaps through the barriers of social life, is a thing of difficult achievement, and not to be achieved by any police modelled by the principles of a free state. The vice presents itself to us in these Indo-Chinese regions as an irrepressible mental aberration, to which palliatives may possibly be applied with some small advantage. The mere operation of English law can hardly extend deeper into the evil than to reduce it to the dimensions of a permitted or of a connived-at nuisance.

The Chinese are more determined gamblers than the Malays; scarcely an individual of either sex of the

first class can refrain from indulging in it. To evade the law, the Chinese have urged that gambling forms one of their religious rites, hoping by this finesse to shelter themselves under the charter of justice; but the fallacy is too palpable to be overlooked. Marco Polo, who was himself governor of a Chinese province, and wrote about 544 years ago, gives the following graphic account of this vice:

“The present Khan has prohibited every species of “gambling and other modes of cheating to which the “people of this country (China) are addicted, more “than any other upon earth.” Amidst an untutored and heterogeneous native population like ours, the noble fiat or dictum of refined legislation that the poorest subject’s house is his castle, is apt to become the shield of the gamester and robber, as well as of the peaceful citizen.

As regards Province Wellesley, the prohibitions and penalties of the law serve but as premiums to our neighbours the Siamese and the Perak Malays, who have established cordons of gambling houses, cockpits and opium-shops along our frontiers, thereby monopolizing the revenue which our law rejects, and increasing the evils which are naturally inseparable from the mere unrestricted indulgence of irregular passions and propensities. After a favorable harvest, the ryots *berniyat*, or vow to institute games and festivals.

The *Main manora* and *Wayang kulit* are the chief scenical amusements. The first of these is the Siamese drama embodying the heroic deeds of Sri Rama and his army of apes. In this, the actors have appropriate, often expensive, dresses and masques; and a full band of music fills up the interludes. Instruments for a complete band, cost about £100 sterling. The second or *Wayang kulit*, a sort of dramatic phantasmagoria, is derived from Java, and

is essentially of Hindoo origin. The dramatis personæ are represented by flexible leathern figures, which are worked behind a screen of thin white cloth, by an *orang dallang* who is the sole reciter or prompter, and who is obliged to modulate his voice to suit the numerous characters introduced. The Burmese are much attached to this kind of exhibition, the Myoowoons having, annually, a private theatre of their own for its exhibition.

The *Manora* lasts here five or six days, and *Wayang kulit* for seven or eight. The expense for the first, every 24 hours, is 4 dollars; and for the last 1½ dollars. The theatre is a shed in the open air. The person who hires the company (consisting of from 12 to 16 performers including musicians) pays all expenses, and the crowd is free to enjoy the performance gratis. *Wayang joget* partakes more of a natch or notch than a play, since dancing and singing are its chief attractions. The dancers are women generally, but often boys in women's clothes. For a company of *orang joget*, consisting of 12 *panya* or musicians, 3 *beduan* or singers, and 2 *joget* or dancers, the hire for one night's performance is 12 or 13 Spanish dollars.

A Chinese company consists of thirty actors of all classes. The hire for one night is 20 Sp. dollars at the lowest rate; but their music is execrable, being pitched at a very high key. The wardrobe of a Chinese company costs here, at *second hand*, about 1,200 drs. A new set of dresses will cost 3,000 drs.

*Mayong* is a sort of serio-comic opera which seems to have had its origin in the Patani country. Companies of performers of it occasionally visit Penang. The chief dramatis personæ are commonly four in number. They

chant Siamese and Javanese romantic legends and are accompanied by a full band of music. There is always a clown, who wears a comic or *farcical* mask, and who breaks in occasionally on the regular action with jests, which are not altogether of a very refined description. When princes are introduced, they wear the peaked tiara of seven stages or circles.

The Siamese *lakhon* embraces, in a dramatized form, any one of the popular legends of their literature. The most attractive one is the Ramakean, or the Ramayana of India, within the Ganges. But its performance can only be witnessed in a style of expense—if not gorgeousness—in the Siamese capital, or at the *Rong* or theatre of one of the provincial governors.

The music, on such occasions, harmonizes with the emotions and passions exhibited in the action. It may here be remarked that the Siamese music is of a very sprightly description, and takes a far wider range than the music of the Burmese, Malays, or Chinese. There is more of plaintiveness, and perhaps of melody, in some of the Malayan airs, but the Siamese display a style, on listening to which, one cannot help wondering how it grew up, or was created amongst a people who have not yet put on the full-sized toga of civilization—except in their own eyes.

The *Hoon* is a kind of puppet-show on a large scale. The number of puppets varies from fifty up one hundred and fifty. They are made of wood and painted and dressed so as to represent the chief personages and inferior agents in a dramatic plot. They are moved by strings. There are two, Khon ChenCha, or men whose duty it is to be the interlocutors for these puppets which they carry and work behind and along a gilded parapet which serves instead of a stage.

The expense of these puppets and wardrobe, varies according to the ability of the chief.

✓ **MODES AND EXPENSE OF CULTIVATION.**

No uniform system of culture has yet been adopted, owing to the varying quality and condition of the land.

The most approved system is, of course, that which includes the free use of the plough. But some years must elapse before all of the land shall have been sufficiently cleared of stumps and roots of trees and other impediments to admit of its being generally employed. Even now many lands, fit for the plough, are cultivated in the less efficient manner employed by the Malays on new lands.

**CULTIVATION,****BY THE PLOUGH ON 20 ORLONGS OF FOREST LAND.**

|                                                                                                                                                                                                                                  | <i>First Year.</i> | <i>Drs.</i> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|
| Clearing . . . . . @ 20 drs. $\frac{1}{2}$ orlong,                                                                                                                                                                               |                    | 400         |
| 5 Buffaloes . . . . . @ 9 „ each, . . .                                                                                                                                                                                          |                    | 45          |
| 3 Ploughs . . . . . @ 5 „ „ . . .                                                                                                                                                                                                |                    | 15          |
| 2 Harrows . . . . . @ $\frac{1}{2}$ „ „ . . .                                                                                                                                                                                    |                    | 1           |
| 1 Roller . . . . . $\frac{2}{4}$ „ „ . . .                                                                                                                                                                                       |                    | „ 75        |
| 2 ploughmen and one assistant for<br>80 days work ; should the land be very<br>stiff and not well flooded, the cost of this<br>labor will be enhanced by $\frac{1}{4}$ th. The land<br>is ploughed four times & harrowed thrice. |                    |             |
|                                                                                                                                                                                                                                  |                    | 24          |
| Preparing $\frac{1}{2}$ orlong as a nursery for<br>rice plants . . . . .                                                                                                                                                         |                    | 1. 20       |
| 1 Cart ( <i>light construction</i> ) . . . . .                                                                                                                                                                                   |                    | 15          |
| 80 guntangs seed paddie . . . . .                                                                                                                                                                                                |                    | 3           |
| Planting @ 60 cents per orlong . . . . .                                                                                                                                                                                         |                    | 12          |
| 1 Watchman, who also cleans, weeds<br>and looks to the supply of water &c. &c.                                                                                                                                                   |                    | 15          |
| Reaping by the sickle or <i>pingiau</i> . If<br>by <i>ringgum</i> it would be 10 per cent. . .                                                                                                                                   |                    | 8           |
| 15 days treading out the grain by buf-<br>faloes, and winnowing it, (the former ope-<br>ration is made at night,) and 4 labourers.                                                                                               |                    | 6           |

|                                 |    |
|---------------------------------|----|
| Carrying home and housing ..... | 5  |
| Granary .....                   | 25 |

A Granary costs, for this quantity of grain, about 25 drs. and will last 5 years only ; being of light materials.

|                                                                        |   |
|------------------------------------------------------------------------|---|
| Mats, baskets, bags (these cost about 2 drs. and last 3 years) .. .. . | 2 |
| Loss by accidents .. . . .                                             | 2 |

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Total of 1st year, drs. 579. 95

*Second Year.*

Expenses as before, only deducting for first clearing of land, for buffaloes, carts, ploughs, &c. &c. granary and bags.... 76

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Total expenses for two years, drs. 655. 95

PRODUCE.

When the land is of good quality and well suited to the plough, then the *net* annual average produce of one orlong with another will hardly be less than 480 guntangs of paddie, or 240 of rice, in favorable seasons.

The crop from 20 orlongs will therefore be  
12 coyans of paddie @ 35 drs ½ coyan, drs. 420

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For the 2 years, therefore, the case will stand thus:

Two years produce, 24 coyans of  
paddie @ 35 drs. ½ coyan .. . . . 840

Total expenses of cultivation for  
that period, or 2 crops..... 655.90

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Sp. drs. 184 10

Deduct interest, 84 drs. averaged @ 15 ½  
annum and quit-rent, 30 drs. .. .. . 114

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Net profit, Sp. drs. 70. 10

Were the *Paddie* to be converted into rice, the profit would probably be sometimes diminished by about 15 Spanish dollars, as the cost of unhusking and winnowing the paddie would amount to 75 Spanish dollars, being  $1\frac{1}{2}$  dollar the cooncha, and especially as paddie and rice do not always bear the same relative value in the market. The price of 35 dollars has been assumed as that which has, for very many years back, been deemed a fair average one. Whether it will continue to fall or rise, will depend on events which it is not easy to foresee. But the probability is rather in favor of enhanced prices in the coyan. At the end of the 2d. year, the clear profit by the above estimate is 70 Sp. dollars after the capital has been returned and interest and all charges have been deducted. For every subsequent year therefore we have

|                                         |          |
|-----------------------------------------|----------|
| 12 coyans of paddie @ 35 drs. 4P'coyan, | Drs. 420 |
| Expense of cultivation . . . . .        | „ 76     |

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844

|                                  |      |
|----------------------------------|------|
| Quit-rent and interest . . . . . | „ 15 |
|----------------------------------|------|

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Total profit, Sp. Drs. 829

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This will be a profit of 16 dollars an orlong after deducting interest on the outlay. This will nearly correspond with the rent in *kind* received from the best land.

It will be borne in mind that the highest present rate of productiveness has been stated at 600 guntangs of paddie an orlong, which would admit of a net profit, on one orlong, of  $20\frac{1}{2}$  Sp. dollars. It is probable that a failure of the crop may be looked for once in ten or twelve years; for in these regions there is evidently a cycle of seasons, although the cause is not

apparent ; and those of the intermediate years will fluctuate in quantity as is the case in most countries.

Having now shewn the return, which—on an average of soils with the most approved present practice, and with every natural obstacle to cultivation, surmountable by industry, removed—it is possible to obtain in favorable seasons ; it remains to describe the modes of cultivation which, from want of capital, from local impediments increased by that want, and too frequently from indolence in the cultivator, are adopted by the majority of the ryots. The original cost of *clearing*, it will be held in mind, is always *presupposed*.

BY THE TAJAH OR PARANG.—20 ORLONGS.

|                                                                                | Drs. |
|--------------------------------------------------------------------------------|------|
| <i>Seed time.</i> —Hire of coolies with tajah to cut bushes and destroy weeds. | 40   |
| Samai or plants .....                                                          | 10   |
| Planting @ 60 cents an orlong .....                                            | 12   |
| Total, Sp. drs.                                                                | 62   |
| <i>Harvest.</i> —4 men watching from seed time to harvest .....                | 8    |
| Reaping with the ringgum @ 10 per cent. paid in kind on the spot ....          | 42   |
| Carrying home and housing @ 6 ½ cent.                                          | 20   |
| Cost of granary estimated @ 5 drs. a year                                      | 5    |
|                                                                                | 75   |
| Total, Sp. drs.                                                                | 137  |
| Quit-rent averaged as before .....                                             | 15   |
| Interest on outlay .....                                                       | 8    |
|                                                                                | 160  |
| Produce averaged as before—value .....                                         | 420  |
| Yearly net profit, after recovery of capital, Drs.                             | 260  |

## PINDIYAN OR TIJAH KARBAU.

In this method of cultivation, the ryot hires a herd of buffaloes and turns them into the flooded land. They are there driven about until all the weeds and grass are fairly trodden deeply under the mud. The hire of a herd of 50 buffaloes amounts to about  $1\frac{1}{2}$  Sp. drs. a day, and they will prepare 2 orlongs daily. The expense is Sp. drs. 30 for the 20 orlongs.

The other expenses must be calculated as before. The saving in labor, compared with the *tajah* method, will not perhaps exceed 10 dollars, but the gain by a larger crop will perhaps be considerable. The expense of tending a herd of 50 buffaloes if kept for the above purpose, would be 75 Sp. drs. a year. But when carts come into more general use, as roads are extended, the combining of other employment for buffaloes with agriculture will no doubt be introduced more universally.

## OOMAH.

In this dry cultivation the jungle is cut down and burned, and holes being immediately made in the virgin soil with a sharp stake, four or five seeds of paddy are dropped into each, but are not covered with earth. This cultivation is often mixed with that of Indian corn, sesame, cucumbers, melons and gourds and pulses. The cost of clearing and cultivating one orlong will be about 12 Sp. drs. the first year, and for the third year, (the second being unproductive) about 10 drs. The average produce for the first year is reckoned about the same as that of *samai* land. It falls off afterwards, as neither the plough or manure are applied.

The Malays cut with the *ringgum* on lands where the sickle might be used. In addition to the reason before assigned for this expensive process, namely that the grain does not, from being mixed perhaps,

ripen all together, they object to the sickle because a good deal of grain is lost by falling out while being cut. There may be some truth in the first objection and its cause might in time be removed. In regard to the second, the loss by shaking is a mere trifle, compared with the enhanced expense incurred by rejecting the sickle.

It appears, therefore, that by judicious management, capital expended is returned within the second year, the seasons being propitious; leaving a balance of profit in the cultivation of 20 orlongs of about 70 Spanish dollars. But it is obvious that were the bare capital to be recovered and no more, within such a short time, the speculation would be a very favorable one where capital had no other more advantageous outlet,

#### RENT.

Ample as the above-described profit may be considered, yet the money-rent of land is not always proportioned to it. We have been viewing the proprietor and ryot in one person. Disjoin the two and the state of the case is disproportionately altered.

The highest rate of money-rent as yet does not exceed 4 Spanish dollars an orlong ( $1\frac{1}{3}$  of an acre) the average being about  $2\frac{1}{2}$  dollars. But when the rent is paid in *kind*, its amount is frequently nearly doubled. Money-rent is almost invariably paid in *advance*, while rent in kind is paid after the harvest. In the latter instance, a poor tenant can give no other security than that of the expected crop, unless indeed he mortgages his land. To this subject I will revert hereafter. But a proprietor will best consult his own advantage by taking a far less usurious one.

A ryot's labor for six months, were he only to employ himself in his rice cultivation, would be about 13 Spanish dollars value. But he is not confined entirely to it, for his family can watch it while he is employed

In other labor. In fact, he hardly feels this part of the cultivation to be any expense. Should the proprietor of good land get one-third of the gross produce value as rent, then he would receive, under the ploughing system, 140 Spanish dollars for 20 orlongs of land, and his tenant would have 204 dollars after deducting the wages of labor. Under the *tajah* method his rent would be the same, while his tenant would get 143 dollars, assuming that the rate of productiveness is the same in both cases; the difference in profits arising from a saving of labor and not from increase of produce. In both cases the landlord would receive a disproportionate share of the produce of his land, while the tenant would have high profits.

Under such a rate of profits, arising too from a small outlay of capital on the part of the farmer, the landlord, it might be said, should have a far larger share in shape of rent. But although it is highly probable that his rents will rise, it is also pretty certain that the risks attending cultivation will cause that rise to be slow. Perhaps if prices of produce do not fall much, or labor becomes dear, he may hereafter be able to obtain a third of the gross produce as rent.

The foregoing remarks rest on ascertained data, but from the nature of the country and the population they may not always be invariably applicable.

If four dollars be taken as the average money-rent per orlong of good grain land, the corresponding number of years' purchase would be, on an average, about six years. An average of prices will not determine this point; for they will depend on the capital which confined profits in other channels may compel the holders to invest in land. If this were to be the rule, then instances could be adduced of sales at ten years' purchase. The competition for fresh rice-land is now so great that the disposable quantity will most proba-

bly, within a very few years, have been given away. The Malays take the best land first if conveniently situated, but otherwise they take that which is most easily accessible, if it will yield a return for the labor to be bestowed on it. It will not perhaps be until all the remaining lands yet lying under jungle shall have been occupied and cultivated that the true value of grain cultivation to the several classes concerned, the landlord, tenant and labourer will be fully ascertained.

But as advantages might arise to the public, to individuals, and to the revenue, could any thing certain be known regarding these two important points of rent and price, it will now be my endeavour to explain how far some of the broad principles of political economy seem to bear on, or to differ from them, and to what extent inferences for the future may reasonably be drawn. To those who view the science of political economy as only strictly applicable to large and populous nations an attempt of this kind may appear superfluous. But in reality, the principles of that science, if just, ought to adapt themselves more or less to all the gradations in the scale of nations. And the very circumstance of a territory being limited in extent, being situated within the range of active trade, yet having a population of a decidedly agricultural bent, would seem to point it out as a fair test of some at least of these principles, in this quarter of the globe. Reference is chiefly had here to the doctrines of Adam Smith and Malthus.

By tracing their effects on a small scale, we shall always obtain speedier results. England and China are perhaps the two nations which have pushed cultivation the farthest with reference to the powers of the soil. Yet both contain large tracts of waste land. In a small territory with a strong tendency in the people to increase, the cultivation may, in a compa-

relatively short space of time be urged on until it shall be checked by a deficiency of cultivable land alone.

However incomplete this attempt may be found to be, still it is presumed that even a European political economist might be glad to view the degree in which his principles are likely to apply in the diversified regions of India *beyond* the Ganges, and especially to any one of these, the population of which enjoys the benefits of British law and protection, adhering at the same time to its own peculiar customs, religions, and rights of inheritance.

Amidst the mass of conflicting opinions and systems which have been advanced with the view of unravelling the intricate web of human affairs in the advanced stages of society, we have yet some plain and original principles on which the mind, by reverting, can repose as if on the massive base of a splendid superstructure. Had the science of political economy dated its birth from the period when mankind first relinquished the crook and the bow for the plough or the spade, we should not perhaps at this day have often been wandering in the mazes of speculation, or been condemned frequently to doubt or reject reasonings which, however apparently impressed with the stamp of truth, have not been tested by experience.

But instead of this, it began like the science of geology, by broad assumptions which could not be easily refuted or proved to the letter, because they were not the fruits of induction from undoubted data, furnished by experience. And it has only been by the most painful investigation of comparatively recent effects that the present age has been able to elicit some sparks of truth.

When we revert to the first stage of society, we find mankind existing chiefly as hunters, or shepherds. Neither of these conditions was favorable to

the arts ; and the latter one only touched occasionally on the regions of science without being much enlightened thereby. The soil was a gift to both, but of different value to each. The hunter required a wider range and the precariousness of his means of subsistence tended to keep population at a low standard. Having satisfied his pressing wants, and other tribes, being then in as low or nearly as low, a condition as his own, his artificial wants were extremely limited and could be supplied by himself. The shepherd roamed over a more limited space, and the soil became of more value to him than a larger tract to the hunter, because not only could he secure food at all times but generally in such plenty as to allow of a surplus, which last generally went to increase the number of his retainers under the patriarchal rule.

But the tribe of hunters and the tribe of shepherds, from the nature of their avocations, could never settle long enough in one spot to admit of any accumulation of exchangeable capital ; for then wealth, being all nearly of a like nature and at any rate not very exportable, there could be no inducement to any interchange of it. In process of time, however, some artificial wants would be created by the natural restlessness of the human mind, and as the shepherd or more rarely the hunter could not consume his surplus game, or cattle or milk, skins or wool, he would be glad to save himself the trouble of manufacturing those articles which, besides food, he began to find conducive to his comfort. After a while, these wants would increase, and as a new class of men would now have been created by this appropriation of surplus food, and as a constant state of locomotion joined to increasing population and to circumscribed limits, arising from the growth of neighbouring tribes, would be inimical to a full enjoyment of these new

conveniences, he would begin to settle down and to cultivate the soil. Here then mankind would have reached the second stage of improvement in wealth, and they would now, for the first time, have been separated into two distinct classes, the suppliers of food or necessities, and the suppliers of objects of luxuries or convenience. But still, these two classes would not be able to live far apart; for although the first might dispense with luxuries, the second could not dispense with food, and in the more rapid progress which society would afterwards make, it could only be on a very few detached spots, favorable as emporiums for commerce that a population could exist, wholly by an exchange of luxuries for food of foreign growth; nor, in any stage of the advancing society might it be safe for such a population to depend on such a supply; for, as before observed, the consumers of these luxuries might dispense with them in a time of scarcity, and thus deny food to the suppliers of them. Nature, which has so bountifully given to man the ground to till, has also ordained that every country shall not produce the same species of food. Hence it would happen that, except in cases where countries were near to each other and peopled by similar races, the various kinds of food yielded by the different regions on the globe would not, beyond their respective boundaries, possess much if any exchangeable value, not even should the intrinsic value of any one species of food, whether corn or otherwise, be decidedly superior to any other species because nature has likewise so ordained that the population of any given country, with extremely few if any exceptions, prefer the grain or food which it yields to that of any other country, and cannot be easily induced to substitute the latter for the former, even allowing that it were of a better and more nutritious kind and that it could be cultivated instead

P

of the food to be displaced ; and it is plain that if the latter could not be done the attempt at substitution would fail.

But as each nation would, from its soil or geographical position, or otherwise, possess distinct natural productions independent of the principal one of food, hence these would become one of the mediums for commerce, and whenever the cultivators, by the addition to the supplies of luxuries and articles of convenience produced by this increased supply to them of food, should have created a greater quantity of such artificial objects than the population of the given country absolutely required, then the surplus would become exchangeable for foreign luxuries and objects of convenience.

After men had reached this third stage, capital would, for the future, oscillate betwixt the producers of food and the suppliers of artificial wants and luxuries. When food became so cheap as to lower profits, capital would go to manufactures, and when by competition here, an over-supply was created and prices fell, capital would be withdrawn. There would be a constant tendency to an equilibrium, the balance alternately inclining more or less on one side.

Those who have seen society in the most favored spots on the globe reach a high state of refinement, and have also visited nations and tribes in all the stages of civilization betwixt that and the lowest condition of the human race, may not feel disposed to dispute the position, that the cultivation of the soil is the basis on which rests all the real wealth, and much of the moral wealth and happiness of the human race.

The pillars of the fabric may be lost to view amidst the lofty spires and buttresses which they support.

But should these pillars be removed by the agency of man, he will, if he perishes not in the ruins, be compelled to reconstruct the whole.

Political economy, in short, seems to resolve itself into an endeavour to trace the causes which tend to create the oscillations of capital just adverted to, and to apply a force which shall restore the equilibrium of profits, or the rate of profits; which, by the natural laws which affect the soil or supply of food, ought to be obtained.

But political economy is one of the most difficult of sciences, because it is not purely an exact one, and because it imposes the task of exploring the whole range of human knowledge and intellect, the political and moral, as well as the material world. Its grand principles, even could they be demonstrated to be truths, and many of them are valuable ones, can, in a great majority of cases, be only deemed abstract truths, which either become known too late to be of use or cannot be used, or when applied to the actual affairs of men are apt, by a thousand causes, to be deflected from their proper application. If one were required to cast a large stone down a chasm, he might or might not have the power in the first instance to lift it. If he had and did throw it in, then it would be a physical truth that the stone, if left to itself, would reach the bottom. But in its descent it might be impeded by jutting rocks, might rebound from side to side and be perhaps arrested in some cavity; or if it did reach the bottom, a volcanic power might at once eject it to its original site.

In like manner, the true principles which, if unchecked, would regulate the amount of national wealth are turned from, or retarded, or stopped in their natural operation by the conflicting currents of human affairs, by various political, moral, and intellectual

influences and by the imperative agency of physical causes on all these.

In the succeeding observations it is of course assumed as a truth that the State becomes, in the east, both lord and proprietor of all waste land from the period when the territory is ceded to it or comes permanently into its possession by right of conquest.

After much discussion regarding the best site for a settlement in the Straits of Malacca, the government at length fixed on Penang.

It was taken possession of and the British flag was hoisted on the 7th July 1786, consequent on its cession to the H. E. I. Company by the rajah of Keddah. The island was then but very thinly inhabited.

The insecurity of the harbour, owing to the pirates and banditti who lurked on the main land opposite to it, induced the government to obtain a cession of a part of it from the same rajah. This took place on the 1st July 1800. It was then termed Point Wellesley, which not being a very correct designation for a line of coast, was subsequently changed to Province Wellesley. At this period it may have contained 1,500 inhabitants, including a very few Chinese.

In the month of November 1821, the Rajah of Ligor invaded Keddah with an army of seven thousand men, and took possession of it for his liege lord and master, the King of Siam.

It would be foreign to the present subject to enter here into any detail of the cause which led to that occupation. Its effect were to place the British relations in this quarter on a new footing and to pour into Penang, but chiefly into Province Wellesley, a large body of Malays who naturally preferred British to Siamese protection.

Immediately after the above event, the then governor, The Hon'ble Mr. Phillips, took prompt measures

for securing to Penang all the advantages which were expected from a settlement of the coast or province alluded to, and placed as he now is in an honourable retirement, it will no doubt be gratifying to him to find that his endeavours have not been thrown away.

When the invasion of Keddah took place, the population of Province Wellesley did not exceed 5,000 souls.

It is now (October 1835) as follows :

|                   |        |
|-------------------|--------|
| Malays .....      | 42,500 |
| Chinese .....     | 2,252  |
| Chuliahs ....     | 549    |
| Bengalese .....   | 579    |
| Siamese .....     | 500    |
| Fluctuating ..... | 500    |

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Total souls, 46,880

The agricultural portion of this population is about 43,000, including sugar-growers.

|                                                        |     |
|--------------------------------------------------------|-----|
| The remainder consists of traders                      | 300 |
| Artificers .....                                       | 216 |
| Weavers (women) .....                                  | 490 |
| Day-labourers and poultry-collectors and venders ..... | 570 |
| Boatmen .....                                          | 945 |
| Fishermen .....                                        | 480 |
| Wood-cutters, &c. ....                                 | 748 |
| Dealers in cloth, &c. and hawkers                      | 531 |

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4,280

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POPULATION OF THE ISLAND OF PENANG.

FIXED.

|                                 |        |
|---------------------------------|--------|
| Europeans and their descendants | 790    |
| Armenians .....                 | 21     |
| Malays ....                     | 16,435 |

|                           |        |
|---------------------------|--------|
| Achinese .....            | 350    |
| Battas .....              | 561    |
| Chinese .....             | 8,751  |
| Chuliahhs .....           | 7,886  |
| Bengalese .....           | 1,322  |
| Siamese and Burmese ..... | 648    |
| Arabs .....               | 142    |
| Parsees .....             | 50     |
| Native Christians .....   | 708    |
| Caffres .....             | 180    |
| <hr/>                     |        |
| Total,                    | 37,844 |

## FLUCTUATING.

|                                                     |        |
|-----------------------------------------------------|--------|
| Native Military and followers,<br>averaged at ..... | 700    |
| Convicts .....                                      | 1,263  |
| Itinerants .....                                    | 400    |
| <hr/>                                               |        |
|                                                     | 2,363  |
| <hr/>                                               |        |
| Total                                               | 40,207 |

But it should be kept in mind that a great many of the agricultural class, as before observed, are shopkeepers, trade and otherwise employ themselves betwixt harvest and seed-time and also occasionally work as day-labourers.

The males exceed the females in the whole population by about 2,300, which is mainly owing to the few females amongst the Chinese, where the males are nearly as  $5\frac{1}{2}$  to 1 of females, and to the excess also of males over females amongst the Chuliahhs and Bengalees. The sexes are nearly on a par amongst the Malays, the males only exceeding by 112. If the reports of deaths are correct, they have been 404 for the past year, including accidental ones, which have

been unusually numerous. This would give nearly one in the hundred.

There are three large villages consisting, on an average, of 300 houses each, and also numerous smaller ones averaging from 20 to 50 houses each.

But the ridges of light dry soil which stretch along the country present, in some places for three or four miles in length, continuous villages, composed of houses with a garden surrounding each.

The average number of persons to a house is very nearly  $5\frac{1}{2}$ .

There are 21 bazars, 28 mosques of a slight construction as yet, 59 native schools in which from 300 to 600 boys are taught to read the Arabic character and get the koran by rote.

It is probable that this foolish system of instruction, although it is useful as mere discipline, will, in time, give way to a better.

There are in the Province, 321 large, and 850 small boats.

The births have not been given, as there is some doubt whether all have been fairly reported. In fact, it will perhaps be some time before correct inferences as to increase of population can be drawn from native returns, most especially as to the average duration of human life, which is a main element in such computations.

The remaining population of Keddah may be 20,000, although probably it is considerably less. But agriculture and population are fast retrograding there, under the rule of a people for whom the Malays entertain feelings of contempt and hatred.

And here it may be asked how has it come to pass that this Peninsula has not been fully peopled? for if the British possessions be excluded, it is believed that the remaining portion, including the Siamese provinces,

of Keddah, Ligor, Sangora, Daloong, and Patani, and the Malayan states of Calantan, Tringano, Perak, Salengore, and Johore, do not contain above 200,000 souls, as an indigenous population. There may be perhaps from fifteen to twenty thousand Chinese, who are seldom permanent settlers. Tradition, history, and architectural and other monuments for the past, and actual observation for the present, would sufficiently prove that there are but few obstacles opposed in this region to the increase of the human race.

Keddah and Patani were both populous countries before they fell under the Siamese dominion, but the population of the latter has fallen from one hundred to ten thousand souls. Were population to advance from this date over the whole of the tract in question at the same rate that, as far as returns go, it appears now doing in Province Wellesley, it might be fully peopled in an assignable period. The cause of the depopulation it has suffered can easily be traced to the despotic and barbarous rule of disjointed, as well as concentrated, native governments which inevitably tends to shorten the mean duration of human life by debasing the moral and weakening the physical energies and capabilities;—to foreign invasions including those of the Portuguese; to constant internal predatory warfare; to the diversion of trade into new channels and into more expert hands; to changes in religion, and lastly to a circumstance, without which some of these causes might not have so widely operated, the facility for emigration afforded by the numerous rivers and creeks which intersect the country.

It may safely be predicted of this region that its regeneration will never be effected by a native government. However just the principle of population defined by Malthus as an abstract one, may be ; and

he himself only states it as a conditional one, the check to its operation here would be sufficiently consolatory to the mind of any person disposed to hold that principle in an absolute sense. As no condition could be supposed more desperate and hopeless for man than an increase in his numbers until he had over-peopled the whole habitable globe, so has nature wisely rendered such an event impossible ; and it behoves man to strive to spread himself over the earth so that his numbers may not be *diminished*.

The case as regards the Malacca Peninsula might not, indeed, be deemed quite hopeless were it likely, which at present it is not, that European protection will ever be extended to its inhabitants in the mass. European colonization, in the strict sense of the term, would, it is imagined, be hardly contemplated under any circumstances, when it is considered that the climate, although salubrious, would not admit of Europeans labouring in the fields. But in a confined and local sense, it exists already. Capitalists, whether agricultural or mercantile, are the proper Straits' colonists. Europeans, in any considerable number, without capital, would be an evil. Emigrants from the hottest parts of America might possibly be able to endure the climate better, but it is too well known, that in the southern states the existence of slavery testifies that the present race of whites yet retain some of the blood of their northern ancestors, and are unfit for labor under the rays of a tropical sun. Slavery, when it did exist in the Straits, was of little or no advantage to *capitalists*, although free labour was high ; the latter being generally preferred ; and it would have certainly been no boon now, had it not even been abolished, since labor has fallen to about two-thirds of its former price.

It may here be as well to remark that, with reference to the above respective dates of cession of Pe-

nang and Province Wellesley and to the provisions of the New Charter of the Hon'ble the East India Company, Europeans, it appears, may settle on the former without a license, but that a license is required to settle in the latter. Many Europeans nevertheless are proprietors of land in that Province.

Reverting to Province Wellesley, it is clear that the State or Government had the power, at the period alluded to, of taking, had it so chosen, the whole of that produce which was surplus to the cost of production ; meaning thereby, the capital expended with profit thereon, and the wages of labor, as its share in the capacity of landlord alone. Even admitting that fertile waste-land could have been had for a very trifling price or for nothing, still it is certain that the fertile land then in cultivation, or which might be cultivated, would yield a rent ; and in fact, the former did yield one equal to an eighth part of the produce on the richest soil. It required capital and was a work of some time to clear the natural forest, and the cost and trouble of clearing good and poor land was alike for each. But even if the ryot received in perpetuity land which could not, and did not, pay any but a nominal rent, then he was a manifest gainer, even allowing that the cost of clearing only repaid him for his mere labor and trifling outlay ; for the land became of exchangeable value from the moment it was vested in the occupier, and it might in time be so improved, or external circumstances might so affect it as to cause it to yield a rent which would increase that exchangeable value. And if the ryot could get good land, paying rent at the above rate of an eighth which would secure to him one-half of the actual produce, he might not feel disposed to go to a distance in quest of waste land. Rent on the best land, at that period, was just one-half of what it is now.

The Government might then have taken what was thus detached in shape of rent in the richest soils, and a decreasing proportion of what might have been separated on all lands of an inferior description, down to the land which merely returned the costs of cultivating it ; and could not therefore, until highly improved, afford to pay any rent. Such a moderate rate of rent would, if not counteracted by external circumstances, have stimulated rather than impeded industry and population.

As it happened, the mass of the emigrant population were pressed for the means of subsistence, and the question of rent was hardly attended to by them. They would have gladly, at least for a while, have cultivated the land on such conditions alone as would have allowed them nothing but a bare subsistence.

But altho' the power existed, it might not have been deemed prudent, by too early an attachment of rent, to run the risk of discouraging a people, who were new to our customs and laws, or of checking those first and ardent agricultural endeavours which could alone generate a capital on the soil and keep up the stimulus for the future. The backwardness of cultivation, previous to the period in question, was not so much owing to a want of capital as of inclination to detach it from the more lucrative paths of commerce. The new cultivators were located on certain conditions, the chief of which were, that they should clear and cultivate within a given period, generally two years ; and after this, receive a grant in perpetuity at a quit-rent to be fixed by the Government.

Thus the humane intentions of the State were seconded by the confiding disposition of the people.

Many of the lands so located were subsequently for a while granted to the occupiers at the nominal rent, or quit-rent, of 20 cents of a dollar, which could not

repay the cost of collection, and which, for the average of rice land, is equivalent to only one 75th. part in the hundred, of the gross produce value.

If rent was given by tenants, as above stated when the richest land only was cultivated, and when plenty of fertile land was lying waste and could have been had for a nominal rent, it is a clear proof that here, at least, it was not required for the separation of the due proportion of rent from wages and profits, to wait until all the fertile land had been occupied and cultivated.

We are here, to prevent confusion throughout this branch of the enquiry, treating of *grain-land* only.

Thus too, although land equal in fertility to that which has been already cultivated is still lying waste, rents have nevertheless increased. As far as consumers are concerned, it matters little who are the producers, or whether the owners of the soil are the landlords or the labourers; nor, to the classes who supply articles of convenience and luxury whether they are paid from the rents of the landlord, or the profits of the labourer, tenant, and landlord, combined in one individual.

By a reference to the first part of this Work, it will be seen that the ryot under the old Keddah government paid a quit-rent equal, on an average of present prices, to about the 18th. part of the gross produce value, besides indefinite exactions. Six parts in ten are paid by Japanese farmers of grain-land produce.

From the *Undang Undang* or written laws of Keddah, the following particulars are extracted:—

“When a garden is to be sold, the trees are to be estimated at  $\frac{1}{4}$  of a dollar each and the amount will be the price of the land.

“What the Rajah has given, no one can take away—nor can any one sell land so given, without the Rajah's concurrence.

"The Rajah confirms the title to land bestowed by a Chief.

"The land is not to be mortgaged, but what is growing thereon only; and the person taking charge of a mortgaged garden will have one-third of the produce for his share.

"When a garden or campong is enclosed by other gardens, the proprietors of these last must leave a road for egress to the owner of the former, his elephants and cattle.

"Any one clearing distant forest-land may occupy it—and if he lives on it and any one seizes it, the latter will be to blame and a fine of 10 mas, or 5 Spanish dollars, will be levied on him. Should it have been abandoned for a year, still a fine will be exacted.

"Any one occupying garden-land without a title-deed received from the Rajah, will be liable to pay two-thirds of the produce to him. But this relates to land within the King's bounds."

A tenth of the crop is the nominal rent exacted by the Indo-chinese Boodhist governments, in conformity to their religious code, which came originally from India. But all the people of these countries are subjected more or less to forced services, which sometimes reduce them to a state little short of absolute slavery.

This rate of ten per cent. would scarcely ever have here exceeded four rupees an orlong on the very best description of soil, which is just one-half of the actual money-rent, and one-third of the actual rent in kind now paid by tenants or farmers to independent proprietors of land here.

When, from the advances of money which had been made by Government to the poorer ryots, and the extension of cultivation, the population had a clear course before it, it became necessary to make arrangements for securing to the State a fair *proportion* of what might separate itself in shape of rent. Those who came under the final settlement of lands already cleared and cultivated, could have had no reasonable cause for dissatisfaction, because others had

been so fortunate as to receive land nearly rent-free; altho' they might perhaps have had a claim to a proportionate release from any other possible assessments.

As it turned out, the greatest portion of the loans of rice and money, which had been humanely made to the emigrants by the Government, was applied to other purposes than cultivation, and was lost. That a capital has been generated on the soil by little else than the mere labor of the ryot, is a fact which every day's experience now proves, in the increasing intensity of the demand for waste-land without much reference to its quality where that is not very poor. When population was deficient, land excepting the richest, or that very favorably situated, could be had for a mere nominal rent, or really for nothing; but the case was materially altered when, instead of having 5,000 persons of all ages to feed, there were 15,000 persons, as in 1824.

To have given land then, for nothing, would have only taught a population to set little or no value on what had become really valuable, and would have called forth no more exertion than was simply required to supply a *pressing* demand for food: thus depriving the community of that surplus produce which would naturally be otherwise created, and the State of that fair portion of general rents required for the public expenses. The benefits on both hands were reciprocal, and could not be disunited without one of them suffering. One great advantage was derived to the future prosperity of the Province in the facilities afforded for making a pretty equal distribution of the lands. The allotments have varied, on the average, from two orlongs, which a man with a wife and household of perhaps five or six persons can cultivate, up to 40 orlongs, a quantity which some of the respectable ryots, who had many debtor-servants and larger households, can manage.

## RYOTS.

There could not be much to apprehend from such a low division as the first, for although its tendency would apparently be a still more minute subdivision, owing to the increase of the population and to the Mahometan law of inheritance, yet, the first cause would be countervailed by the checks opposed by the application of new capital, by improvements in cultivation and by individual extravagance; while the second would, as it every day is, be obviated and its effects evaded by the custom of not parcelling out small landed properties amongst the heirs at law, but of selling them in whole and dividing the proceeds.

The ryot, who should content himself with raising no more produce than he and his family could consume, would be rather an unprofitable member of society. But this could not happen amongst a large number, for as capital flows in from other places, or is created successively on the soil, so will the inducement to sell the grant or a lease, be increased; and a greater chance be afforded for more substantial proprietors and farmers being substituted. The ryot who can realize 20 dollars for an acre of land, removes to a waste spot, clears the jungle himself, and pays the increased rate of rent without difficulty.

It is indeed to be apprehended from the late rapid investment of small capitals,—some exceeding two thousand rupees, on land,—that, by the time when no more waste land will remain available, the causes already mentioned of increasing capital on the one hand, and of extravagance, improvidence, and indolence on the other, may induce a more unequal distribution than might be wished, and that the small class of proprietors who combine in themselves the functions of landlords, farmers and labourers will insensibly melt down and merge in the mass of tenants and labourers,

and when no more capital can be advantageously employed on the land, the probability is that wages and profits will be low, and rents high ; and as the cost of cultivation compared with produce, owing to the general fertility of the soil here, is now, and is likely to be in future, small ; so rents will bear a pretty equal proportion to the increase of produce derived from the improvement the land *naturally* receives from *regular* cultivation alone.

It is necessary to attend in an investigation of this kind, to the distinction which exists betwixt dry and wet land : one which is peculiar to those Eastern countries where rice constitutes the principal vegetable food of the people. There, although as before noticed, some kinds of that grain will grow on ground not exposed to be flooded, still in a country with a limited territory and an increasing population, such cultivation cannot be depended on for a constant supply of grain ; while it generally involves the serious objection to its utility, that under it, land is allowed one, two, or three years to recover itself. Whether hereafter the profits of cultivation will admit of the plough being applied to dry land with the view to a rice crop, seems extremely doubtful.

With few exceptions, the Malays decline to cultivate dry land permanently, unless it be conjoined with flooded rice-land. In the latter case, the dry land forms the campong or garden with the owner's house in the centre, and in it he plants cocoanuts, plantains, and other fruit trees ; sugar-cane, indigo, tobacco, pulses, and sweet potatoes. The proportions in which these two descriptions of land have been occupied may be about one of dry to ten of wet. It is the want of flooded rice-land which is now drawing away to Province Wellesley many of our Penang Malays, and probably the remaining quantity may serve to meet

the demand for a moderate period. When all the wet land shall have been located, there will yet remain several tracts of dry land, unless more capital shall have been employed on it than hitherto for the raising of produce adapted to foreign consumption.

The condition of the Chinese sugar-planters in the Province clearly evinces that neither they nor any other class of native cultivators, have the means of speculating extensively in the cultivation of such land without the support of mercantile or other capitalists.

It is not improbable that by the time, or perhaps somewhat before the time, when the present population, considered as mainly an agricultural one, shall have increased to one hundred thousand souls or a little more than double what it now is,—a period which will be shorter or longer, more perhaps according to the rate of increase by emigration, than of that by births,—the whole will have begun to press on the means of subsistence; unless, (and it is a very probable supposition,) an increased demand for luxuries and conveniences, and accumulated capital, may have begun to detach a larger proportion than at present, of the people, from agricultural pursuits. This process is in fact begun, and as there is already a quantity of grain produced surplus to that required to support the actual cultivating population,—and it is believed more than sufficient for the support of the non-agricultural portion also,—every increase in the quantity of produce will afford of a separation of this latter class from the former, in a greater ratio than that at which population is increasing; which would seem to be a sign that the people are becoming more easy in their circumstances, and that they will probably become more so as the mass becomes still more advantageously distributed. In the event of an unrelieved pressure taking place, the surplus population will

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be obliged to cross into the adjoining territories of Siam or of Perak.

#### RENT, PROFITS AND LABOR.

That men who have never been broken to the yoke of servitude under Malayan rule will emigrate willingly cannot be supposed, but if necessity compels a choice, Perak will be preferred. At this very period, a large party which had been allured by the fertility of the land on the south bank of the Krian river, just beyond the Honorable Company's boundary, are preparing to return and to abandon the lands they have cleared, for the greater safety enjoyed here.

Such, however, is the power of habit over the human mind, that should Keddah ever revert to Malayan rule—an event which, as things now rest, is highly, and perhaps, happily improbable,—the old despotism of its chiefs would be forgotten amidst the early associations which would be recalled, and part of the *tail* or older portion of the emigrants might return. It is now fourteen years since they fled with their families, and the rising generation can have little attachment to a country which a large portion of it never saw, and the other left at too early an age to feel much interest in its fate. They would soon feel the difference in the protection to life and property afforded by the new rule, compared with the security derived under the British flag.

So long as numbers of cultivators here go, so much as they do, on a borrowed capital, it will be impossible for them to give that rent for land which the latter ought reasonably to yield by the employment of unfettered exertions; nor can they be expected, under such circumstances, to become improvers in the mode of cultivating. The extravagant or improvident habits of many of these men, as well Hindostanee as Malayan, have reduced them to this necessity; one

from which numbers of the farming proprietors are not even exempt.

It is to be regretted that they do not find persons willing to lend at a fair rate of interest, especially as they can always give the security of the land. But pressed for money, they are glad to take the first that is offered, heedless of having to pay 5 per cent. per mensem interest for it. The lender either receives his capital and interest back in cash or in produce.

If the borrower were to pay back *both* at the end of the harvest, he might still go on prosperously. But the lender, if a cunning Hindoo, or Jawi Pukan, allows him too often some delay until he brings him completely in his power and then pounces on his estate. There is an excellent Regulation of Government that all mortgages shall be registered to give them validity; yet strange to say, it is every day evaded by both mortgagees and mortgagers, partly from those careless habits of business unfortunately prevailing our indigenous classes, and partly from a great dislike to attend at the Court of Judicature for the purpose of registry.

In nine cases perhaps out of ten, there is no deed of mortgage made out; the lender merely taking the grant of the borrower as a sort of nominal pledge, and calculating on the simplicity or ignorance of the latter for his not requiring its restoration until he has paid his debt. In this way titles are lost, or made away with, and much mischief done. In such transactions, the lender frequently receives one-half of the produce raised by the farmer.

But a cultivating proprietor could afford to give at the rate of 60 per cent per annum for capital, for a period of five or six months only, provided the land was good.

It may be suspected, however, that this high interest could not be paid for many successive seasons without detriment; and profits and rents being in a fair proportion, no tenant could afford to pay it at all; and if he did pay it, he would probably very speedily yield up his estate to his creditor. It is a rate which no respectable mercantile speculator can pay, and under every view, its payment may be considered as the mere expiring endeavour of the spendthrift or the insolvent.

The native *lenders* on interest are chiefly Jawi Pukans, Chinese, and Hindoos.

It is forbidden to the mahometan to take interest for money; and this fact, no doubt, prevents him deriving advantage from the Savings Bank lately established at this Settlement: although it may be doubted whether, if no inhibition existed, he would avail himself of this philanthropic institution so long as he could obtain 20 per cent. per annum without risk, and 60 or 70 without any very great risk. His religious scruples are purely jesuitical and never prevent him, when avaricious, from becoming a hard and griping usurer; the term payment, of a certain quantity of produce, being synonymous with that of interest.

When all the best and middling land shall have been cultivated, then the competition for profits will keep these down and combined with improvements in cultivation, will most probably raise rents.

It will appear from the statement of cost of cultivation before given, that much rent is lost by faulty agriculture; and it may be added, without involving a contradiction, by improved methods of cultivating; for in this latter case, the landlord has not been taught by competition to see his advantage in a rise of rent through its operation. The increased proceeds

in money, if not in both produce and money, by such improvements, are so much added to profits and stock. But the stock as yet forms only a small part of the whole appliances to the cultivation of the soil. These profits too must increase, if the price of produce rises, without a corresponding rise in wages or price of stock.

It may require more capital to keep pace with improvements, but rents will most likely rise eventually because profits will probably be higher. If rents and profits combined are now about two-thirds of the gross *produce* on the richest soils, without the farmer having sunk any capital worth mentioning on the land, then nothing but a want of competition can prevent a land-owner from taking two-thirds at least of such combined rents and profits in shape of money-rent; or even the whole of those, provided that, in these cases, he chooses to run the risk, along with the cultivator, of bad seasons, floods, droughts, &c. &c. and permit him to repay himself his third share out of the standing crop under all circumstances, or as far at least as the crop will allow of, and at a valuation corresponding to the average *yearly* price of grain.

But such a system would be doubtless injurious in the end, by cutting off those surplus profits which are the spurs to increasing cultivation and improvement, and which give the only chance for improvements being generally adopted; until, the whole disposable land having been cultivated, a pressure for food will force on improvements as a thing of course. It would be hazardous to attempt to fix the limit of agricultural improvement here, since the term is hardly known beyond the partial application of it in the manner described before, as that in which the plough is used. In this latter case the produce was very moderately estimated at 600 guntangs on the best land. But as

a sort of general rule for present purposes, the quantity of 640 guntangs has been assumed as the highest rate which *ryots* allow, under ordinary circumstances may be obtained from one orlong of land. But no correct information can be got from either landlord or cultivators. Actual experiment has therefore been resorted to, or rather a minute investigation of the ripe crops, and the results have been so far satisfactory as to prove that double the above quantity at least, or about 5,424½ lbs., could be raised on one orlong, provided the whole field could be made *equally productive with the portion submitted to test*, and this would, if only double, be equal to 187½ bushels, or 139½ bushels by measure, to the acre. It may be observed that the grain was not selected out of a field for examination, but was taken in the straw at random. But cultivation is subjected to so many accidents, that granting the possibility of such a rate of produce, we yet require facts to shew that it can be extensively realized, or even a near approximation to it attained by judicious management. It has been before observed that a *bunch* of rice is raised from six or seven seed plants. Bunches may be seen at this moment in Province Wellesley containing forty or even fifty stalks with an ear to each, and from six to seven feet high; and the average number of rice grains to an ear has been found to be about 250; and 360 have been counted in a single ear. Yet great fertility is often a negative advantage, when not accompanied by a disposition in a people to employ the leisure conferred thereby on a large portion of its numbers, in procuring the luxuries and conveniences of life, and when want of demand for these prevents its becoming a source of increasing its wealth; which last will be, of course, greatest, where a high degree of fertility exists along with such

a distribution of the people as shall create the most effective demand for produce.

These particulars have been here stated more as subjects of natural history, than with any desire that they be considered by the agriculturist as other than detached facts, from which no general inferences ought as yet to be fairly drawn; but which are perhaps useful, as shewing that he has not, in all probability, called forth the whole latent capabilities of the soil, or devised expedients to prevent the fertility, even already developed, from being checked by extraneous circumstances.

There are strong reasons for supposing that no improvements will ever be followed by a much higher degree of productiveness than that which is exhibited by the most fertile land when *first* thoroughly rescued from primeval forest. Unless the increase of produce were to be considerable, it would not, it is plain, be worth the while to go to the expense of improving. Hence, some of the best land, which has been upwards of fifteen years under annual cultivation, continues to yield such heavy crops that the owners or farmers do not find it requisite to give it any other than the usual dressing by plough and harrow.

It is only to inferior soils that improved modes will apply with a certainty of corresponding profits.

Had the soil here been poor, it would still have been cultivated through necessity, if not choice; but there would have been few or no rents, nor any surplus produce or surplus capital. Still the population would have advanced so long as land remained to give away; but it would have been little better than a pauper one. If the best land here should be found incapable of being profitably improved, the rents on it will of course not rise, unless the price of labour and stock fall, or the price of produce

rise, or these three contingencies happen at once. Rice-land, even of the best quality, depends for its fertility here on a sufficient fall of rain, on drainage, distance from jungle, embankments, and other appliances.

The number of ears of grain, however, are not exact indexes of the produce. Thus, 113 ears of the rice called *MayangSrati* gave one English quart and 13 ounces by measure, of paddie; while 193 ears of the sort called *Biyong* only gave 1 quart 4 ounces: again, 176 ears of *Pattet* rice gave 1 quart 4 ounces, while 196 ears of the kind named *Mayang Pinang* yielded 1 quart 4 ounces.

But if improvements do not increase the produce on the best lands, they will assuredly do so on all others in cultivation, until a regular and known gradation of soils, rents and profits is established; and if the former cannot be improved, which is by no means here asserted, they can, at least, be prevented from deteriorating.

Fortunately, the poor soils compose but a small part of the whole, and the very worst description, excepting what is absolutely sterile, may, by judicious management, yield a return, at least for labor, if not a profit.

In fact, the present profits of ordinary husbandry here are, owing to the bounty of nature, chiefly resolvable into the price of labor engaged on the land; and at the rate at which a ryot can live, he can obtain, even from poor land, a return ample when compared with the labor bestowed on it. But as before remarked, this arises from his not being entirely dependant on rice cultivation.

Were profits and rents, to be estimated at the rate of wages absolutely required to maintain the population, stationary, there can be little doubt, on referring

to foregoing estimates, that these profits and rents would be much higher than has been here allowed. But fortunately, from the demand for labor being considerable, and resources being at hand to counteract any relaxation in the intensity of that demand, the rate of wages is such as to admit of a surplus for conveniences; and if the labourer would not relax his efforts, but save when he might, then labor would rise, because competition would be diminished.

It would not be advantageous to the State, to the actual proprietor holding under it, or to the cultivator, were the latter to take poor land for a long period, or even for a moderate one, at an unvariable or fixed rate. In either case he would not improve the land, and would probably leave it in such a condition that it would yield no rent.

It is in favor of the supposition that poor land will rise in the scale of productiveness, and in value, that the price of the instruments of agriculture or stock, and the quantity of additional labor required for improvements on it, do not perceptibly exceed what are wanted for the cultivation of land of medium fertility. The chief increase of expense will arise from manuring. So that if wages should fall at the same time, a rent will necessarily be separated. Thus it should seem, that with a very trifling additional expense, poor lands will be cultivated without materially, if at all, affecting the rents or profits on good land; but while produce continues to increase on good land susceptible of improvement, the rents may not be actually proportioned thereto, although the landlord will, without doubt, if prudent, be able to obtain a larger share of the produce, than he before had.

Descending from the highest to the lowest description of rice land and assuming that the average rate of money-rent for the best land is 4 Spanish dollars an  
s.

orlong, or about one-sixth of the gross produce value; and *that* in kind, two conchas, or actually one-half of the produce; we shall have the following scale:—

## 1st.

## LAND OF THE BEST DESCRIPTION;—MONEY-RENT, &amp;c.

SPANISH DOLLARS.

|                                                                                                                    |    |
|--------------------------------------------------------------------------------------------------------------------|----|
| 1. Owner's, or landlord's, share according to present <i>custom</i> in money, per orlong, including quit-rent..... | 4  |
| 2. Tenant or cultivator .....                                                                                      | 12 |
| 3. Labor and stock .....                                                                                           | 8  |

Sp. Drs. 24

## RENT IN KIND, &amp;c.

GUNTANGS OF PADDIE.

|                                                                                                                                                                   |     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 1. Owner's or landlord's share, at pawah, i.e. one-half the produce, that being the <i>standing crop on the ground</i> , which he has to cut and carry away ..... | 320 |
| 2. Tenant's share .....                                                                                                                                           | 107 |
| 3. Labor and stock .....                                                                                                                                          | 213 |

Guntangs 640

## 2nd.

## LAND OF MEDIUM QUALITY;—MONEY-RENT, &amp;c.

SPANISH DOLLARS.

|                                                    |    |
|----------------------------------------------------|----|
| 1. Owner's or landlord's share, and as above ..... | 3  |
| 2. Tenant's share .....                            | 7  |
| 3. Labor and stock .....                           | 8  |
|                                                    | 18 |

## RENT IN KIND, &amp;c.

GUNTANGS PADDIE.

|                                                    |     |
|----------------------------------------------------|-----|
| 1. Owner's or landlord's share, and as above ..... | 240 |
| 2. Tenant's share .....                            | 27  |
| 3. Labor and stock .....                           | 213 |

Guntangs 480

## 3rd.

## THIRD-RATE LAND;—MONEY RENT, &amp;c.

|                                          | SPANISH DOLLARS. |
|------------------------------------------|------------------|
| Owner's or landlord's share, or as above | 2                |
| Tenant's share .....                     | 2                |
| Labor and stock.....                     | 8                |
|                                          | <hr/>            |
| Spanish dollars                          | 12               |

## RENT IN KIND, &amp;c.

|                                   | GUNTANGS FADDIE. |
|-----------------------------------|------------------|
| Owner's or landlord's share ..... | 160              |
| Tenant's share, none.....         |                  |
| Labor and stock.....              | 160              |
|                                   | <hr/>            |
| Guntangs                          | 320              |

## 4th.

## POOR LAND.

Labor at 10 pice per day and stock &c., Drs. 8

Return in Produce.....Guntangs 200

Scarcely repaying the outlay.

But as before observed, poverty or other reasons will induce ryots to value their own labor at a much lower rate, when employed on their own account, than when sold to another, so that it might be difficult to fix the exact limit where cultivation would cease.

By the Malayan method on which the above scale is grounded, we have a *rate* of rent in *kind*, and profits combined, which it is believed no land can yield in England.

In some cases the landlord gives a *nali*, or the tenth part of a *concha*, about half a dollar's value, to the cultivator, who then clears and plants. The young crop is then marked out into two equal portions. Each party takes one, and each watches his own, cuts the crop and houses it.

By this method the landlord may perhaps obtain a little more than one-third of the gross produce value.

At other times the landlord gives an advance of four or five guntangs for seed to the cultivator on whom devolves all the charges of cultivation ; when the crop becomes ripe it is equally divided while standing on the field, and each party cuts and carries away his own half.

The risks of cultivation are the chief causes of such differences in the money-rents and rents in kind. It is probable that these risks being diminished by improved management, the landlord will be able to get more, and that his share will bear an increasing proportion to the whole produce.

It is possible that land which yields only 100 guntangs will be cultivated, But this does not prove that the necessary price ought not to be higher than the amount of labor bestowed to obtain this quantity, any more than that the price of potatoes over Great Britain should be regulated by the rate at which an Irish peasant can afford to cultivate them.

The cost of raising two hundred guntangs of padi on one orlong of poor land, together with that of transporting it to market, will be found pretty nearly to coincide with its average bazar price ; although the latter is not the effect of the former, but accidental, and is constantly liable to variation.

It has been before observed that the present average interest on capital sunk on good rice-land is about 20 per cent. received as rent, in money. But it is clear, from the rates above given of rents in kind, that many a *cultivating* landlord may now actually receive on the best lands in favorable seasons as much as 80 per cent. clear profit ; while on the *third* rate land he may realize 30 per cent. ; and that his *rent* in kind, should he not cultivate, will, in the first

instance, give him 60, and in the latter case only the same, 30 per cent.

These rates are not, except in the above item of 80 per cent., higher than have been known in Great Britain, where even 60 per cent. has been realized under very favorable circumstances; although it cannot fail to be remembered, that in the latter case the capital embarked is much larger than that employed on rice cultivation, which is as yet a mere trifle, and entails no loss to a tenant at the end of a lease; but here a medium of 40 per cent. might be assumed so long as landlords could get one-half of the crop and seasons proved favorable,

A landlord here should not say that he ought to have any fixed proportion of the produce as his rent; for that last will only be the part or share which he can obtain under existing circumstances, so that, taking due care his tenant does not injure the land, he cannot further help himself against any slackness in competition, unless he farms the land himself, with all its attendant vexations.

To realize the rents in kind above stated, a landlord must consent to run all risks with a tenant, including those of his death or failure to cultivate, and be prepared to guard against fraud, which, unless he resides on the spot, may swallow up a large part of the rent.

The terms on which leases or grants for 20 years are now given by Government for waste rice-land, are so moderate that very considerable scope is allowed for realizing profits, and the Chinese have even embarked on the cultivation; for, as before observed, the ultimatum proposed as yet, after a sufficient number of years allowed for recovery of capital expended, will not exceed one-half of the rent actually now received by independent land-holders for the best soil. The

Chinese, and perhaps the other classes too will in various ways bring the surplus to contribute to the public prosperity and revenue.

The Chinese are so systematic, that next to European skill, their labors may be expected to bear the stamp of judicious innovations in cultivating.

In such a new country, landlords will consult their own interest best by leasing their newly-cleared lands for a few years at first, at progressive rates of rent, the last year's rent being calculated at a rate somewhat less than they might, in a sanguine mood, expect.

The present custom with land-owners is to grant annual leases (with a few exceptions) which not only checks improvement and lowers profits and rents, but if the land be not very rich, tends decidedly to deteriorate it; for the tenant cannot afford to embark any capital or stock in the cultivation, and therefore makes the most he can with the least possible outlay of capital and labour.

The landlord must, in the end, be fully reimbursed for his relinquishment of high profits for several years after the first occupation to his tenant, provided the land is capable of being improved so as to yield them; for these high profits will entice capital, which, when once fairly sunk on the land cannot be removed, leaving the landlord a greater gainer.

In some parts of China the owner gets 60 per cent. of the produce, the rate of wages being about 8 cents of a dollar. Two crops are taken and each individual bunch of rice is manured during its growth. The labourer occasionally gets 50 chee or brass coins (1050 nearly to one Spanish dollar) and his food as daily wages. The Chinese assert that, in this way, an or-long would yield 1 coyan and 160 guntangs of paddie.

Rents in England are averaged at one-fifth of the gross produce. The average money-rent here at pre-

sent for all land, agreeably to the statements which have been before given, is nearly one-fifth. But it is believed that the rate of profits in the latter instance is much higher than in the former. But the tenant and his family are also the labourers; so that he, with some items of expense deducted, actually receives all but the rent.

But Adam Smith has laid down, that a larger proportion of produce should go to the landlord in *rice* than in *corn*, meaning, *wheat* countries, owing to the difference in the cost of cultivating each.

In this paper, rice has been considered as *corn*, for what are we to understand by that term but the indigenous grain food of any particular country?

It is not desirable that very large capitals should be here invested in *grain* land by a few individuals, as, from the limited extent of territory, this might become a sort of monopoly; and because, if carried beyond a certain point, consumption will be checked and population retarded: nor can it be desirable that too minute a subdivision should take effect so as to place land in the hands of those who cannot afford to improve it. But in other kinds of land the more capital which can be embarked the greater will be the stimulus to industry and to population, and the greater the benefit to the State and to society.

As matters now rest, the lessee for a period of five years of cultivated land might easily recover his capital as well as profits, provided the rent was moderate; yet the landlord would reap in the end the benefit of this capital in as full a manner as if it had not been withdrawn. In fact, it would remain with the land.

It is plain that in a lease for a much longer period than five years, say for 20 years, the tenant might, without any considerable outlay of capital, and by an

increase of prices without an increase of wages, derive an enormous profit, and the landlord none.

But the granting of short leases of two or three years, although it gives all that the land under the actual condition of produce, prices and competition can yield as rent, is, in effect, only killing the "golden goose" and shutting one's eyes to what it would lay if carefully tended.

It has been stated in the account of the value of grain-land that the price had risen, and in some instances had been doubled; but the actual number of years' purchase of land ought not here to be estimated by its price; for, as generally elsewhere, it depends on the supply of capital. But the actual price has also been most materially enhanced by the constructing of new roads, without which, from the difficulty of conveying the surplus produce to a market, profits and rent must fall and cultivation be checked. But such has been the rapid spread of cultivation that several fully-peopled tracts are still in a manner inaccessible to pedestrians and only to be crossed on elephants for six months in the year; prices therefore are here low and produce costs so much to bring to market and is so insecure, that rents are precarious: these wants, new roads will in time, it is hoped, fully meet. The sudden rise here has not been owing therefore to increased productiveness in the soil, to higher prices of produce, or to a fall in the wages of labor; but merely to the fact that individuals, having small capitals which the state of trade deterred them from risking in it, found it safest to invest the same in land. If the landlord were to take one-third of the gross produce, then the average number of years' purchase, if so estimated, of good grain or *rice* land would be about six years; and for the best land five years; reference being here had to recent sales.

The agriculturist here will probably lay out part of his accumulations under all circumstances in buying land ; but if more than 30 per cent. can be safely and quickly had in trade, it is obvious that mercantile capital will not be largely embarked in it.

The estimated value of the whole grain produce will be more particularly noticed in the sequel. Three of the chief elements of the prosperity of a community have been already developed in our small *agricultural* one, an increase of capital, an increase of produce, and an increase of population. Those yet wanted are a more favorable modification of the moral, and developement of the intellectual faculties, by which, last, wealth is chiefly created by the stimulus knowledge gives to industry ; also high market rates of produce, and a more liberal system of cultivation. It is more to this last, than to any increase of population or fall of prices of labor, that we are to look for a rise of rents beyond what they should now be with reference to profits, now derived by farmers. Surplus produce will probably for a while outstrip population, and raise wages. The labourers of one season will become the buyers of labor in the next, by occupying land themselves ; at any rate they will be so many less in the labor market, and this gradual drain on the labouring class will go on until all the grain land has been cultivated ; and unless serious failures of crops take place, will increase the price of wages. Competition will then probably depress the profits of capital employed on the soil, and wages will fall from the pressure of population on the means of subsistence ; while rents will absorb more of the surplus of produce over the bare costs of production than formerly ; these being of course graduated according to the degree of fertility of the soil.

By the time that rents have thus assumed a definite and tangible shape, divested of the risks and inconveniences now attending their realization, the *farming land-owners* will have risen to the condition of landlords living on rents alone. But if, from the peculiar situation of this coast, the capital generated on the soil, or that derived from trade, or from the influx of substantial settlers, a larger number of cultivators than there is at present, in proportion to the whole population, should be separated from the agricultural mass, then the above suppositions may not be verified. In such a population as ours is, hemmed within a narrow space, it is greatly to be wished that a fair proportion of consumers, or rather of persons employed in trade or in other pursuits, should accompany our increase of agriculturists.

Land, in its natural state of tall primeval forests, as it exists here, cannot be said to yield any rent. But the poorest land reclaimed from this jungle, although it may be incapable of being advantageously cultivated, will yield a small rent as pasture for cattle. There is hardly any natural pasture; so rent is included in the price of all cattle, more or less. After harvest, the cattle are generally allowed to range the stubble-fields, then dry, free of rent. Yet owners of poor land are often glad to allow any one to occupy it on the mere condition of keeping it clear of jungle, looking forward to the chance of its increasing in value, when land shall have become scarce.

The rent, therefore, which land might be supposed to yield on its natural state, but now yielding only 200 guntangs an orlong, cannot be taken into the account. It cannot be expected that land less productive than this will be cultivated at a money-rent unless through necessity and the fall of wages, two alternatives becoming every day more distant. But land

down to that which will only now give 100 guntangs, may and probably will be, cultivated during such term as it may be given rent free, or perhaps after, at a small rent; because, estimating his labor as it suits his caprice, the ryot will repay himself for it in produce, will have the collateral advantages of a land-owner or settled farmer, before noticed, and have the chance of its rising in market value by the application of new modes of cultivation to it.

That large importations of grains into this settlement, where labor other than agricultural can find but scanty employment, would, if that grain were to be sold at a price considerably below the average market price of grain grown here, and to be of a quality equal with, if not superior to this last, tend to throw out of cultivation, to a certain extent, such land as could not yield more than 200 guntangs of rice in the husk,—may be true. Yet, if we look to the trifling effects which large importations have already had in reducing prices, and to the inferior market worth of the greatest portion of these imports, compared with that of grain grown here, no reasonable cause of alarm would seem to exist. As no country is exempted from the evil of a failure in its crops, so it is an advantage to have a resource at hand even at the expense of diminished profits. In 1808, there was a great scarcity in Keddah of rice, owing to the murrain amongst the cattle; and in 1822, there was another scarcity. In 1824 and 1830 there were severe droughts. In a limited territory like this, rice cannot be permanently in excess to consumption; since, if cultivation did not halt so as merely to keep the population stationary, that surplus would, in time, go to increase population and consumption. When cultivation has proceeded so far as to leave a surplus over the consumption of the settlement, a thing which may happen—

provided a sufficiency of rice land still remains unlocated, but which cannot be ascertained until such land (which is yet under forest) shall have been cleared, and roads opened across it; then unless the population shall also have been in an equal state of progression, importations will cease, for the competition of sellers will tend to reduce prices. There is always a fall of price immediately after a full crop here, partly because the poorer cultivators are more or less pressed to pay advances made before harvest by speculators, and partly because *new* rice is never in great request by immediate consumers, as it is considered unwholesome. What the respective cost of production is of Java, Tennasserim, and Acheen rice, at this moment, I have no ready means of ascertaining. Placed here in the order of their supposed market value, the extent to which they can compete in the Malayan market with this coast's produce, or what is usually called Keddah rice, will, no doubt, depend on that cost, in each case. Keddah used formerly to export 2,000 coyans of rice. But the average importations from thence in 1820 were about 100 coyans only of paddie, and 50 coyans rice. That country is now fast sinking into agricultural insignificance, although for a while it will probably be a market for our grain, to counterbalance the fall of prices here from importations from other countries. In the same year, the average annual supply of poultry was 80,000.

It is a theorem with some political economists, that if the last land taken into cultivation be rich, capital will be scarce and profits high. But this supposes an unlimited extent and choice of land. Here the last lands which have been taken under culture are of various degrees of fertility; yet capital sufficient for carrying cultivation rapidly on, is by no means scarce, and profits may be considered high. It is probable

that the territory being limited, the last or long which will be brought into cultivation will be as fertile as the first land cultivated, and that then capital will be abundant and profits on capital and stock small. But this will be the effect of the population having then no more land to choose from.

In a previous part of this Paper it has been shewn that the population, altho' chiefly agricultural, is yet supplied with numerous other sources of gain than that derived from the soil. So long as these keep open, and increasing cultivation draws more largely on the labouring class to supply the new ranks of farmers, the price of labor will not fall below, but probably rise considerably for a while, above its present average rate.

Were these sources cut off, which is a very improbable supposition, the chances being in favor of an increase to them, the labor market would be so glutted as to reduce the price of labor to the lowest possible scale. For those who now live comfortably, and even for natives luxuriously, on the means derived from these sources, in addition to the produce of their land, would be thrown for subsistence entirely on that produce.

It is during seed-time and harvest that labor is in greatest demand. But improvements in cultivation would diminish the demand considerably. Farmers all over the world have, at one period or other, been obstinate, prejudiced or supine, and have but slowly and suspiciously followed in the tract of improvement. If the prudence of a few ryots who have allowed themselves to be convinced of the superiority of the sickle over the ringgam will be generally imitated, this one improvement or saving alone, will materially reduce the price of labor and add to profits, for there are no manufactures here sufficient to absorb

the surplus labourers. The unproductive consumers here are those classes variously engaged beyond the sphere of agriculture ; but many of these pick up but a very moderate subsistence, and if labor was to rise, they would become day-labourers.

It is impossible that either the demand for or the supply of labor can be equable, where the chief grain produce is rice ; and especially where artificial wants are not numerous. If crops be abundant, they will induce a less supply than before, of labor ; if they fail, the supply will far exceed the demand. The will to employ and the will to be employed will not always meet on equal terms. As a taste for luxuries gains amongst the people, time will become of more value to them, capital will be more freely embarked on the soil, labor will fall, and profits rise. The natural price of Malayan labor here will probably be, in a great measure, regulated by the actual demand for it in rice cultivation, without reference to the market price of labor on the Island (to which place the Province labourers are averse to go, because they have to leave their families behind,) which last is dependent on the supply of Chinese and Chuliah labourers. The owners of land of every class generally prefer Malayan labourers in their rice-fields.

But if the cultivation of Sugar, Indigo, Coffee and other valuable *exportable* produce were to increase greatly or even moderately beyond the present extent, a constant demand for labor would arise, and the labor bear a higher natural price, unless affected by external circumstances, until grain cultivation had reached its extreme limit, and population become in excess ; when, should the market price of grain not rise, it would necessarily fall, carrying along with it a portion of profits, but leaving the rent untouched.

As facilities for the distribution and sub-division

of the land from the first existed, and still exist, the number of small proprietors who can do no more than support a family on the surplus produce, after paying quit-rent, will bear rather a large proportion to the more substantial land-owners.

It is natural to suppose that the capital accumulated by the latter, joined to the necessities of the former, will gradually swallow up these smaller *yeomen*, and reduce them to the class of tenants or labourers; and since capital will probably be then superabundant without the means of employing it further on new soil, the price of labor will necessarily retrograde.

But it is possible that, before this can happen, increased civilization will have new channels for employing the savings of the landlord and farmer. If however, this should not be the case, the population will be forced either to remain stationary or to resort to emigration to get rid of its superfluous members.

#### HARVEST, FOOD, &c.

Women are the principal reapers or rather pluckers of the grain-fields; but when the more expeditious way of reaping by the sickle is substituted, men will be most useful. At present, a very expert reaper can cut 50 *gomeh* in a day. A *gomeh* is as many of the upper parts of the rice stalk, with ears attached, as may be grasped by one hand. Of this quantity the reaper never receives less than 10 per cent. and often more. But at this rate he will get about  $7\frac{1}{2}$  *chupahs* of paddie or  $3\frac{1}{2}$  of rice, the value of which will vary from 8 to 12 cents. A family of five persons, at an average of only 30 *gomeh* each daily, can, by unremitting labor during the two harvest months, at the above per centage, obtain rice enough for six months' consumption, or ample food, by exchanging a part of this, of the usual descriptions, for three months, including rice. In this case, labor might be

considered dear, and so it would be, had the poorer labourer the option of constant work.

A Malay is frugal in his diet. Fish is his chief animal food, and he seldom indulges in buffalo flesh, except on anniversaries, marriages, and other occasions of rejoicing. But he is, nevertheless, of an extravagant turn, and fond of dress. He will subsist easily on a fare which a Chinese, whose habits are grosser, would consider meagre and unsubstantial. But frugal as he is, he never stints himself in quantity; and could easily be undersold, in the labor market, by a Chuliah, provided the latter chose to make his stomach the regulator of his demand for wages; for no class of men can here subsist on less than a Chuliah can; and it is this circumstance which makes him, excepting as a labourer, a useless subject, since his savings are rarely spent on the spot, but sent to his family in India, while Chinese and Malays spend theirs liberally enough, in whole or in part.

If the Malay would only tax his physical capacity to its utmost extent, he might drive the Chinese quite out of the labor market, and that without his actually performing the same quantity of labour as the Chinese; for the latter could not here long endure any further considerable diminution of his means of obtaining luxuries, as well as food.

The price of Chinese labor has already fallen by one-fourth part below what it formerly was, owing partly to the diminished capital in circulation, but chiefly to the competition of Chuliah and Malayan labor. The difference in the physical strength of a Chinese and in that of a Malay is less than the moral distinction existing betwixt the two. At present the latter cannot be easily kept to steady *monthly* labor, and generally prefers low wages paid daily, to better wages paid monthly. His surplus wages, if not

squandered in extravagance, chiefly go to raise up a family, while those of the Chinese are remitted in whole or in part to China to support parents or near relatives, in doing which they rather comply with imperative custom, and are actuated by the dread of supernatural punishment denounced against those who neglect the practice, than by any strong feeling of affection.

Although the Malay is, on the whole, frugal in his diet, yet the grain, or farinaceous portion of it, is, of the best description, indigenous to the country he inhabits. Were he to be as easily satisfied as the African or native of South America, he might subsist on maize and plantains, here both abundant, and discard luxuries. Whatever might be the abundance of other grain, roots, and fruits, a scarcity of rice would be by him considered in the light of a famine.

In the scarcity which happened several years ago, a great portion of the population subsisted on a mixture of vegetable substances; namely, maize 4 chupahs, rice 1, arrow-root or sago 2; which afforded food for one day to 7 persons, being 3 cents of a dollar for each. A higher rate of wages would not greatly alter the food of the people, and a larger surplus for obtaining articles of convenience and commerce, would remain. A European journeyman labourer might here be subsisted as follows:—

| CENTS.               |     | CENTS.           |   |
|----------------------|-----|------------------|---|
| Bread, 1½ lb. ....   | 10, | or Rice.....     | 3 |
| Beef, 1 lb. ....     | 8,  | Fish ....        | 5 |
| Fish, 1½ lb. ....    | 2,  | Flour ....       | 2 |
| Milk.....            | 3,  | Milk ....        | 3 |
| Tea, Sugar, Salt &c. | 8,  | Tea, Sugar, Salt | 6 |
| <hr/>                |     | <hr/>            |   |
| 31                   |     | 19               |   |

So that were he to receive 40 cents a day, the highest wages given to journeymen Chinese carpenters,

and which borders pretty closely on the rate of day-labor in England, he would have a yearly surplus for clothing, lodging, &c. of about 6 £ sterling. A day-labourer in England is able to earn about a peck of wheat, in good times, daily. An American help can earn two pecks. A common Chinese labourer here can easily enough earn one peck of rice. The peck of wheat is about the average value here of 22 cents, and the peck of rice about 17½ or 18 cents. A Malay can earn nearly half a peck of rice daily. In China, it is understood, the agricultural labourer cannot earn above 12½ pecks of rice in a month, by daily and *uninterrupted* labour.

There can be no doubt that wheaten bread is a more nourishing substantial food than rice, and yet the latter is well adapted to the climate and people, and Europeans in the East often immensely become greater consumers of rice than of wheat.

But wheat requires to be ground, and made into bread before it becomes fitted for general consumption, while rice is used immediately after being cleared from the husk.

A reference to Europe prices will shew that a peck of wheat there will probably always purchase one-third more of other commodities than a peck of rice will here.

Wheat being thus a much more substantial food than rice, it will exchange for much larger quantities of other commodities than rice will. But the difference betwixt the price of a peck of wheat and a peck of rice is about 4 cents only, and sometimes less, the dearness of wheat compared with rice lying in the cost of preparing it for food; while rice, after the separation from the husk, requires no grinding and baking to make it ready for use. A cattie or one and a third lb. of fine flour costs 10 cents, of coarse flour 7

to 8 cents. The same weight of rice costs 2 cents or nearly so, and a catty weight of rice-flour 6 cents. The prices fluctuate a little. They are more or less than here stated.

It is of consequence to notice another species of labor distinct from day-labor, and perhaps in some respects peculiar to this country. In 1820, The Hon'ble Mr. Phillips, then Governor of Penang, by humane and just regulations, paved the way for the speedy extinction of slavery. This was chiefly effected by taking, as a stepping-stone to the final object, the system then co-existing with slavery, of selling service, —or the debtor-servant system, as it is here called. When at length slavery was abolished by Act of Parliament, the system alluded to remained under the wise restrictions which had been established, and it still continues to operate, but with diminished strength. Wherever a debt is incurred by which the debtor is bound to a certain service, the period of that service is fixed by the magistrate of the locality, agreeably to equity, and the debt, at the expiration of the period, is totally cancelled. Formerly a man would bind himself and his whole family to repay his debt. Now he has not the power to include the latter. No debtor-servant agreement, not signed and acknowledged before a magistrate should be valid, and if the debtor-servant be a female, and her master should place her in his harem, she is immediately released from her debt.

Persons must have attained to the age of discretion before they can incur a debt of this kind, and neither parents or guardians can contract such in their names. Debtor-servants, especially the men, as might be expected, are indolent and improvident, and the worst of labourers; still the settlers, from long custom, do not seem yet quite sensible of their inefficiency.

In a few cases, the women, as household servants, may be useful. The debt of a man and his wife sometimes exceeds £10, for repayment of which they can give no security but their labor, so that the risk of employing such persons is great. These people are also inclined to theft, and their idle habits too often lead them into companionship of desperate men; which ends in robbery.

As a system of labor therefore, it is expensive, dangerous, and demoralizing; it fosters idleness, and represses honest ambition.

The value of such labor can scarcely be put on a par with that of convicts, and the sooner unshackled labor is solely resorted to, the more speedy will be the moral improvement of the lowest and poorest class, which alone is affected. The system seems already dying a natural death.

If the labor of a gang of 100 convicts, with the usual complement of overseers, was to be computed, and including only current charges, it could be easily shewn that the quantity of labor which could be obtained from the free-labourer, at the same cost, would, on the average, be somewhat more than double that derived from them.

The difference arises partly from the difficulty in getting the convict to exert himself, and a good deal from the number of days deducted on which work is not performed, such as Sundays, and native festivals; also deductions for sick in hospital, which are large when roads are in progress through swamps and jungles.

It is only when free servants cannot be procured for certain menial employments of the lowest description, as is the case here, that convicts will be employed by private individuals; and even then the expense will generally equal, if not exceed, that of similar servants in India, while the work will be less satisfactorily performed.

The employment of convicts in Province Wellesley has been a great boon to the people, and has contributed most materially to the advance of cultivation and to the increase of prices and rents, in the districts where they have been stationed. But 100 men, —all that can be yet spared from the Island,—with all the drawbacks above stated, effect but little in a year in an area of upwards of 120 square miles; a whole dry season being sometimes spent in driving a causeway over a mile or two of deep morass, and a couple of months in erecting a single bridge over a deep muddy ravine accessible to the tide. The population have frequently, in their idlest months, turned out with spirit to assist in felling the jungle in the line of a new road and in filling up deep hollows, and are quite alive to the advantages of good roads.

In treating of wages it may be proper not to omit the consideration of the comparative value of the Precious Metals.

#### PRECIOUS METALS.

These are here exchangeable for a much larger portion of labor than in Europe, because they will purchase five or six times the quantity of the ordinary food of the people, in the first instance, than they will do in the latter.

The difference in the value of gold betwixt the Straits and England may be, on an average, 7 per cent. in favor of the former, rating the buncal of gold here at 29 dollars value. But it occasionally rises to 32, which would balance Straits and Home prices, or nearly so. There are no silver mines known on either shores of the Straits, which may serve to keep that metal at a higher value, comparatively, than gold. The market value of pure silver may be stated at about 12½ dollars per lb. Gold is found pretty abundantly throughout the greatest part of the volcanic

belt of the Eastern Archipelago, including the Island of Sumatra, and mines of it have, for a long period of years, been worked on the Malacca Peninsula. The following places in Sumatra yield gold : Langkat, Bulu China, Delhi, Kerdang, Kikag, Jambi and Acheen. In this latter portion of Sumatra, gold formerly abounded more than it now seems to do; or perhaps the anarchy under which that country has, for many years, been labouring, has prevented the mines being worked. A good many years ago, as the Achinese relate, a lump of native gold, weighing upwards of one cattie, rolled down from a hill, and a mass of rich ore, weighing nearly a picul, was found at a place called Analahboo.

The exportations of gold from Penang seldom exceed 20,000 drs. annually, but that from Singapore is greater.

M. De La Loubere observed, in his History of Siam, that no vein of gold or of silver had been found in that country which had repaid the costs of mining.

A mine was opened, many years ago, at a place called Khoan Thang Sook, lying on the western shore of the gulf of Siam. But the supply is precarious and would appear to be expensively obtained. In 1805, the emperor of Siam sent 2,000 men, during the dry season, to get a supply of gold from this mine for the purpose of gilding pagodas. By washing the sand of a river and the soil on its banks, they, as it is stated by the Siamese themselves, procured 40 catties weight of gold. The matrix appears to be a red earth. But we cannot judge of the cost of its production when forced labor was employed to obtain it. Mr. Crawford states, in his History of Siam, that the gold found on that coast is 19 carats fine.

Gold mines exist in the country of Patani, lying within thirty miles of our frontier here. They have

been abandoned since the Siamese got firm hold of that country. In Pahang, further down the Peninsula, there are about 600 Chinese who mine for gold, which is said to be *sambilan mootoo*, or of the ninth touch. It is sold on the spot at about 24 dra. the buncal. In favorable spots it is alledged that a man can obtain a dollar's worth of gold here in one day. There are 400 Chinese at the Tringanoo gold mines where the gold is reported of the 7th touch, and 800 in the petty state of Calentan where the gold is of equal fineness. There is also a good mine near Mount Ophir, east of Malacca, which is worked by Chinese, and there is no doubt that gold exists in the mountain Gunong Cherrie, which terminates our landscape to the northward, with such a magnificent effect. In fact, it can scarcely be doubted that this metal is very largely and widely diffused over this Peninsula and the Eastern Islands. It is also disseminated thro' the tin ore which pervades more or less the whole primary formations of the same track. Even with the Chinese, the following up of a vein is a thing never perhaps attempted; their operations depend chiefly on muscular force, and shafts are abandoned when their water-wheel ceases to drain off the water. Lateral shafts are hardly known.

The Malays collect gold dust by washing the sand of rivers. Thus, it would appear, that if the price of gold was to be regulated by the labor or cost of mining it, we should arrive at no satisfactory conclusion, since the return which might encourage a Malay, would discourage a Chinese, and as the Chinese by greater skill and industry can afford to keep up the price while the Malay will be glad of a smaller profit.

Besides, the cost of gold as a mere article of commerce,—which it is in the Straits, where there is no gold currency,—would not, under any circumstances,

be entirely regulated by such costs of production. The mines lie in the midst of mountains and in tracts, the inhabitants of which have little intercourse with the coast. So that the gold will be, as it has always been, monopolized by native chiefs and traders, the moment it is out of the mine. The Mount Ophir gold, from a specimen of ore sent here several years since, appears to run in veins through quartz, and as this quartz itself exists principally in the state of broad veins in the primary rocks, we may have some idea of the perhaps inexhaustible quantity of that metal in the regions adverted to. Demand, after all, must fix the price of gold, and as this has fluctuated greatly, the number of miners have diminished considerably within the past few years, if the information of the Chinese may be depended on.

#### DRY LAND.

*Dry Land* or land, not periodically flooded, here being as yet but little available for grain produce, its value and that of what can be raised on it cannot be submitted to any known rules. The varying quickness of returns, owing to the nature of the produce raised, and frequently the still more fluctuating nature of the demand for that produce, render the cultivation of dry land more or less inappreciable by any standard of cost and prices founded on the mere price of labor. Although the price of labor for raising many exportable sorts of produce will, to a certain extent, affect profits, yet the latter must essentially depend on the intensity of demand for them. Labor will enter into the price of some of these, but in many it will hardly appear; while the demand is great. High or low wages, in such instances, are not the causes of high or low prices: but high prices will admit of high wages being given, while low prices will probably prevent wages being given at all. In some commodities—

the valuable spices for instance,—prices would perhaps be the same even if rent were not to be paid, because they are, in a great measure, *natural monopolies*.

While the rent of rice-land depends greatly on the produce, that of dry *land* will be regulated principally by the situation of the latter. Coffee, spices, or sugar are not absolutely necessary to support life. They might be dispensed with altogether without endangering man's existence. The demand for them will always, therefore, be the cause of their price, and so it will be of rent.

It has been shewn before, that as yet, the rent here of valuable produce, such as of spices, cocoanuts, &c. bears an unequal proportion to the original outlay of capital, so as often to induce the proprietors to manage their own estates. This arises from want of competition and capital, from ignorance of the mode of managing the different kinds of cultivation, and in some degree, from the fluctuating nature of *prices* and risks in general.

It is quite clear that, until the capital originally expended on valuable dry cultivation, with the customary profits thereon, has been recovered, there can properly be neither rents nor profits, the apparent profits being only interest on the capital; and that, if the demand will not suffice to return this capital, and a fair addition beyond that, the pursuit must cease. The risks sometimes are great, even when the person running them is the actual landlord, and would be increased were he only to be a tenant.

Supposing, for instance, that a cocoanut or spice planter were to take dry land on a 20 years' lease; one-third of that period will have passed before returns to any amount come in; and how many years beyond this will suffice to repay the original and cur-

rent outlay and interest,—deducting the produce he may obtain,—must quite depend on demand and the thousand circumstances which affect it ; while every year reduces the exchangeable value of the tenure, until it loses nearly all value *in exchange* from the uncertainty of the future after the expiration of the lease. The cultivation of sugar and indigo, with some other produce, which, like these, yield quicker returns, are not so much within the scope of these remarks.

In Europe, it is dry land, excepting where rice is partially cultivated, which yields the chief food for the people. Here, the distinction betwixt the dry and the flooded is so marked, that unless we were to suppose it possible that an insuperable bar could be opposed to emigration, causing a resort to inferior kinds of food to be only obtainable by a double portion of labor on dry land, and thus doubling population without an increase of surplus,—if indeed any such surplus produce could then exist,—we should be constrained to admit that, in so far as regards dry land here, the population on it can never press against the means of subsistence. The value of dry land is therefore greatly inferior to wet land, in regard to the respective powers of each to yield the mere necessary food of the people, and as it is such food or produce alone which can be expected to maintain a pretty equable exchangeable value in the market, whatever may have been the cost of raising it, so the elements by which that produce, its value, the profits on it, and rents are estimated, are totally distinct from those which, with a few exceptions only, regulate the prices, rents, and profits of dry land produce, *that* last not being produce absolutely necessary to the *existence* of man. Under the above view, it would appear that there is little probability of much of the

remaining waste *dry* land on Penang and the territory opposite, being speedily and permanently cultivated without the aid of European, or, at the least, of Chinese capital and skill.

This reasoning, as regards the Island, is strengthened by the fact already noted in the description of value produce in the first part of this Paper, that cultivation of dry land on it was more advanced thirty years ago than it is at this day, although it now bids fair to retrace its steps with accelerated velocity.

Any person desirous of cultivating land in Province Wellesley is required, in the first instance, to apply to the Collector there. A native land-measurer then proceeds, with the applicant, to examine the ground. If this be under forest, a rough estimate of the boundaries is made, and the applicant returns to the Collector's office where his name is registered. He also receives a written permit to clear and cultivate,—a period of from one to five years being allowed, according to the nature and situation of the land, free of rent. When the ground has been cleared and cultivated, a correct survey is made, and a lease is issued, at a rent, or a quit-rent, of from one up to four sicca rupees an orlong—the present ultimatum for *arable* land.

#### JAGONG OR INDIAN CORN.

This grain is cultivated both on the Island and opposite coast, but the greatest quantities on the latter. Newly-cleared lands are preferred for it, in order to save the trouble and expense of manuring, and as it is a rapid exhauster of the soil. The Malays generally intermingle it with the dry rice and pulse cultivation. They are not partial to it as a food, and consider it far inferior to rice. When they do eat it in grain it is merely as an accidental addition to their common fare, or as a cheap substitute for it, when

they happen to be out of pocket. Yet how many millions in Africa, and even in the Americas are subsisted on this food!

Jagong is sown in the months of April, May, and June, and sometimes at other times. One sort, the Jagong ringan, ripens in three months, and the Jagong batta in four months. The latter is the most productive, and therefore preferred.

If one orlong were to be sown with Indian corn alone, it would contain 1,600 plants.

About three seeds are sown in each hole. The holes are made with a stick, and are about 2 inches deep. The seed produces a bush or bunch of four or five stalks to each hole, and each bunch yields about eight heads of the grain, and will sell, on the spot, for about 10 or 12 cents the hundred when plentiful, being from about 13 to 15 Sp. drs. for one orlong's produce. One hundred heads yield nearly one and two-thirds guntangs of grain. The profit, deducting about eight dollars for clearing new land, for seed, and planting, will be, therefore, from about 5 drs. to 7 drs. an orlong. If land was to be cropped the second year, and the lalang had grown up in the interim, it is doubtful if any profit could be made. Indian corn is considered good food for horses in South America, but it is not here put to any very specific use by Europeans.

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## CHAPTER THIRD.

## DESULTORY REMARKS.

THE cultivator, when the fallow season arrives, directs his attention to other modes of gains. He may hunt the elephant for its ivory, and the rhinoceros for its horn and hide :—he may turn birder, and ensnare wild-fowl which abound in the jungles, from the quail and partridge, up to the sea-fowl and argus pheasant. The catching and preserving the skins with the feathers on, of the larger kinds of king-fishers is often a lucrative employment. These skins are exported to China, where they are used for embroidering dresses. The value of good skins here is about forty dollars the hundred. The Tenneserim birds are, it is said, preserved better than these here. The birder, having caught a *burong pukaka*, or king-fisher, puts it into a cage furnished with a trap-door, or merely ties it by the leg to a peg. A thin net is suspended over the bird, which soon begins to utter the discordant scream peculiar to it. This attracts other king-fishers, and as these successively attack the caged bird, they are entrapped. The birder, whenever a new bird is caught, substitutes it for the preceding one, because it makes a greater noise.

The ryot, in the interval alluded to, as also in that betwixt harvest and seed-time, and seed-time and harvest, often turns wood-cutter and floats down the Prye and other rivers, from the forests of the interior,

large rafts of bamboo, and timber for house and boat-building, with spars for vessels. These spars average about 60 feet in length by 12 in girth. Some even exceed 72 feet long by 18 feet in girth; and these sell, each, for about sixty Spanish dollars. A kayoo-krangi-wood rudder for a junk of five or six hundred tons burden costs, in its rough state, about one hundred Spanish dollars. The varieties of wood found in the forests of Penang and the opposite coast will be enumerated in a subsequent part of this Work. The cutting and preparing of artaps for thatching houses, and cajangs for affording temporary shelter to the crews of boats, affords employment to numbers. Dammer-resin, dammer oil, rattans and dragon's blood, are sought for at considerable risk from wild beasts. The eggs of the *pinnioo*, or sea-turtle, and of the *toontong*, or river turtle—which last are of an oval shape—are eagerly searched for and sold at the rate of half a dollar the hundred. The *toontong's* eggs are less oily than the round eggs of the *pinnioo*.

Many parties, consisting of from twenty to thirty men, each, proceed northward up the coast to the numerous rocky and picturesque islands where the *sarang burong*, or edible bird's nest, is procureable. There they become sub-renters of one or more islands during the season, which lasts from December to the middle or end of March.

A large portion of these islands belong to the British, by right of their possession of the Tenasserim provinces. The remainder appertain to the Siamese. Some of these nesters return with large profits; but there is, too often, a considerable deal of litigation subsequent to their speculations, owing to the number of partners, the loans advanced by Chinese, and to the negligent way in which contracts are entered into.

The bird's-nest-swallow is smaller and blacker than the common house-swallow. When robbed of her first nest, she generally builds twice again at intervals of a month. The quality of the nest is deteriorated at each time, which is a proof, in addition to that derived from its anatomical structure, that this bird is supplied with the glutinous substance, with which it builds its nest, from a secretion in its stomach.

While the able-bodied members of a family are thus variously engaged, the women manage affairs at home, being assisted by the old men and children. Independent of the employments just adverted to, our Malays engage in petty trading expeditions to Junk-ceylon and intermediate ports to the northward, and to Perak southward, and they ply a petty, but lucrative, bartering trade with the natives, and Chinese tin-miners of the interior of the Peninsula eastward, to whom they find ready access by the rivers Muda, Prye and Kreean, which flow by or in, and bound, Province Wellesley.

Boat-building is a favorite employment with the men who remain at home; and in this they will pass a couple of hours a day. Some of these boats are beautiful models; but as they have no keel and have rather sharp bows, they are only fitted to sail with a very fair wind, and row well. The bottom is framed out of the trunk of a giyam or chinggei tree, both of which are very durable woods. The trunk, after being felled, is split and opened outwards by means of fire. It is then reduced to the requisite thickness; over this a few planks are built, and these again are surmounted by a gunwale constructed with the centre part of the koombar palm-leaf. A new boat of this kind, of about one toyan's burden, costs about 30 Spanish dollars.

Although it is, in one sense, a fortunate thing for

the people that they have so many resources against idleness and bad seasons, there are also disadvantages attending it. The prolonged absence of heads of families exposes the females to temptations, which their faulty education and the custom of the parties marrying at an early age, and often without previously having seen each other, do not always fit them to resist. Fidelity is, however, a more common virtue than might, under such a condition of society, have been looked for ; and one of the reasons undoubtedly is that, although perhaps equally jealous as an Indian husband can be, the Malay does not immure his wife or deny her the privilege of going abroad, or conversing with his sex.

But if thus tolerant, he feels too, in a degree proportionate to the abuse of his indulgence, and frequently resents that abuse by killing the offending parties. Such acts should be viewed with reference to the education of the Malays, and especially of those who were born beyond the British territory. The respectable Malay is highly sensitive to slights and premeditated insult, and he fancies, perhaps rightly, that no law can compensate the injury sustained. His feelings are, therefore, but too apt to lead him not merely to a criminal, but absurdly criminal excess. Thus it has sometimes happened that a Malayan couple, having been formally separated by mutual consent and by order of the tuan khalie, or native judge of matters of caste, and the woman having married another man, the first husband has murdered both him and her. In such a case, it is probable that he had his suspicions of her former infidelity confirmed. Under Malayan rule, murder, unless coupled with treason, has generally its expiatory price, and can, without much danger, be perpetrated by a rich man. A native of India will, on the con-

trary sometimes kill himself to avenge a similar wrong. He imprecates his blood to lie on the head of the offenders. If they be of a similar creed with himself, he is avenged in the terror the imprecation inspires.

Notwithstanding the vices, piracies, and faults which have been attributed to Malays, but in far too sweeping a manner, and when true to any considerable extent, only so of isolated classes existing under circumstances favorable to the unchecked expansion of evil passions, there is in their character a something, as the late Sir S. Raffles has expressed it, "congenial to British minds," and which certainly, with that due tolerance of their habits and prejudices, which it is not difficult to extend towards them, leaves a more favorable impression than that received by an intercourse with the better cultivated, but more crafty and fawning natives of India.

The most settled ryots cultivate tobacco and indigo—chiefly in December, January and the succeeding dry months. The owners of cocoanut and areca and betel gardens find sufficient occupation in collecting their produce and selling it. A few find work as day-labourers at from eight to ten cents a day, most frequently the latter. Ten cents may be of the average value of 5½ pence, which is very nearly the lowest rate of labour in Ireland.

During a great portion of the year, the rice-fields, ditches, and water-courses swarm with fish—chiefly the *ikan haroon*, or kaboose. Men, women and children are then rarely seen without their fishing rods, as before described. The bait is a dead frog, which is made to play on the surface of the water, and a boy of six or seven years of age may be seen landing a fish of several pounds in weight. This occupation or rather amusement, is an idle

one for the men. A man can hardly catch more than four or five cents' worth of fish in a day, when successful. The fish sells for about 2 cents per pound.

The Malays strike the porpoise or *loma*, and the *paree*, ray or skate, with an iron harpoon to which a long coil of rope is attached. The porpoise is chased during the day; but the skate is harpooned at night, being attracted to the boats by the light of torches. The skate here sometimes attains to the size of six feet in diameter. Those of three or four feet in diameter are common. As they come close up to the surface, they are easily struck. When the barb has been driven into the fish, and the shaft has separated from it, the skate dives with considerable velocity; and if large, it may be secured after about an hour's labour. There is a small species of whale which frequents the harbour at intervals. The Malays call it *ikan powh*. Large quantities of smaller fish are caught in the rivers by placing torches near the water. The boat has a netting on one side.

It is perhaps to the use, as food, of the shark, the large skate, and other coarse sorts of fish, that we may attribute the modified leucæ, and other cutaneous diseases, with which the lower orders of the population are lamentably afflicted. The first-mentioned disorder seems to become hereditary. For the gratification of ichthyologists, I will enumerate the kinds of fish which are here sold in the bazars, or found in the Malayan weirs, or the large drag-nets of the Chinese.

#### POISONOUS FISHES.

1. *Paree kubbas*—electrical skate.
2. *Paree kalawar*—fasciated ray.
3. *Paree kubbas linchin*—torpedo ray.
4. *Yoo tokay*—Zebra shark.
5. *Ikan kooching*—a fish which seems to possess the characteristics of the "European angler."

6. *Ikan krappoo*—It will kill a man ; seems to be the marbled angler.

7. *Buntal kumbong*—pyramidal horned trunk fish.

8. *Buntal panjang*—the snouted horned trunk fish.

9. *Guddimi*—the remora. This fish is deemed by the Malays to be a powerful manure for fruit trees.

10. *Kachang kachang*—a sort of mackrel.

11. *Tallang raya*—the Madagascar mackrel.

12. *Tudong priyoo*—the southern trachieythys.

13. *Giritang* — merra holocentius, or rufous scorpaena—very poisonous.

14. *Ketang*—The chaetodon—very poisonous ; there are three species.

Fishing-stakes afford nearly exclusive employment to numbers of Chinese and Malays. They are run out from the beach, or placed on sand-banks, and shoals. A large one costs about from 80 to 100 dollars. Penang is cheaply and plentifully supplied with fish. Having warned the stranger against the unwholesome kinds, it will be but fair to acquaint him with the names of the approved sorts. The Malays, it may be observed, always prefix the generic term *ikan* or fish to the specific name.

1. *Ikan ledah*—the sole—jeeb ka muchee (Beng.)

2. *Siblah*—A sort of plaice or flounder;—pleuronectes solea.

3. *Trobo*—Indian sable fish, or clupea.

4. *Sinnangin*—The Bengal ressia muchee—the robal—polynemus Indicus.

5. *Oobi*—whiting—scienna.

6. *Kiddera*—A smaller fish than the herring, but possessing somewhat of its flavor.

7. *Billana*—a small fish.

8. *Joompool*—the common mullet—mugil cephalus.

9. *Kappas*—about 5 inches long, white and esteemed.
10. *Groot groot*—a small fish.
11. *Tumbreh*—a sort of carp.
12. *Siyakup*—the *bekti* of Bengal; apparently a species of the labrus. There are two sorts, one being yellowish.
13. *Pahookoo*—a rock fish.
14. *Jinnakar*—a fine large fish.
15. *Sinnahoong*—a species of cyprinus or carp;—a large fish.
16. *Bawal chirmin*—the white pomfret.
17. *Bawal tumbak*—the black pomfret;—*bulwa malic*—the stormateus argenteus.
18. *Mior nior*—a small fish.
19. *Loolee*—Bombay ducks.
20. *Korow*—appears to be species of cyprinus Bynni; not much prized; grows to about 3 feet in length.
21. *Jarang gigi*—"wide-toothed."
22. *Puting dammer*—a sort of whiting.
23. *Badukang*—the silure;—not much prized.
24. *Iboo* or *iboo ikan*—a sort of broad guniad, about 15 inches long; chiefly found in rivers.
25. *Chinchoda*—a species of fistulari; hard flesh.
26. *Tumbun bulook*—five inches in length.
27. *Minyoolong*—a sort of pike.
28. *Blalang*—the flying fish.
29. *Paree down*—seems to be the eagle ray.
30. *Paree lung*—"the kite paree;" seems to be the guttated ray.
31. *Aloo aloo*—a species of sturgeon.
32. *Killewas*—eared trunk fish, apparently.
33. *Poochook*—silver trichure.
34. *Toda*—sword fish; hard flesh.
35. *Layer*—the Brazilian dory.

36. *Tudong tumpayan*—seems to be the bilobate sparus.

37. *Sa-sumpit*—jaculator labrus. This fish is eaten by the Malays.

38. *Billang*—a species of labrus.

39. *Tangiri*—the seer fish—*Scomber*.

40. *Labun*—a species of mullet.

41. *Kerong*—seems to be the dragon-weaver; *frachinus draco*.

42. *Gillima*—not much prized.

43. *Similang karang*—eel-shaped *platyslaccus*—the flesh is rather too soft. It inflicts a bad wound with its fin-spikes.

44. *Bodlan*—a sort of razor carp.

45. *Lampam*—a sort of bream.

46. *Poomun*—a sort of silure; it is scaree.

47. *Tkan oolar*—the eel.

48. *Haroon*—the 'kaboose Bengalee; sow'lee mu-chee—a fresh-water fish—soft.

49. *Ikan timah*—a thin silvery fish, called walee meen on the Coromandel coast.

50. *Parang parang*—the dallie muthee of Bengal—mooloowaree of Tamul. It is a bony fish—ventral fin far back—one dorsal fin equally far back—two pectoral fins divided—under-jaw protrudes—teeth curved upwards—two of the upper teeth project like tusks—colour silvery,—no scales. The Malays have a *pantun* on this fish which runs thus :

Ikan parang parang,  
Gulei sama chuka,  
'Nonia gigi panjang,  
'Daba' korang saka.

The parang parang fish,  
Dressed in a curry with vinegar ;  
The lady has widely-set teeth;  
'Her intended is disappointed.

## SHELL-FISHES.

1. *Kuttam battoo*—common large crab.
2. *Kuttam renjong*—a crab having small pincers, and large flappers.
3. *Tritip*—small kind of oysters, the common sort.  
*Tiram*—a very large sort; is a very large oyster.
4. *Kuppah*—mactra.
5. *Rames*—variegated razor—*solen variegatus*.
6. *Oodang mangkara*—large lobster shrimp.
7. *Oodang*—shrimps, common.
8. *Oodang gala*—long-legged shrimp.
9. *Blankas*—scorpion crab.
10. *Blitong* or *sipoot pootar*—*trochus scalarus*.
11. *Mintarang*—*pholas orientalis*, is found in mud.
12. *Sipoot giyam*—transparent razor.
13. *Pinnyoo*—Hog-billed turtle; may be had from the Bunting Islands, on a few days' notice.
14. *Sipoot kapoor*—pod razor; *solen segumer*.
15. *Gayam*—Transparent razor, *solen pelucidus*; is found in mud.
16. *Krang*—banded cockle; cockles in general sand.
17. *Kapis*—gaper; *mya arenaria*.
18. *Kechau*—whelk.

## GRAZING CATTLE.

It has been observed that the Malays are not a pastoral race. Few of them keep any sort of cattle, except buffaloes. The settlers from India are the chief graziers. They rear cattle for the dairy; the cattle for slaughter being imported chiefly from Kedah and Patani.

The grazing farms in the Province contain about 2,000 head of cattle, chiefly buffaloes. Penang is the only Settlement in the Straits, where cattle can be readily and cheaply obtained; an advantage of which commanders of his Britannic Majesty's ships of war are well aware. The Malays eat buffalo-flesh in

preference to that of the cow, the predilection arising perhaps from a remnant of that antient superstition which prohibited the use of cow's flesh. During the Rangoon war, the only fresh animal food procurable at all for the troops, for a long while, was the flesh of the buffalo. The officers received the same rations of it as the men, and considered themselves happy in getting it. The heart and tongue are by no means a despicable ration for any one. The annual consumption of cattle (bovine) on Penang and by the shipping is about 300 head. Perhaps about 400 buffaloes are slaughtered yearly.

A good grass-fed ox costs from eight to ten dollars. A heifer four, a calf three and a half. But the butcher's retail rates are : for an ox weighing 300 lbs. at eight cents per lb. and one dollar for skin and horns, twenty-five dollars; for a heifer 9 dollars; for a calf from 6 to 7 dollars.

The value of a good draft-buffalo varies from 9 to 13 drs. and of a good draft-ox from 8 to 12 drs.

Cattle (bovine) are bought up in droves beyond the frontier, at an average of 6 dollars the head.

The black buffalo is the most prized both for draft and for slaughter. The Malays do not eat the white buffalo on account of its colour. Its colour is a white, tinged with reddish brown.

Milch cows cost from 6 to 15 or even 20 dollars according to the quantity of milk they yield. The very best cow will not here—unless partly of the English breed—give more than two chupahs daily and then for two or three months only. The chupah is about one quarter and one-sixteenth of a gallon.

The calf must be placed beside the cow or it will not yield its milk, and when a calf dies, the dairy-man (for there are no dairy-maids) stuffs the skin and sets it up, so that the mother is fairly deceived, and continues to give the usual supply.

The flesh of the buffalo is salted in large pieces by the Malays, by being soaked for a night in strong brine, and when dried, forms an article for provisioning native prahus. Salted duck-eggs form another in great demand, chiefly by junks. The Malays salt these as they do the meat, but the Chinese mix a red unctuous earth with the brine, which no doubt stops the pores of the shell, and preserves them better. They are put into this mixture at night and taken out during the day to be dried, in the sun, which is in fact, a half-roasting process in a tropical climate. The Malays make the average value of a prime slaughtered buffalo, when the meat is sold fresh, to be thus :

|                                                             | <i>Pice.</i> |
|-------------------------------------------------------------|--------------|
| 300 catties (400 lbs.) of flesh, at 4 pice per catty, 1,200 |              |
| 200 catties of clarified fat at 5½ drs. per picul, 1,100    |              |
| Head and horns.....                                         | 30           |
| Offal and bones.....                                        | 40           |
| Hide.....                                                   | 60           |
|                                                             | <hr/>        |
|                                                             | 2,430        |
| Deduct original price of the buffalo.....                   | 1,200        |
| Butcher's and other charges.....                            | 200          |
|                                                             | <hr/>        |
| Profit, .....                                               | pice, 1,030  |

If the carcase be salted and dried, the meat sells for 8 pice the cattie, and of which there will be about 180 catties, equal in value to 13 drs. 75 pice; so that the profit on the whole, in this instance, exceeds that in the former by 2 drs. 30 pice.

The Chinese who, as the Beach street loungee would express it, cleverly *bones* every thing profitable, from a pound of ivory or tortoiseshell, to a morsel of the vilest garbage or dirt, buys up all the buffalo

bones at about 1 dollar per picul, and exports them to China where they sell them, it is said, for from 3 to 5 dollars the picul. They are pounded by the indefatigable agriculturists of that country, and applied as manure.

As it has been once or twice proposed that ghee should be made here to supply troops, the following calculation may not prove useless.

One hundred female buffaloes, will give yearly, one with another, 9,125 guntangs of milk in all, which, on the spot, would sell for 16 pice the guntang, or for the whole, the price will be 1,460 Spanish dollars. But the milk is commonly adulterated with one-fourth part by measure of pure water, a fraud which, owing to the very rich nature of the milk of this animal, is not easily detected. The profit by the fraudulent sale is therefore 1,825 Spanish dollars on the spot. When carried to market, which it always is in this adulterated state, its value, at 6 pice the chupah or 25 pice the guntang, will be 2,190 Spanish dollars. The profit, after deducting wages and expenses, on the market sale of the *pure* milk, would be 1,230 Spanish dollars, that on the fraudulent sale 1595 dollars. As matters now rest, the milk-men are rogues to little purpose, for the demand being greater than the supply, and enjoying as they do a sort of monopoly, they could make as much profit by selling pure milk only, and raising its price.

If ghee be made, then the produce will be one chupah of it for eight chupahs of pure milk, or one picul by weight of ghee for every 60 chupahs, or 15 guntangs by measurement, of milk.

One hundred female buffaloes will yield 76 piculs of ghee in a year, which, at the bazar rate for the superior sort here, will be equal in value to Spanish dollars 1,140. The butter-milk is of little value and

is most frequently given to the buffaloes to drink; that which is sold, generally covers the cost of minor expenses. All expenses being deducted, the profit on the above quantity of ghee will be, as nearly as possible, Spanish dollars 900.

The ghee obtained from 100 buffaloes would suffice for the rations (adopting the present rate at which such are issued) of 337 sepoys. Each native soldier is supposed to consume 30 chittacks of ghee monthly, and there are 1,600 in a picul. It is obvious from the above statement, which it is believed will be found pretty correct, that until a much stronger competition shall take place than now exists, the prices of butter and milk will continue too high to admit of ghee being largely manufactured, the profit on the sale of milk alone exceeding that of ghee on the scale here adopted, by Spanish dollars 330.

Buffalo butter finds comparatively a limited sale, that made from cow's milk being preferred, although that sold to the shipping under the latter denomination is a mixture of the two, or merely *dyed* buffalo butter.

The quality of the ghee is here and to the eastward in general, owing to the richness of the pasturage perhaps, so superior to that brought from India, that sepoys frequently exchange their rations of the latter for a lesser quantity of it.

A guntang of rich cow's milk here yields about 20 sicca rupees' weight or  $\frac{1}{4}$  seer of butter, which is sold for 40 cents. Cattle are subject on this Peninsula to violent murrains, which sweep away great numbers. These are luckily not of frequent occurrence.

Since Keddah became a dependency of Siam, no reliance has been placed on it for supplies of any sort, nor has any inconvenience been felt on that

account from the period when Province Wellesley received an accession to its inhabitants of one-half, at the least, of the population of Keddah.

The closing of the port of the latter country in former times used to put the good folks of Penang on short allowance of rice, beef and poultry, so that the securing of these supplies became one of the stipulations in a treaty with Siam.

The above Province supplies Penang yearly with upwards of 120,000 poultry. Common poultry are sold at from 8 to 10 Spanish dollars the hundred ; geese at from 40 to 50 pice or cents each ; ducks at six for a dollar ; a few turkeys and guinea-fowls have been introduced. The sale of poultry alone, by sending back about 10,000 Sp. drs. yearly amongst a frugal population, is in itself no small stimulus to industry to increased production of foreign articles.

Goats are not greatly encouraged, owing to their destructive propensities where there is cultivation.

Sheep have not been fairly tried. The climate is perhaps too wet for them, yet they might possibly thrive on those dry plains where the soil is sandy or light.

Game abounds in the woods; but is rarely brought to the market, because there appears to be no great demand for it.

There is no scarcity of wild hog or the elk. There are two species of the wild ox or bison. The birds are: Snipe, which sportsmen, of course, have for themselves and friends ; teal, grey plover, curlews, which are seen on the mud-flats in very large numbers; the red partridge, blue pheasant partridge, with red legs and red plume on its head ; the common jungle-fowl, from which the tame variety has been obtained; the pagar, a splendid bird, having a brownish, crimson

plumage and rather larger than a moor-fowl; the large *kwang* or argus pheasant, and the small sort having its back spangled with eyes; the *murrayh*, or the peacock having a magnificent plumage suffused all over with a light golden hue; the *ayam ayam*, a large water-hen, not web-footed; the red and black quail; stock-doves called *pergam*, equal in size to a bantam fowl; green and yellow, and white wood-pigeons, which, with the *pergam*, feed on berries, especially those of the various kinds of Indian fig-tree;—besides many other tropical birds. The *plandok*, or cheurotin of Buffon, or hornless deer, about the size of a hare, is plentiful; but like all the animals and birds above enumerated, is only found in the deep forests.



## CHAPTER FOURTH.



## BUAH BUAHAN—FRUIT AND FOREST TREES.



## THE MANGOSTEEN—MANGIS;

THE seductive apple of the east—the fruit of this tree is too well known already to require a lengthened description. The tree is a low, dark, evergreen of a graceful and rather tapering form. The plants are raised from seed, and an orlong ought to contain sixty trees. They bear about the 7th. year and one orlong's produce, at one dollar a tree, will be therefore 60 Sp. dra. But there are no plantations of this extent, nor is it likely that there will be, since any material increase in the present supply of the fruit would so reduce prices as to absorb profits. Some trees will yield 1000 fruit. The wild mangosteen grows in the woods and neighbouring islands. A mangosteen also grows on the Malabar coast, the fruit of which is very acid. But as the climate of that coast assimilates a good deal to ours, the cultivated sort might perhaps be introduced there. From the kernel of this wild mangosteen, the people on the Malabar coast make a concrete oil, which is, it is said, used as a cosmetic. The seeds of jacks, dorians, and other fruits, would yield oils likewise.

## THE DORIAN, MALAYAN DURIAN—DURIO ZIBETHINOS.

Curiosity, not taste, first prompts the new settler to attempt this fruit. But although tasting it, as he generally does, with a prejudice against it, he not

unfrequently ends in acquiring a strong relish for it. With the Malays, the desire for this fruit is a passion, to satisfy which they will perform toilsome journeys and brave dangers. He who can eat and digest a dorian, and not find his liver stirred up by a host of blue imps, may well despise the anti-dispeptic precepts of a Kichener, a Sinclair or a Johnstone. The dorian scarcely extends further up the Peninsula than Tavoy province. His golden-footed majesty of Ava was wont, before the absorption of that portion of his dominions, to have the fruit trainmitted to his capital at Amerapooora, by relays of horsemen, and by boats pulled by 40 or 50 men. The fruit can hardly be preserved, exposed to the air beyond five or six days; the Burmans used therefore to wrap them up in cloth, and then coat them all over with clay. As the tree is high and wide-spreading, no more than 20 can well be planted on one orlong of land, and one half of these will probably be males. Two crops in three years only can be expected, which remark is applicable to almost all of the indigenous fruit-trees of the Straits. The fruit is allowed to fall to the ground when ripe. The tree bears about the end of the 7th. year; following the rule which also applies to other fruit-trees here. It is supposed to live 80 or 100 years. The average produce, for three years, will hardly exceed 150 dorains for each tree. The cultivation is limited, and could not be much increased with adequate profit, especially as supplies of it are imported from the bordering countries. It may here be once for all observed, that the Penang fruit-season embraces June July and August, and that there is an occasional small irregular crop at some intervening period, and also that the cost of raising the indigenous fruits is nearly alike for each, as are the periods when they respectively come into bearing.

The prices for all these fluctuate so much that it were useless to make computations. Twenty dorian trees, male and female included, may now yield about 30 dollars produce annually, on an average of years. A dorian used, in former times, to cost a rupee; a large one now sells for from 5 to 12 cents.

**NUNGKA—THE JACK—ARTOCARPUS INTEGRIFOLIA.**

This fruit, although it has been long known, is evidently an exotic.

It cannot be said here to come to the perfection in which it is found in Malabar and Canara and other parts of India, where, during the season, it forms a considerable part of the food of the people. Here the fruit is collected twice in a year. From 30 trees, planted on one orlong, including a portion of male trees, produce, on an average of years, to the value of perhaps 30 dollars, may be obtained; giving a profit of about 10 Spanish dollars, after deducting costs of watching, collecting, &c.

**CHAMPADAH,—A SPECIES OF JACK—**

Is a species of the jack; but the smell of its fruit is very disagreeable and it is by no means so sweet and nutritious as the latter. Its value is nearly the same in cultivation as the jack. Large quantities are imported. It is extensively cultivated also by our ryots.

**RAMBEI AND RAMBUTAN.**

These trees are little cultivated. They are found in the forest bordering on Province Wellesley. The few that are cultivated yield sometimes produce equal in value to a dollar a tree. The rambei fruit is white, and hangs in clusters like grapes. The rambutan is red, and grows in bunches.

**MAMPLAM SIAM.—THE SIAM MANGO.**

This is a fair enough species of mango, and weighs about one lb. at most. It is not very extensively

cultivated as yet, as, after the 10th. year it is very liable to be destroyed by a worm. The risk being great therefore, the returns should be large. Perhaps one hundred dollars may be a pretty fair average rate for one orlong of full-grown and bearing trees.

**MAMPLAM TILOR,—THE EGG MANGO—**

Is a small yellow mango with too much of the turpentine flavor, and too acidulous to be much prized.

**MACHANG,**

Is a high and spreading tree, bearing a coarse mango, the odour of which is quite overpowering to Europeans. It is rather sweet and is much sought by the Malays, who use it also in its unripe state, in curries. Two hundred cost about one dollar, and the profit on an orlong planted with 20 trees, may be about 20 dollars. It is subject to be destroyed by a worm called clara.

**PISANG.—THE PLANTAIN AND BANANA.**

No fruit is so extensively cultivated as are the varieties of the plantain. There is hardly a cottage that is not partly shaded by them, and it is successfully cultivated under other fruit trees, although it is independent of shelter. Its succulent roots and dew-attracting leaves render it useful in keeping the ground moist during the greatest heats.

The following are the most approved varieties.

*Pisang raja*—royal plantain, bears in 8 months;

*Pisang soosoo*—milk plantain; it is luscious, but delicate persons are not allowed by the Malays to use it in its raw state.

*Pisang amas*—golden plantain, or banana; sweet tasted, but also objected to, and with reason; it is indigestible.

*Pisang aboo*—downy plantain.

*Pisang killat*—bears in a year.

*Pisang pait*—has a bitter rind, but sweet pulp.

*Pisang oodang*—a rich, red plantain.

*Pisang gindy*, is a species lately imported from Madras where it is in great request. It has this advantage over the other kinds, that it can be stewed down like an apple while they remain tough.

About 144 shoots of the plantain are planted on an orlong, each of which spreads into a group of six or eight stems of about from 6 inches to one foot in diameter, which yield, each, a bunch of fruit and are then cut down, when fresh shoots succeed. In very rich soils the tree, or rather plant, will continue to bear for 20 years, but otherwise it is dug up after the 7th. or 8th. year. The cost of cultivating 100 orlongs of land exclusively with plantains, will be nearly 2,000 Sp. dollars until produce be obtained: about 43,200 bunches may be had afterwards yearly, which might give a return of 2,160 drs. or deducting costs of cultivation and original expenses, a profit per annum of about 1,450 drs. Independent of the quantity consumed on the spot, that brought to the markets in Penang and in Province Wellesley, the growth of the latter district, amounts to about thirty thousand loads for a man annually, which may be worth about 9,000 Spanish dollars.

The Malays allege that they can produce a new species of plantain by planting three shoots of different sorts together, and by cutting the shoots down to the ground, three successive times when they have reached the height of nine or ten inches. The plantain may be deemed the most valuable of fruits here, since it will, in some measure, supply the place of corn in a scarcity.

#### JAMBOO KLING, AND JAMBOO AYER MAWAH,

Are handsome evergreens which bear dark-red fruits having a pleasant subacid taste slightly approaching that of an apple; they are not in much demand and the cultivation is confined; a tree will yield two or three thousand fruits.

## NUM NUM—THE CYNOMETRA CAULIFLORA.

This shrub yields a thin oblong fruit with a flat kernel. In taste it approaches nearer to the apple than perhaps any other truly eastern fruit does. The shrub is scraggy and resembles the custard-apple shrub in some degree. The fruit, however, is attached to the branch or stem. It does not bear until the 7th or 8th year. Its cultivation is confined to one or two gardens but it deserves more attention than it has yet received. It was introduced from Malacca.

## THE LIME.

The cultivation of this tree is quite irregular. Every campong or native garden contains some trees. An orlong, if regularly planted out, would yield produce of the value of 140 Sp. dollars. But like other fruit trees, its cultivation, if much extended, would destroy profits. The chief market perhaps for this and other fruits is that of the shipping, and the lime might yet be cultivated to a considerable extent with advantage. The wild lime, which is both sour and astringent, grows along the dry sandy beach of Province Wellesley.

## BUAH NONA—CUSTARD APPLE.

It is too well known to need a description.

## THE MULBERRY.

This tree or shrub thrives easily and grows to the height of 20 feet at least. No attempt to rear the silk-worm has been made yet. As the food for it could be raised to any extent, without interfering with other cultivation, there seems no reason why it should not succeed, as at Acheen, where the natives understand its management.

The fruits brought from the woods of Moratajam, Province Wellesley are :—the *Dookoo*, but inferior perhaps to that of Malacca;—the *Sittaal* which grows

on a high, wide-spreading tree. Its colour is a light yellow and its internal seed-vessels resemble those of the mangosteen very closely. The taste is pleasant. It contains more acid than the mangosteen and makes excellent jelly. The *Langsat* is a fruit of the same class. *Tumpool*, a fruit of the mangosteen class, prism-shaped, and dividing into 3 or 4 lobes. *Sala*, the fruit of the palmite of that name, pleasantly sub-acid. *Bitte*, the papaya, which is used as a vegetable before ripening. The acid juice of the rind of the fruit will dissolve a buffalo hide. *Tumpoonet* is a yellow-colored fruit, with spikes, and about the size of the *Bitte*. The pulp is delicate and slightly sub-acid; the tree is high, with clover-shaped, large leaves. *Reidan* is a small almond-shaped, dark-red, and acid fruit of a high tree of the same name. *Arang Para*, a species of rambutan. *Sapam*, a sort of wild mango. *Rumbia*, the fruit of a species of the sago palm. *Sirbayaman*, a fruit of a middle-sized tree; it is about as large as a small mango, and the rind is saturated with a viscid juice, like that of the mangosteen and sittool. *Topah*, resembles the *Sapam*; very acid. *Powah*, a high tree; the fruit is very acid. *Sittar*, an acid fruit. *Kaloobi* the very acid fruit of a small palm, used in seasoning dishes. *Assam kumbang*, *Rawa*, *Roomiah*, *Pringei*, *Lanjiet*, *Blingei*, are acid fruits of jungle trees and used by the natives, who have a great taste for sour as well as sweet things.

#### THE ANANAS OR PINE APPLE.

This fruit is extensively cultivated, and if more pains were bestowed on it, the quality might be greatly improved. As it is, the plants are allowed to spread until they become an almost impassable thicket. They are brought in cart-loads to the bazars and thrown down like so many turnips. A good pine

weighing from 3 to 5 lbs. may be bought for from 1 to 2 cents of a dollar. Pulo Kra, which is a small rocky island in the harbour, produces the best flavored pines, and some care is there taken in raising them.

The variegated, or green and white-striped leaved pine, is highly ornamental to the table but not otherwise approved of. Indeed, few settled Europeans indulge in the pine, as it is justly deemed unwholesome, perhaps from the great tendency its juice has to ferment, and the indigestibility of its fibre.

In Manila a very exquisite, lace-like fabric or scarf, is manufactured from the fibre of the pine-apple leaf.

#### THE GRAPE.

The climate is too moist for the grape; yet a pale sort has been, by great pains, brought to considerable perfection by one of our oldest settlers on Penang, Mr. Rodyk.

#### ORANGES.

Several varieties are cultivated, but many of the old gardens have died off and the profit does not seem high enough to induce the Chinese, in whose hands the cultivation has hitherto chiefly rested, to keep it up. The descriptions of this fruit now occasionally procurable, are :

The *Chimbool*, with a knob at one end, sweet ;— the *Limau manis*, the sweet or China orange ;— *Limau Japoon*, the Japan orange ;— *Limau karbau*, the citron ;— *Limau gading*, the shaddock ;— *Limau Kapas panjang*.

The Chinese seldom raise from the seed. A branch is surrounded for about two inches in length with a compost of earth and manure, and when roots appear, it is cut off and planted. The Chinese affirm that the new tree never survives the parent stock, provided the latter dies through natural decay.

An orange plantation requires incessant attention

to keep it flourishing, and the trees will not yield long without manure.

Oranges are generally high priced. Those of the best kinds are seldom sold under one cent each, and often at 5 and 6 cents.

Although the products of the jungle cannot be classed under the head of cultivation, yet they may not well be overlooked ; and indeed, some of the most valuable of the products of tropical climes are derived from the forest.

*Chirrei Morei*, the Indian rubber vine, grows along the borders of Province Wellesley. The juice is collected by suspending a bottle below an incision in the bark. It is at first of the consistence and colour of milk, and in this state may be applied to saturate cloth which is thus rendered perfectly waterproof. The expense of collecting it is considerable and it is believed prevents its exportation. But might not the vine be cultivated?

*Dammer*, the resin of the dammer tree, well known as a useful substance for paying vessels.

*Minjah Dammer* or wood oil, is the sap of another tree and is of a brown colour. It is used in careening ships, and may be used as a cheap and useful substitute for linseed oil in painting the inside of a house, although the paint will not bear exposure to the weather.

*Lada Panjang*, *Chabei talee*, or long pepper; grows easily and yields well, but is little sought for to be cultivated.

*Buah ekor*. From this fruit a lamp oil is extracted.

*Buah Prah*. The fruit of the Prah tree, resembles a nutmeg in shape. An oil is extracted from the kernel which is, in some places, used for culinary purposes.

*Pompong*, is a shrub which has an oval fruit, from which a lamp oil is extracted.

*Chingkawang.* An oil is extracted also from the fruit of this tree, or the kernel, and is used for the kitchen by Malays.

*Kapayang,* is a creeping plant used in dyeing, and from the fruit of which a lamp oil is extracted.

*Kalompang,* is a tree the kernel of whose fruit also yields a lamp oil, as does the fruit of the high tree called *Penaga*. *Buah kras*, or Embelic *Juglaus Camirium*, is the *hard* fruit, as its Malayan name implies, of a high tree.

*Ballam.* The fruit of this dark-wooded tree also gives a lamp oil.

#### GITTAH, OR BIRD-LIME.

This is made from a mixture of the viscid juices of the following trees: the *Julutong*, the *Arak* a species of *figus Indicus*, the *Jack* and the *Cherrei*. *Morei* or Indian-rubber, small quantities of the *Pulei* and other trees. To render the mixture manageable, cocoanut oil is added. The Malays, by their own accounts, can do wonders with this lime, of which the following *hoax*, asserted to have been passed off on a tiger, is a specimen. A tiger having killed a man at Siac, the body was left on the spot, and a large quantity of bird-lime was disposed on and around it. All around, at a few paces distance, chaff of paddie was thickly strewed and more lime laid. The animal returned to finish his repast and his mouth and claws were soon clogged by the bird-lime, while quantities stuck to his body. To get rid of this annoyance, he rolled himself in his rage on the chaff which soon swelled his body to a most portentous bulk; and after having exhausted himself in fruitless exertions he was easily killed. This would seem an improvement on American tarring and feathering.

The barks of the *Bakkaw*, the *Sama*, the *Pagar anak*, and are *Sri Kayu* employed for tanning leather and fishing-lines.

The *Poko Sinto* is a pretty tall tree, the small branches of which are in universal use amongst the people as a substitute for soap. The fruit of the tree is named *Buah piloorook*, or ball fruit. The Malays use it in a prepared state in pulmonary affections.

The *Beak* is the leaf of a moderately high tree so named, which opium-smokers substitute for that drug when it is not procurable. The leaf is serrated, and is sold occasionally at  $\frac{1}{4}$  rupee a cattie.

The Castor plant grows almost wild. But the small-seeded species available in medicine has not been introduced.

WOODS.

| Names & Descriptions of Woods.                                                                                                                                                                                                                                                                                                        | Weight<br>planed to 2<br>feet long<br>and 1 inch<br>square. | When put into a frame<br>22 inches wide, 1 inch<br>resting on each side and<br>a weight suspended at<br>the middle, the bars<br>broke under— |      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|------|
|                                                                                                                                                                                                                                                                                                                                       | ctys. tals                                                  | Cwts.                                                                                                                                        | lbs. |
| [In naming the following Woods, the word <i>Kayoo</i> , Wood,—or <i>Pokok</i> , tree—should be prefixed.]                                                                                                                                                                                                                             |                                                             |                                                                                                                                              |      |
| 1. <i>Dammer Laut</i> —a very resinous, heavy and durable wood; does not float in water, very hard, perhaps the most valuable of the woods found here;—will remain uninjured for 20 years under ground. Beams, a foot square, or even much larger can be had,.....                                                                    |                                                             |                                                                                                                                              |      |
| 2. <i>Tummoosook</i> —is a very resinous wood, and although durable is more disposed to warp than <i>Dammer Laut</i> . It is useful for rafters. Its colour is light straw. The tree is high. It is most frequently hollow; but beams from 6 to 10 inches square can be had. This wood will remain uninjured 100 years under ground.. | 8                                                           | 4                                                                                                                                            | 23   |
| 3. <i>Tumpenes</i> —is a very hard and durable wood, excellent for house-building. It is of a light-reddish & yellowish colour.                                                                                                                                                                                                       |                                                             | 6½                                                                                                                                           |      |
| 4. <i>Pinang Purgam</i> —a white wood, fracture yellowish colored, used for boat-building .....                                                                                                                                                                                                                                       |                                                             | 4                                                                                                                                            | 54   |
| 5. <i>Moon Typoos</i> —is a wood with a loose bark, used for spear shafts, musket-stocks and such purposes. Large spars of it may be had. It is chiefly found in Perak & Pulo Trootow or <i>Trotto</i> . It sinks in water.....                                                                                                       |                                                             | 9                                                                                                                                            | 13   |
| 6. <i>Fir</i> —it is found on the upper zones of the hills at an elevation of about 2,200 feet, large spars may be had.....                                                                                                                                                                                                           |                                                             | 2½                                                                                                                                           |      |

| Names & Descriptions of Woods.                                                                                                                                                                                                                                                                                                                         | Weight<br>planned to 2<br>feet long<br>and 1 inch<br>square. | When put into a frame<br>22 inches wide, 1 inch<br>resting on each side and<br>a weight suspended at<br>the middle, the bars<br>broke under— |      |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|------|--|
|                                                                                                                                                                                                                                                                                                                                                        | crys. tael                                                   | Cwts.                                                                                                                                        | lbs. |  |
| 7. <i>Maranti</i> —of two sorts, red & white, the red is most used, planks may be had 3 feet broad. It is chiefly used for plank-ing, grows on plains and river banks, and hills. It floats.....                                                                                                                                                       |                                                              |                                                                                                                                              |      |  |
| 8. <i>Chingei</i> —a high tree from 18 to 25 feet in circumference, used for ship and boat-building, stands the salt-water well as much used on the Tenasserim Coast. The wood itself floats. Fracture rather short. It grows in sandy grounds.....                                                                                                    |                                                              | 6                                                                                                                                            |      |  |
| 9. <i>Muddang-leber-dawn</i> —Fracture fibrous, used for house-building, white colour, broad leaf. Large spars may be had.                                                                                                                                                                                                                             | 7½                                                           | 4                                                                                                                                            | 60   |  |
| 10. <i>Gillam Tikoo</i> —middle-sized tree, colour, brownish-yellow. Fracture strong fibrous; used for house-building. Its red bark is much used to tan fishing nets. The wood is not prized. ....                                                                                                                                                     | 11½                                                          | 8                                                                                                                                            | 7    |  |
| 11. <i>Doongoon</i> —a large tree which grows on the banks of rivers near the sea shore. Colour dark-brown, the planks are used for a defence against musketry by Malayan pirates—crooked timber & tough.                                                                                                                                              | 12½                                                          | 6                                                                                                                                            | 28   |  |
| 12. <i>Kayoo Laut</i> —used for house posts, lasts five or six years if exposed, colour yellowish. The tree grows in brackish water.....                                                                                                                                                                                                               | 10                                                           | 3                                                                                                                                            |      |  |
| 13. <i>Rummiyah</i> —high tree, the wood is a light dirty-brown, when young, of a dark-brown when old, and sinks in water, cross fracture, splintery, grows on hills, The fruit is eaten; used as posts for houses                                                                                                                                     | { 8<br>a<br>11½                                              | 5                                                                                                                                            |      |  |
| 14. <i>Api api</i> —A large tree, has a white wood, is excellent firewood.....                                                                                                                                                                                                                                                                         | 6½                                                           | 3                                                                                                                                            |      |  |
| 15. <i>Bruas</i> —a moderately sized tree, which bears a sour mangoosteen. The wood is used for house-building and for making oars; sinks in water. ....                                                                                                                                                                                               | 8½                                                           | 6                                                                                                                                            | 28   |  |
| 16. <i>Killat</i> —very tough; very fibrous fracture. Tree high. Timber not durable if exposed to weather; used in house-building and for planks, light colour, sinks in water.....                                                                                                                                                                    |                                                              | 6                                                                                                                                            | 72   |  |
| 17. <i>Ringgas</i> —a lofty tree, the juice of which is deleterious to the human frame creating swellings over the whole body. The wood-cutters avoid it. The wood is of a reddish brown colour. It is used for making furniture. The fracture is cross and splintery. It is often prettily enough veined and takes a good polish; sinks in water..... | 8½                                                           | 2                                                                                                                                            | 80   |  |
| 18. <i>Niris Battu</i> —a high tree, the wood is of a dark-brown colour. It is used for house pillars. It grows in mangrove jungle.....                                                                                                                                                                                                                | 13                                                           | 1½                                                                                                                                           |      |  |

| Names & Descriptions of Woods.                                                                                                                                                                                                            | Weight<br>planed to 2<br>feet long<br>and 1 inch<br>square. | When put into a frame<br>22 inches wide, 1 ind<br>resting on each side ach<br>a weight suspended at<br>the middle, the bars<br>broke under— |       |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------|------|
|                                                                                                                                                                                                                                           |                                                             | ctys. taels.                                                                                                                                | Cwts. | lbs. |
| 19. <i>Maralilin</i> —used for rafters, wood, straw-coloured; fracture, fibrous. Tree, not large.....                                                                                                                                     | 8½                                                          | 6                                                                                                                                           |       |      |
| 20. <i>Babi Kooros</i> —white wood.....                                                                                                                                                                                                   | 9                                                           | 4                                                                                                                                           |       | 14   |
| 21. <i>Chindrai</i> —fire-wood, light & white. The tree is not large. The leaves are used in bowel complaints; lying-in females are kept near a fire of this wood. Is very inflammable.                                                   |                                                             | 4                                                                                                                                           |       | 56   |
| 22. <i>Butabuta</i> —the juice is boiled and the oil collected, & used in cutaneous disorders externally .....                                                                                                                            | 6                                                           | 3                                                                                                                                           |       | 42   |
| 23. <i>Gading</i> —white wood, white thin bark, used by Malayan women for tam-bouring frames .....                                                                                                                                        | 6½                                                          | 3                                                                                                                                           |       |      |
| 24. <i>Jimirlang Sittooei</i> —cross fracture, used in house and boat-building. ....                                                                                                                                                      | 6½                                                          | 4                                                                                                                                           |       |      |
| 25. <i>Middang Serai</i> —high tree, used in boat-building. ....                                                                                                                                                                          | 7½                                                          | 4                                                                                                                                           |       | 49   |
| 26. <i>Bongor Ayer</i> —used for boat oars floats. ....                                                                                                                                                                                   |                                                             | 3½                                                                                                                                          |       |      |
| 27. <i>Durian</i> and <i>Durian burong</i> —high trees, afford valuable spars, and the latter masts, for vessels. A large mast will cost 120 dollars. ....                                                                                | 5½                                                          | 3                                                                                                                                           |       | 24   |
| 28. <i>Moratajam</i> —white wood. Its roots and leaves, are mashed and used as a cooling application, in cases of brain-fevers. The infusion of this root is drank, in cases requiring astringent medicine. It is not a strong wood ..... | 8½                                                          | 3                                                                                                                                           |       |      |
| 29. <i>Boonoot</i> —a large tree bearing an acid fruit, edible. The wood is of a dark chocolate colour. It is used as house-posts and in boat-building. ....                                                                              | 9                                                           | 3                                                                                                                                           |       |      |
| 30. <i>Pittaling</i> —a good-sized tree. The wood is close grained, of a light red or brown colour. Used in house-building. ....                                                                                                          | 10                                                          | 4                                                                                                                                           |       | 28   |
| 31. <i>Toomwoos</i> —high tree, grows in mangrove jungles; used for rafters. ....                                                                                                                                                         | 9                                                           | 5                                                                                                                                           |       |      |
| 32. <i>Lungadei</i> —a tree growing in mangrove jungles. The wood is white, used for fire-wood. ....                                                                                                                                      | 8½                                                          | 4                                                                                                                                           |       | 42   |
| 33. <i>Bintangor</i> —high tree, few branches. Used for masts and spars for vessels; floats and is tough. It is approved before all other, for these purposes— <i>Calophyllum mophyllum</i> , L. ....                                     | 8½                                                          | 5                                                                                                                                           |       |      |
| 34. <i>Middang Kunyit</i> —fibrous fracture, used for planks of boats. ....                                                                                                                                                               | 8                                                           | 6                                                                                                                                           |       | 84   |
| 35. <i>Niris Bunge</i> —a tree growing in mangrove jungle, used for house-building and fencing, colour reddish. Its fruit is as large as a cocoanut. ....                                                                                 | 9                                                           | 3                                                                                                                                           |       | 84   |
| 36. <i>Nunka pipit</i> —is the lightest perhaps of the durable woods. Its habitat is on high land. It is difficult to saw; it is the sparrow-jack. It is useful for house-pillars, as it                                                  |                                                             |                                                                                                                                             |       |      |

| Names & Descriptions of Woods.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Weight<br>planed to 2<br>feet long<br>and 1 inch<br>square. | When put into a frame<br>22 inches wide, 1 inch<br>resting on each side and<br>a weight suspended at<br>the middle, the bars<br>broke under— |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ctys. tals.                                                 | Cwts. lbs.                                                                                                                                   |
| endures being sunk in the earth; sinks in<br>water.....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 4½                                                          | 2 44                                                                                                                                         |
| 37. <i>Baroo</i> —its bark is used for mak-<br>ing twine, caulking, and other purposes...<br><i>Bagu</i> is another.....                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                             |                                                                                                                                              |
| 38. <i>Krangei Laut</i> —it is used for<br>wheels, bows and spear-shafts. ....                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                             |                                                                                                                                              |
| 39. <i>Ara</i> —different species of the ficus<br>indicus with entire leaves; they are planted<br>near temples. ....                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                             |                                                                                                                                              |
| 40. <i>Prea Laut</i> — <i>Momordia charantia</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                             |                                                                                                                                              |
| 41. <i>Jawi jawi</i> —a species of <i>Baniani</i> ..                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                             |                                                                                                                                              |
| 42. <i>Marbau</i> —this is a high tree, af-<br>fording large planks for making tables,<br>chairs &c. also for house-pillars and boat-<br>building; it is durable.....                                                                                                                                                                                                                                                                                                                                                                                       |                                                             |                                                                                                                                              |
| 43. { <i>Marbau etam</i> , or <i>tundo</i> } are<br>{ <i>Marbau darak</i> , } varieties<br>{ <i>Marbau rengkong</i> }                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                             |                                                                                                                                              |
| 44. <i>Meddang Kamangi</i> —sassafras ap-<br>parently—soft & fragrant wood; has a rough<br>bark .....                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                             |                                                                                                                                              |
| 45. <i>Do. Sila</i> . ....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                             |                                                                                                                                              |
| 46. <i>Meddang Soory</i> —is used for plank-<br>ing and in house-building.....                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                             |                                                                                                                                              |
| 47. <i>Do. Benar</i> . ....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                             |                                                                                                                                              |
| 48. <i>Kayoo Koolin</i> —very large tree and<br>very hard wood; makes good planks for<br>boats; sinks in water. ....                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                             |                                                                                                                                              |
| 49. <i>Kayoo Koolit</i> . ....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 11½                                                         | 3½                                                                                                                                           |
| 50. <i>Rossach</i> —a high tree, red for about<br>feds. of the diameter, 18 inches diameter,<br>tough, and used for making paddles, oars,<br>&c.....                                                                                                                                                                                                                                                                                                                                                                                                        |                                                             |                                                                                                                                              |
| 51. <i>Bedara</i> — <i>Rhammus jujuba</i> . ....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                             |                                                                                                                                              |
| 52. <i>Kayoo Chicha</i> —very durable.....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                             |                                                                                                                                              |
| 53. <i>Kayoo Penaga</i> —a large tree, yields<br>crooked timber for knees of vessels; an in-<br>fusion of its leaves and roots is applied to<br>the eyes to allay inflammation. On the Ma-<br>labar Coast this tree is called Alexandrian<br>Laurel, and in Bengal, Poorlunge; it grows<br>only on the sea shore, in sandy places; its<br>wood is used for ribs of boats .....                                                                                                                                                                              |                                                             |                                                                                                                                              |
| 59. <i>Kayoo Kamooning</i> —apparently the<br><i>Chakas paniculata</i> of Lin: <i>Astronia</i> of Ba-<br>tavia Transact.: it is an ornamental wood<br>and the roots, which are large and flat, and<br>twisting, are formed into kris handles and<br>take a fine polish. There are several kinds,<br>such as the <i>Kayoo Kamooning amas</i> ; <i>K.K.</i><br><i>kunyit troas</i> ; <i>K.K. tei karbau</i> , <i>do. an-<br/>gia</i> and <i>do. battu</i> . The tree prefers rocky<br>places, and is rarely found on this side of<br>of the Perak hills ..... |                                                             |                                                                                                                                              |
| 60. <i>Limpong</i> —is a tall tree, inhabits<br>swamps; it is used for planks .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                             |                                                                                                                                              |

| Names & Descriptions of Woods.                                                                                                                                                                                                                                             | Weight<br>planed to 2<br>feet long<br>and 1 inch<br>square. | When put into a frame<br>22 inches wide, 1 inch<br>resting on each side and<br>a weight suspended at<br>the middle, the bars<br>broke under— |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                            | crys. tals                                                  | Crys. lbs.                                                                                                                                   |
| 61. <i>Giyum</i> —is a hard and durable wood, much in request by native boat-builders, who are good judges of the best kinds of timber; it sinks in water and resists the salt-water insects a long while. . .                                                             |                                                             |                                                                                                                                              |
| 62. <i>Sannai</i> —is another, used for the same purpose; a sacred tree, very scarce here.                                                                                                                                                                                 |                                                             |                                                                                                                                              |
| 63. <i>Mirapoo</i> —a high tree, grows in marshy places, fawn coloured, sinks in water, does not resist the worm or beetle. . . .                                                                                                                                          | 8                                                           | 3                                                                                                                                            |
| 64. <i>Binnoo</i> —is a high tree with a succulent fleshy leaf, and has a poisonous sap; has an edible acid fruit; the branches grow in shape of an umbrella. . . . .                                                                                                      |                                                             |                                                                                                                                              |
| 65. <i>Srean</i> —a slim tree, used in house-building. . . . .                                                                                                                                                                                                             |                                                             |                                                                                                                                              |
| 66. <i>Ro or Arrow</i> —a graceful tree, somewhat tapering, and resembling some species of the fir. It has small cones, and fibrous leaves, casuarina liorea. The wood is hard; not prized. . . . .                                                                        |                                                             |                                                                                                                                              |
| 67. <i>Bukkau</i> —is a small tree. . . . .                                                                                                                                                                                                                                |                                                             |                                                                                                                                              |
| 68. <i>Toomoo</i> —its bark is used by the Chinese to dye their sails and lines of a brownish red. . . . .                                                                                                                                                                 |                                                             |                                                                                                                                              |
| 69. <i>Lengadei</i> —for rafters and firewood.                                                                                                                                                                                                                             |                                                             |                                                                                                                                              |
| 70. <i>Jaring</i> —a species of Mimosa, resembling a chesnut, the fruit is edible, but has a repulsive smell. . . . .                                                                                                                                                      |                                                             |                                                                                                                                              |
| 71. <i>Kattong</i> —large tree, used for boat-building, that growing on high grounds is best for making tables . . . . .                                                                                                                                                   |                                                             |                                                                                                                                              |
| 72. <i>Kupini</i> —iron wood. . . . .                                                                                                                                                                                                                                      |                                                             |                                                                                                                                              |
| 73. <i>Brangun</i> —is a large tree with a broad leaf, light wood, and not subject to dry-rot, has an edible fruit. Cultivated. . .                                                                                                                                        |                                                             |                                                                                                                                              |
| 74. <i>Kayoo Singam</i> —this tree grows in mangrove tracts. It is approved for boat and house-building. . . . .                                                                                                                                                           |                                                             |                                                                                                                                              |
| 75. <i>Gharoo</i> —agila wood. . . . .                                                                                                                                                                                                                                     |                                                             |                                                                                                                                              |
| 76. <i>Tinkaras</i> —from this tree gharoo is also, it is said, obtained. . . . .                                                                                                                                                                                          |                                                             |                                                                                                                                              |
| 77. <i>Krooing</i> —this tree yields a valuable oil called miniak krooing or krooing                                                                                                                                                                                       |                                                             |                                                                                                                                              |
| 78. <i>Kalookoob</i> —thorny tree, has an acidulous edible fruit. . . . .                                                                                                                                                                                                  |                                                             |                                                                                                                                              |
| 79. <i>Kammiyan</i> —the tree which yields the benjamin. . . . .                                                                                                                                                                                                           |                                                             |                                                                                                                                              |
| 80. <i>Ipel</i> —is a large tree, having a reddish coloured wood, the natives use it in house-building; very fibrous fracture; planks for boat-building are cut from it; it is reckoned equal to <i>Marbau</i> ; sinks in water; the diameter is sometimes 2 feet. . . . . | 81                                                          | 4 84                                                                                                                                         |
| 81. <i>Matati</i> —very brittle wood. . . . .                                                                                                                                                                                                                              |                                                             |                                                                                                                                              |
| 82. <i>Tututi</i> —for house posts. . . . .                                                                                                                                                                                                                                |                                                             |                                                                                                                                              |

| Names & Descriptions of Wood.                                                                                                                                                                                                                                                                                                                                              | Weight<br>planed to 2<br>feet long<br>and 1 inch<br>square. | When put into a frame<br>22 inches wide, 1 inch<br>resting on each side and<br>a weight suspended at<br>the middle, the bars<br>broke under— |      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|------|
|                                                                                                                                                                                                                                                                                                                                                                            |                                                             | Cwts.                                                                                                                                        | lbs. |
| <p>83. { <i>K. Tumpang busac</i>—“hard-iron wood,” used in some places instead of betel-nut along with betel-leaf . . .<br/> <i>Do. Benar</i> } these are all used in<br/> <i>Do. Boonga</i> } house-building . . . .</p>                                                                                                                                                  | crys. tael                                                  |                                                                                                                                              |      |
| 84. <i>Kananga</i> —a large tree . . . . .                                                                                                                                                                                                                                                                                                                                 |                                                             |                                                                                                                                              |      |
| 85. <i>Babuta</i> —is a low shrubby tree; its bark contains a very viscous juice; an oil is extracted from this which is used in cutaneous affections by the Burmans. Great care is required in cutting the tree down, for if the sap reaches the face of the wood-cutter, it will be swelled in a hideous manner and his sight will be endangered. . . .                  |                                                             |                                                                                                                                              |      |
| 86. <i>To Joak</i> —a dark-leaved small tree to which superstition affixes a sacred character. Most old and insulated trees are held to be Kramat, and small white flags are up stuck near them, and often propitiatory offerings made to the spirits supposed to reside on the spot. . . .                                                                                |                                                             |                                                                                                                                              |      |
| 87. <i>Jati</i> —teak. This valuable timber was introduced into the Island by the late D. Brown, Esq., and many trees have already been felled of respectable dimensions, but little pains are taken elsewhere to extend it.                                                                                                                                               |                                                             |                                                                                                                                              |      |
| 88. <i>Kayoo manis</i> —Cinnamon. This tree was introduced before 1796 by Lord Hobart and would have succeeded had attention been paid to its cultivation; one or two trees alone remain, it is believed, on the Island.                                                                                                                                                   |                                                             |                                                                                                                                              |      |
| 89. <i>Sudoo soodoo</i> —the Euphorium; the Malays use it as a drug for cattle. . . .                                                                                                                                                                                                                                                                                      |                                                             |                                                                                                                                              |      |
| 90. <i>Kranji</i> —large tree, does not float, fibrous fracture. It is a valuable wood; the Chinese use it for masts and rudders to their Junks. The Malays for house posts; less durable than Tampanes or Tummassoe. The bark is astringent and is used by Malays instead of betelnut when the latter is scarce. The fruit is edible; the wood is not very buoyant. . . . |                                                             |                                                                                                                                              |      |
| 91. <i>Kayoo arang</i> , or Siam wood, a black wood, which takes a high polish. It may be had, but does not grow here. . . .                                                                                                                                                                                                                                               | 9½                                                          | 5                                                                                                                                            |      |
| 92. <i>Chumpuda Ayer</i> —high tree, growing in marshes. The wood floats. It is yellowish. It is used in making boats. Is abundant at Krian river. Its bark is very flexible and strong, and is used in making walls for native houses, granaries &c. . . .                                                                                                                |                                                             |                                                                                                                                              |      |
| 93. <i>Nipis Kulit</i> —is a moderate-sized tree, about 1½ foot diameter, the bark is very thin and vertically striated; colour, fawn, hard, used to make mortar pestels,                                                                                                                                                                                                  | 6½                                                          | 3                                                                                                                                            | 14   |

| Names & Descriptions of Woods.                                                                                                                                                                                                          | Weight<br>planed to 2<br>feet long<br>and 1 inch<br>square. | When put into a frame<br>2 inches wide, 1 inch<br>resting on each side and<br>a weight suspended at<br>the middle, the bars<br>broke under— |           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------|
|                                                                                                                                                                                                                                         |                                                             | cts. & tals.                                                                                                                                | Cwt. lbs. |
| and as it sinks in water is used to make<br>anchors.                                                                                                                                                                                    |                                                             | 9½                                                                                                                                          | 5 42      |
| 94. <i>Secat</i> —a tree having a red bark<br>which is called by the Burmese "chekha"<br>and is used to eat along with betel leaf.<br>It is sold at Junkceylon at 8 Drs. the picul.<br>It is a very scarce tree here.                   |                                                             |                                                                                                                                             |           |
| 95. <i>K. Srayan</i> —a hard wood used for<br>house-building.                                                                                                                                                                           |                                                             |                                                                                                                                             |           |
| 96. <i>Nunka</i> or <i>Jack</i> —is well known.<br>Its wood is not much used here.                                                                                                                                                      | 6½                                                          | 3                                                                                                                                           |           |
| 97. <i>Bittoot</i> —grows in mangrove jungle;<br>fawn coloured; of little use.                                                                                                                                                          | 7½                                                          | 3                                                                                                                                           | 30        |
| 98. <i>Middang Bunga</i> —fawn-coloured<br>wood, not durable if exposed.                                                                                                                                                                | 6                                                           | 2                                                                                                                                           |           |
| 99. <i>K. Marulilin</i>                                                                                                                                                                                                                 |                                                             |                                                                                                                                             |           |
| 100. <i>Kranam</i> —a creeper, medicinal.                                                                                                                                                                                               |                                                             |                                                                                                                                             |           |
| 101. <i>Bayor</i> —used for boat-building,<br>not very much prized.                                                                                                                                                                     |                                                             |                                                                                                                                             |           |
| 102. <i>Tumpang</i> —high tree, grain yel-<br>lowish, good for house-posts, very durable,<br>next to Tummassoo for this purpose.                                                                                                        |                                                             |                                                                                                                                             |           |
| 103. <i>Tumpenes putih</i> —not so good as<br>the dark Tumpenes.                                                                                                                                                                        |                                                             |                                                                                                                                             |           |
| 104. <i>Chirmei Burong</i> —small tree, its<br>leaves are used in medicine & given to lying<br>in women, & externally, in certain cutaneous<br>affections. Birds are very fond of its seeds.                                            |                                                             |                                                                                                                                             |           |
| 105. <i>K. Tamak bukit</i> —for planks,<br>boat-building, wood white.                                                                                                                                                                   |                                                             |                                                                                                                                             |           |
| 106. <i>Mengoopos</i> —reckoned nearly<br>equal to <i>Tumpenes</i> . It is dark coloured.                                                                                                                                               |                                                             |                                                                                                                                             |           |
| 107. <i>Pulei</i> —white wood for planks, only.                                                                                                                                                                                         |                                                             |                                                                                                                                             |           |
| 108. <i>Julutong</i> —very white. These<br>woods are chiefly used by undertakers.                                                                                                                                                       | 4½                                                          | 2                                                                                                                                           |           |
| 109. <i>Langadei</i> —for fire wood, <i>sinks</i> in<br>water.                                                                                                                                                                          |                                                             |                                                                                                                                             |           |
| 110. <i>K. Kaledong</i> —large tree, used in<br>boat-building; dark coloured.                                                                                                                                                           |                                                             |                                                                                                                                             |           |
| 111. <i>Nibong</i> — <i>Caryota urens</i> —is a spe-<br>cies of palm. The wood is valuable for<br>house-posts and rafters, lathes, &c.; grows<br>in marshy places. It is very hard and fi-<br>brous, as is its fracture.                | 11                                                          | 6                                                                                                                                           |           |
| 112. <i>Tunmak</i> —for ships' planks.                                                                                                                                                                                                  |                                                             |                                                                                                                                             |           |
| 113. <i>Maroonggei</i> —The guilandina mo-<br>ringa of Lin: and Bengal.                                                                                                                                                                 |                                                             |                                                                                                                                             |           |
| 113. <i>Sajina</i> or <i>Ramoongei</i> —a tree hav-<br>ing a root of a pungent flavor, resembling<br>horse-radish, for which it is substituted.<br>The natives eat both the leaves and pods.<br>The latter form a good table vegetable. |                                                             |                                                                                                                                             |           |
| 115. <i>Bayas</i> —is a tree of the palm tribe<br>which grows on the hills and is put to the<br>same purposes as the Nibong and is reckon-<br>ed stronger.                                                                              |                                                             |                                                                                                                                             |           |
| 116.— <i>Bintaro</i> — <i>Carbera</i> of Lin: yields<br>a deleterious milky juice.                                                                                                                                                      |                                                             |                                                                                                                                             |           |

| Names and Descriptions of Woods.                                                                                                          | Weight<br>planed to 2<br>feet long<br>and 1 inch<br>square. | When put into a frame<br>24 inches wide, 1 inch<br>resting on each side and<br>a weight suspended at<br>the middle, the bars<br>broke under— |      |
|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|------|
|                                                                                                                                           | ctys. taels.                                                | Cwt.                                                                                                                                         | lbs. |
| 117. <i>Jangkap</i> —a species of palm. Its<br>fibre is used to tie on thatch. ....                                                       |                                                             |                                                                                                                                              |      |
| 118. <i>Pasat Linga</i> —a tree, the outer<br>coats of wood, white; the heart, red; is easily<br>worked into planks and is durable. . . . |                                                             |                                                                                                                                              |      |
| 119. <i>Assam Jawa</i> —the tamarind tree.<br>It is scarce and cultivated for its fruit. . .                                              |                                                             |                                                                                                                                              |      |
| 120. <i>K. Pisang pisang</i> —high tree, use-<br>ful for ships' masts; very tough; colour,<br>yellow. . . . .                             |                                                             |                                                                                                                                              |      |

## IPOH—RABUTA.

121. The first is the long-dreaded poison tree of Java. The second is a high tree, the juice of which, or even the exhalations from it, cause swelling in the face, eyes and body, of the wood-cutter, who is careful, therefore, to peel the bark before using the axe.

With the inspissated juice of the Ipoh, the Samangs, or wild tribes in the interior, poison their arrows. But this juice, which is prepared over a fire, must be used soon after the process, or it loses much of its virulence. Many arrows tipped with Ipoh were given to me by the different tribes in Perak, and just beyond the English frontier. An incision, some months after, was made with one in the leg of a fowl, and in that of a dog, both of which sustained no injury.

These people told me that they dipped the point of the arrow into the juice, just before they intended discharging it, and that a monkey, if wounded by the arrow, would die in a few minutes.

122. *Dammar meniah*—not equal to *dammar laut*. Its oil is mixed with Kruing oil for paying prahus.

123. *Dammar etam*—heavy wood.

124. *Ballong Ayam*, and *Sream*—used for house-building.

125. *Tumak*—for boat-building.
126. *Meddang kuning*—yellow sassafras.
127. *Tabangow battu*—a hill tree.
128. *Tumpayan amas*—a fine-grained, yellowish wood, used for furniture.

PRICES OF WOODS.

- Ebony or Siam wood,—8 to 5 drs. per picul.
- Maranti planks, 17 feet by 6,—from 9 to 12 drs. per 100.
- Do. Do. 9 feet by 6,—4 to 5 drs. per 100.
- Do. beams 17 feet long, at 10 to 12 cents per inch.
- Dammar Laut beams, 22 feet—at 12½ cents per inch square.
- Pulei planks, 8 feet by 10—from 6 to 8 drs. per 100.
- Marbau beams, 10 feet by 20 in. broad, and 7 in. thick—7 to 9 drs. per 100.
- Do. planks, 10 feet by 20 in. and 1 in. thick—2 to 2½ drs. per 100.
- Satin wood,—2 drs. per picul.

ROTAN.

The rattan, a generic term. There are many varieties of the Rotan.

- Rotan sigga*—knotted; used for chair-bottoms.
- do. ligor benar*—"true rattan."
- do. ayer*—not so pliable as the sigga.
- do. jirnan*—already noticed.
- do. tiga sisi*—"three-sided."
- do. tiga badah*—large joints.
- do. kawat*—used for rigging.
- do. semut*.
- do. tawar*—it grows on the banks of rivers and drops in strong tendrils armed with crooked thorns. These will pull a man out of a boat.
- do. mannau*—used for walking canes.
- do. samambo*—also for walking canes, dark colored and glossy, with joints far apart; grows to many hundred feet in length.

*Rotan telling*—found on plains.

*do. koombar.*

*do. dhannan*—a very long and thick cane, perhaps the largest species. The gatherers of the edible birds' nest make their ladders for scaling precipices of this species.

*do. sinnee*—long and delicate colour, white, it is used by the Malays for cables and rigging of prahus.

*do. jomang*—producing the "Dragon's blood."

*do. salak*—produces an edible fruit;—the calumus zallacca.

*do. bumban*—grows about 7 or 8 feet long. Is used for tying on thatch. It is a ground-rattan growing strait up.

*do. pait and kartas*—with a thin fibre.

*do. saboot*—is made into cables and rigging for native prahus.

*do. binni or dinni*,—its leaves are poisonous.

*do. oodang*—red rattan. The cane of which the Samangs and other tribes make their blow-pipes for poisoned arrows.

#### BULUH BAMBOOS.

*Buluh bittang*—the large bamboo, it is used for house-building and for ladders. A section forms a water pitcher. Fishing weirs are constructed of it, &c. &c.

*do. trimiang*—used by the wild tribes to make their blow-pipes for poisoned arrows.

*do. bitting*—a large bamboo, its root is pithy. It is used by the wild tribes to make bows.

*do. duri*—thorny bamboo, used for high fences; it grows 60 or 70 feet high.

*do. gading*—yellow bamboo.

*do. siggei*—used for ladders, to scale precipices.

*do. aur minigah*,—smaller sort,

*do. aur gading*,

*do. perindoo*,

*Buluh kassap*—small bamboo, grows on rocky hills and islands.

*Do. appa*—the wild tribes makes their flutes of this bamboo.

PUTUT AKAR, AKAR MAMPLAS & AKAR TINNAVAN, are creeping plants or trees which climb up, or rest horizontally on the branches of other trees. The Malays in travelling through the jungle, cut them across and obtain water in sufficient quantity to allay thirst and dress rice ; this water has hardly any taste but contains vegetable juice, and might not long be used with safety ; the stem is first cut *above*, and then *below* into sections of two feet long, and the water flows out at the lower end. If the lower part be first cut no water will flow, a circumstance which seemed strange when first observed, but it is owing probably to the peculiar construction of the sap vessels and the generally rapid flow of the sap upwards, to capillary attraction, and the checking of the force by cutting above ; and perhaps, to some contraction in the sap vessels themselves.

The *Putut Akar*.—The root of this creeper is rubbed down along with rice-water into a thin paste and applied to wounds, and a decoction of it in hot water is used to wash them ; its fruit is edible. The *Akar mamplas* is used for tying fences. It is a curious fact that the climbers are almost invariably twisted round the tree from left to right.

*Akar ramidin*—is a very useful withe for tying fences.

*Jalatang*—a plant, the leaves of which sting more severely than nettle.

*Loomoot*—rock-mosses. The Malays collect them for stuffing bedding.

AGAR AGAR.

*Zostera*, L : a kind of seaweed growing on rocks. It is prepared at Malacca in shape of a clear jelly,

which is much admired. The plant grows at Pulo Ticoos and on the shores of the neighbouring islands; it is blanched in the sun for ten days or until it is quite white. It is probably antiscorbutic.

*Akar jong barellah*—its leaves are dressed with curry by the Malays and eaten.

#### MUSHROOM OR KULIT.

There are many varieties of the mushroom. The hot-house mushroom may be picked up occasionally on Penang at the sides of the high roads. On Penang Plain, in Province Wellesley, large quantities of the *kulit padang* mushroom are collected in the rainy season. The mushroom is eaten by the Malays who class them into the edible and poisonous.

#### THE EDIBLE.

*Kulit poongsoo*—a large mushroom, reckoned the best.

*Kulit siser*—found on dead trees, lightish colour, tough, small, indented.

*Kulit liyot*—also on dead trees.

*Kulit koombool nior*—a large sort, not much prized

*Kulit padang*—this is the white mushroom with red gills; it is found in large quantities on the plain of Penaga in Province Wellesley; it is nearly the same as the English cultivated sort.

*Kulit soosoo plandok*—darkish skin, white gills, much esteemed by the Malays.

*Kulit roman*—raised from decayed paddie-straw.

#### POISONOUS MUSHROOMS.

*Kulit koi*—very hard, grows on trees. It is applied externally in certain affections.

*Kulit merah*—red, used externally to cure cutaneous affections.

*Kulit gillang*—grows on plains.

*Kulit tai lumboo*.

There is a sort like leather, found on trees, and can be used as a dish.

## ROSSUM AND NOW.

*Paku*—the fern, *felix*, of which there are many beautiful species; that growing on the open plains resembles most nearly the English fern. Those growing in the woods are wide runners. Their stalks are used, especially the *Now*, for pens by native penmen, and in the manufacture of chairs and stools or moras. The tree fern is a gigantic species, found about the elevation of 2,000 feet above the level of the sea. From the *Now* a toddy is extracted.

## RA-ME RA-ME,

Is a succulent, delicately stalked plant, having a broad, pale leaf and growing about 4 feet high. Its integument yields a sort of hemp, which is used by the Malays as sewing thread and for making fishing lines. It might be very easily manufactured into the linen, which in China is called grass-cloth. The Chinese here, call the plant *Cho*, and allege that it is the same as that which grows in China where it is used for making the cloth just mentioned. It is prepared much in the way that hemp is, by means of iron cards, and sells for 25 dollars a picul. Here it requires to be kept free of lalang grass and seems to thrive best in the shade.

## ROOTS AND BARKS USED AS DYES.

*Jimerlang*—is a high tree, having a dark-red bark used to fix the dye in blue cloth.

*Sapang*—is employed to obtain a reddish color, and is used along with alum.

*Kasoomba*—for a dark-red color. Tamariud is used to fix the colour.

*Kiderang*—for green on a *taroom* ground, and yellow by mixing alum with it.

*Mallow*—used to obtain a dark crimson on a blue ground.

*Mangkudu*—for red. The ashes of the Kadudoo

are first mixed with *sesame oil* and the *assam sampoe* leaf, & applied to the cloth; the mangkudu afterwards.

*Jir nang*—a rattan which yields a small round fruit in large clusters. The downy substance which adheres to the fruit and which is of a dark-red colour is shaken or scraped off, and then becomes what in trade is called “Dragon’s blood.” The districts near the Kreen river used to give a considerable quantity. There are two kinds, the marsh and the hill *Jir nang*; the latter is preferred. The dragon’s blood sells on the spot for 30 Spanish dollars the picul.

*Buah palaga*—cardamums. This valuable forest product has not yet been found growing in perfection below the Tenasserim Provinces. But there is an inferior species collected in the woods beyond the Honorable Company’s frontier, which the Chinese monopolize and obtain;—it is said they get 70 dollars the picul for it. Some plants imported from Tavoy have thriven well, but have not gone to seed. There is every probability, therefore, that if good seed could be obtained and cultivated as in Malabar, and of which Mr. Baber has given an account in his examination before the Committee of the House of Commons, the result might be favorable.

#### VEGETABLES.

The native vegetables may be had in great perfection in the bazar. Besides these, the Chinese cultivate cabbages, which they raise from shoots, celery, which has hardly any stalk, and tolerable lettuce. The nolkol has been raised on the flag-staff hill, and peas and carrots are occasionally, when seed can be had, raised both there and in Province Wellesley with some success. Potatoes have not succeeded, as yet, nor is it probable they will, owing to there being no cold season of sufficient duration. There are many varieties of sweet potatoes, one of which, the *oobi tora*, which is rather scarce, is a good substitute. There are

also *oobi gadong*, or yams, both red and white, and french beans.

*Oobi kaiyoo* also called *oobi Blanda*, (Holland) because perhaps it was originally brought from Batavia, is a species of the arrow plant, from the root of which the flour called arrow-root is made. The Malays eat this root after roasting it.

*Oobi sangkwang*, is the root of a species of convolvulus and resembles in shape our potato, but is whiter. The Chinese eat it raw on account of its supposed cooling properties. The taste is sweetish.

#### GRASSES.

*Roompoot moon nanti panas*—a thick-leaved succulent grass; grows thick and short, small roots—the leaves shut up when the sun is hot, whence its name; light green; good for cattle.

*Roompoot poosut oolar*—has wiry, thin, bright green stalks and no leaves; roots red, short; grows in low situations; not very much approved for cattle.

*Roompoot miniah padang*—a strong running grass, grows in low places. Little approved for cattle.

*Sambow*—grows in bunches about a foot high; the seeds, in from five to six heads, spreading from the top of the stalk.

*Roompoot papan*—plank grass. This is a strong running grass, throwing out bunches as it proceeds. These have flat fleshy leaves, with three or four small leaves branching from them. Rather coarse for cattle.

*Roompoot ekor kooching*—cat's tail grass, the top of which has a fanciful resemblance to the tail of that animal. It grows about 2 feet high in bunches, and has slender stalks.

*Papara bilibi*—grass about six inches high; red slender roots; seeds in a circular branching group of ears; grows in marshy places.

*Roompoot miniah*—the dhoop grass, a creeping grass known over all India, as one of the best for horses.

*Roompoot sittra*—silk grass; a very delicate grass about  $3\frac{1}{2}$  inches high, long slender roots, small bunch of seeds at top.

*Roompoot miniah jantan*—male miniah grass, a delicate grass, grows on plains, seed-vessels light and elegant, height  $1\frac{1}{2}$  foot.

*Roompoot manis*—grows in tufts; called sweet grass from its having a sweet smell when dried; length 10 or 11 inches, cattle not very fond of it. It is scarce; it runs along the ground, roots slender.

*Roompoot rotan*—rattan grass, a coarse running grass, resembling the *trobong*. It is a climber too, and is troublesome in plantations.

*Tamuchute*—vulg : love-grass; a strong-rooted grass; grows about a foot and a half high, in small bunches. Bears seeds which attach themselves obstinately to the legs of animals and to the clothes of the pedestrian; it is difficult to eradicate it from the soil.

*Roompoot ekor itik*—duck-tail grass, about 5 inches high, in bunches. The ends are bent back, hence the name; dark-green leaf, slender roots.

*Roompoot hulliah*—ginger grass; so called on account of its thick, bulbous roots resembling ginger. The stem is strong with spiky straggling leaves; grows about two feet high.

*Roompoot sarang boaiya*—is an exceedingly strong-rooted runner which grows best in sandy ground and chokes all other plants of feeble growth, impeding even the young cocoanut tree. It might prove useful in binding together shifting sands.

*Roompoot kamman*—the sensitive plant—is here a rank and destructive weed, and should be speedily

eradicated from cultivated land, as its seeds soon spread it in all directions. There are two species, one inhabits the marshy, the other the dry lands.

*Tubboo gaja*—a species of liquorice which is used by the Malays in medicine, for colds, &c. &c. It has rather a harsher taste than the European plant.

*Roompoot kapala lalat*—fly's-head grass. It grows about a foot high, with a slight stalk and has a small bulb of seeds at the top; cattle eat it readily, grows in dry as well as moist places.

*Roompoot jungoot killi*—"whisker grass"—grows in bunches, has slender roots and throws out single wiry slender stalks, about 14 inches long, not much relished by cattle, grows in marshy places.

*Trobong* — a strong running grass with long leaves, grows in swamps.

*Roompoot aur*—a soft grass with a rather thick stalk, it is also a runner. Cattle improve on it.

*Roompoot paddie silloo*—a delicate grass with a profusion of small dark-red seeds on its upper branches. Roots slender, tufted.

*Roompoot paha blalang*—grasshopper's-leg grass, grows in thick tufts, and is about  $1\frac{1}{2}$  foot high. The seed-ear is somewhat like the leg of the insect from which it derives its name; dark-green broad leaves; good for cattle.

*Roompoot poorum* — a sedgy grass used to make baskets, roots feeble.

*Roompoot oomboot oomboot*—a strong, broad-leaved grass, growing in marshy places; roots feeble.

*Roompoot papara*—a grass about 2 feet high, grows in marshy places, has a thick tuft at top, roots small.

*Roompoot jiolo* — strong succulent grass, with slight roots; the stalk contains a pith used for lamp-wicks. It is eaten by cattle.

FLOWERS.

Of these there are the *Mallor* or Arabian jasmine—the *mallor votan* or wild jasmine—the *champaka*, very odoriferous—the *boonga tonkeng* —the *mamplas*, a sweet-scented reddish flower, growing on a creeping shrub, the leaves of which are used to polish hard wood—*ingre*, a parasitical plant, having a very pleasantly-scented white flower—the *innei*, the flower of the shrub whose leaves are used to stain the finger-nails red. There is also a beautiful species of yellowish *honey-suckle* which grows in the woods—besides many other flowering shrubs, deserving the attention of the florist, if not the botanist.

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## CHAPTER V.

## VALUE OF REAL PROPERTY.

The Island of Penang contains an estimated quantity of about 48,000 orlongs of land, only nine thousand of which can be considered to be in a state of cultivation ; about 8,000 of the remainder are hilly.

No valuation which can be depended on has been made as yet of the cultivated land, nor would it be easy to do this where produce is liable to constant fluctuations in its value.

It would be more difficult perhaps to appraise the town and suburbs within the Bound ditch.

In 1808, a committee valued the property situated within a sweep of two hundred and fifty yards of the fort, which includes a portion only, although a valuable one, of the town, at 534,750 Spanish dollars. Penang was then the chief commercial place in the Straits. The Church too, was not then built, which cost a large sum. At the estimated rental of the whole town, and at ten years' purchase, exclusive of the church and other public buildings, the value of *all* may be rated at 799,000 Spanish dollars.

The whole landed property and houses lying beyond the Bound ditch may, at eight years' purchase only, be valued at not less than 520,000 Spanish dollars. But the value of this last is daily advancing and when the spice plantations now in progress, come into bearing, it will probably be greatly increased.

The annual value of the gross produce arising from the cultivation, can scarcely be rated higher as yet than 100,000 Spanish dollars, and it has occasion-

ally fallen much short of this amount. The result of the new spice and other plantations, if successful, may easily double this, and there is every reason to anticipate that it will do so.

In Province Wellesley, spice cultivation is yet in its infancy, although that seems rather a vigorous one. But as grain, sugar, and other products are there cultivated on a wider range of fertile land than on the Island, and the prices of landed property are in some degree reducable to a scale, I can proceed with more confidence to estimate the value both of land and produce.

With reference to the average rates of sales of land, to the extent of cultivated land ascertained by actual survey, and that not yet surveyed but estimated only, it will be perhaps within the mark, if the whole of these lands, with all the real property attached to them, be rated at about 300,000 drs.

The gross produce annual value, the staples being rice, sugar, [which alone is reckoned at 60,000 drs.] plantains, and cocoanuts, will not now perhaps be over-estimated at an equal sum.

The total rental will, at one-third of the gross produce value, admit of little more than three years' purchase; a very startling conclusion, but one which, in new countries, is frequently arrived at and certainly is at first encouraging to intending settlers.

The actual *rent* received in money or in kind by proprietors of *corn* land alone, is estimated at not less than eighty thousand Spanish dollars per annum.

The annual surplus disposable *agricultural* produce of the Province, sugar included, is probably not less than 80,000 dollars and may be considerably more. The land on Penang at the disposal of the Government consists principally of hills and narrow vallies.

## CHAPTER VI.



## MALACCA AND NANNING.

THE Population of Malacca is 30,000 souls or nearly so, and is rather a concentrated one. That of the district of Nanning is only 5,329 souls, being almost all Malays. The proportions are 1,614 males of mature age, and 1,692 females—with 1,048 boys and 975 girls. In this population of Nanning there are 1,434 rice-cultivators.

Rice is, at Malacca, estimated to yield thirty-fold. But this does not coincide with the estimate of seed sown and produce reaped for the year 1834. In the public returns for the Malacca cultivation of that year, there are set down as seed-grain, 10,316 guntangs; and the produce is given at 281,695; when at 30-fold it would be 309,480.

The average produce of the years 1831, 32 & 33 is, by these returns, about 217,526 guntangs of paddie; which, at thirty-fold, will have required 7,250 guntangs of seed rice. This quantity, allowing thirteen guntangs for one orlong, which is reported to be the quantity required, will give about 557 orlongs for the quantity of land under rice cultivation.

The same quantity of paddie, as already shewn, can be raised in Province Wellesley on 462 orlongs of land, while the saving in the latter district in seed in raising this quantity will be 4,158 guntangs.

If the Malacca planter, which seems to be the case, requires 13 guntangs of seed for one orlong of land, his produce on that space will be 390 guntangs; being 80 guntangs less than the average produce of an orlong of land in Province Wellesley. Were the

land at Malacca equally fertile, then there would be an annual produce of 851,640 guntangs of rice from the above quantity of 7,250 of seed. But the average of the years 1833, 4, 5 is variously stated at 184,895 guntangs by the actual harvest, and at 305,911 by the survey.

If the 400 guntangs of paddie for which the tenth of the Nanning produce was once commuted be a fair one, the quantity of rice produced by that district might be about 4,000 guntangs, which must be very far short of the truth, if the planters there amount to 1,434 as the returns shew. But whether women and children are included does not appear.

The tenth of the whole *paddie* of Malacca and Nanning does not appear to *exceed* 18,300 guntangs, which would only allow of a total produce of about 183,000 guntangs.

The soil of Malacca is, on the whole, a light one. The rising grounds are composed of the porous iron-stone termed *laterite*. The slopes are formed of this substance decomposed, mixed with sand—and the flats are alluvial. The temperature of the climate is rarely above 88° and the medium, during the day, is 80° of Fahrenheit.

This laterite formation is very extensive, but it varies very considerably in its appearance. With us on the Keddah coast, it loses much of its porosity and contains more clay.

The valuable republication announced as about to be made of Papers, which appeared in the *Singapore Chronicle*, will render superfluous any more remarks from us on the capabilities of the soil either at Malacca or Singapore, neither of which subjects I have personally had the means of treating of.

Appended will be found a list of the fruits of Malacca as given by that lamented and able officer, the late Dr. M. Ward of the Madras Establishment.

## APPENDIX.

TABLE OF THE FRUITS FOUND IN THE BAZAR, MALACCA.

| MALAYAN NAMES.    |  | LINNEAN, &c. do.                      |  | REMARKS.                                                                                                                                                                                                                                                                                    |
|-------------------|--|---------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Angoor.....       |  | Vitis vinifera.....                   |  | Grapes. Cultivated occasionally successfully, but not abundant.                                                                                                                                                                                                                             |
| Assam gloogoor.   |  |                                       |  | { Principally used in the composition of curries, for which the Malays are famed, The fruit is also used with water, as a cooling laxative drink in fevers.                                                                                                                                 |
| —kambing eejoo    |  | Tamarindus indica ..                  |  |                                                                                                                                                                                                                                                                                             |
| —kundusun .....   |  |                                       |  | { The Mulberry. Used by the natives as a mild emollient.                                                                                                                                                                                                                                    |
| 5 Babesaram ..... |  | Morus indica.....                     |  |                                                                                                                                                                                                                                                                                             |
| Bachang.....      |  | Mangifera foetida ..                  |  | The Horse-mango. A very coarse fruit, of unpleasant odour.—Much eaten by the lower classes, and producing Cholera, Diarrhea and Dysentery.                                                                                                                                                  |
| Bangkudu .. ..    |  | Morinda citrifolia ..                 |  | The leaves of this plant are used by the Javanese in various diseases, as astringents. "Bontius mentions their use in Diarrhea and Cholera. Internally they act as a mild emollient diuretic." Horsfield in Trans: Bat: Soc: Vol. VIII. P. 25.                                              |
| Batee.....        |  | Papaya.....                           |  | { A very large, oblong, brown-colored, rather agreeably tasted fruit, like the common Mango.                                                                                                                                                                                                |
| Beenjai .....     |  | Mangifera coccinea of Dr. Jack.....   |  |                                                                                                                                                                                                                                                                                             |
| 10 Bidara.....    |  | Rhamnus jujuba.....                   |  | A subacid fruit of a bright yellow color, about the size of a cherry, the pulp enclosing an elliptical-shaped seed. "The Bark of this tree is possessed of mild tonic virtues; it is recommended in weakness of the stomach, and in diseases of the intestines." Horsfield loc: cit: p. 23. |
| Bilimbing bisee.  |  | Averrhoa carambola ..                 |  | { Two well-known, pleasant tart fruits, resembling, strongly, unripe gooseberries.                                                                                                                                                                                                          |
| —bulu.....        |  | —bilimut.....                         |  |                                                                                                                                                                                                                                                                                             |
| Brambang .. ..    |  | (Not ascertained) .....               |  | { A sour fruit, used for making chatnies and curry.                                                                                                                                                                                                                                         |
| Brangun.....      |  | Fagi species.....                     |  |                                                                                                                                                                                                                                                                                             |
| 15 Champadoo..... |  | Artocarpus integrifolia               |  | In appearance and taste, strongly resembling the European chestnut.                                                                                                                                                                                                                         |
| Chirimai .....    |  | Averrhoa acida, or Cica disticha..... |  | The Jack. Farinaceous, mucilaginous, and nutritive.                                                                                                                                                                                                                                         |
| Dalima .....      |  | Punica granatum.....                  |  | A pleasant tart fruit. "The root of the <i>Cicca disticha</i> , is said to be emetic, and great activity is ascribed to it. Hors: loc: cit: p. 33.                                                                                                                                          |
|                   |  |                                       |  | Pomegranate. The rind is used as an astringent, and the bark of the root as an Anthelmintic by the natives.                                                                                                                                                                                 |

\* From a Pamphlet entitled "the Medical Topography of Prince of Wales Island and Malacca, by the late Dr. Ward."

## APPENDIX.—(Continued.)

| MALAYAN NAMES.             | LINNEAN &c. do.                                                                                                | REMARKS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dookoo . . . . .           | Lansium domesticum,<br>Blume. " Bijdragen<br>tot de Flora van Ne-<br>derlandsehe Indie,"<br>4 de stuk, p. 173. | This delightful fruit is the produce of a large tree. It grows in clusters—each is about the size of a cricket ball. The brownish thin skin being broken, displays the pulp in six cloves, of a pleasantly acid taste, inclosing a greenish kidney-shaped seed. It is by many reckoned the finest fruit in the Peninsula. The month of July is the season at Malacca, in which it is had in greatest perfection.                                                                                                                                                                                                                                                                         |
| Doorian . . . . .          | Durio zibethinus . . . . .                                                                                     | This fruit is well-known from the descriptions of travellers. Those who have overcome the prejudice excited by the disagreeable fetid odour of the external shell, reckon it delicious. From experience, I can pronounce it the most luscious, and the most fascinating fruit in the universe. The pulp covering the seeds, the only part eaten, excels the finest custards, which could be prepared either by Ude or Kitchener. Bontius says, it proves laxative, diuretic and carminative; but when eaten in too great quantities, that it predisposes to inflammatory complaints. The natives consider it to possess aphrodisiac qualities. It is certainly in some measure exciting. |
| 20 Gajook . . . . .        | (Not ascertained.)                                                                                             | The seeds used by the Indian boys as marbles.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Gayer . . . . .            | Do . . . . .                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Jambo merah . . . . .      | Eugenia Malaccensis . . . . .                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| —ayer . . . . .            | —aquea . . . . .                                                                                               | Some of these, when in perfection, have a fine flavour—but in general they are insipid, being in taste something between a good turnip and a bad apple. The first species, is commonly called Jamboe Malacca, and is certainly the finest. The fourth goes under the name of Rose-apple.                                                                                                                                                                                                                                                                                                                                                                                                 |
| —bulu . . . . .            | —jambos . . . . .                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 25 —ayer mawar . . . . .   | —rosea . . . . .                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| —cheelee . . . . .         | —var . . . . .                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| —kling . . . . .           | Myrtus cuminii . . . . .                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| —irong . . . . .           | Anacardium occidentale . . . . .                                                                               | Cashew-nut. Fruit coarse, not much eaten. Nut astringent.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| —bijee or portgi . . . . . | Feidum pyrifera . . . . .                                                                                      | Common guava.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 30 Jintue Jintue . . . . . | (Not ascertained.)                                                                                             | A handsome-looking jungle fruit—an orange pulp surrounds a small seed about the size of a pea, and the whole is enclosed in a trilobular capsule of a deep orange color, hanging in clusters from the branches. Taste sour.                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Kadondong . . . . .        | { Phyllanthus Chryso-<br>bolanum of Masden<br>Spondias—Horsfield.                                              | The bark of this is used by the natives as an astringent.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Kalapa . . . . .           | Cocos nucifera . . . . .                                                                                       | Cocoa-nut. Of this Rumphius enumerates 13 varieties.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Kamang . . . . .           | (Not ascertained.)                                                                                             | A fruit of the appearance of a Mango; sour, used principally in curries.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Kapas . . . . .            | Bombax pentandrum . . . . .                                                                                    | The fruit of the cotton tree, taste sweetish, much eaten. Seeds occasionally eaten. The gum of the tree is astringent and sometimes given in bowel complaints.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## APPENDIX.—(Continued.)

| MALAYAN NAMES.     | LINNEAN, &c. do.                  | REMARKS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 35 Karkara .....   | (Not ascertained.)                | A very common and rather handsome plant, bearing a dark purple-colored fruit, about the size of a <i>hip</i> , pleasant in taste or preserved.<br>A very hard brownish black fruit, about the size of an egg, containing a farinaceous substance, boiled and eaten like <i>yam</i> .<br>A large tree—the fruit and kernel being very like those of the common almond.<br>A small brown color'd fruit, of sweet taste, common in the jungles.<br>Dates—mostly imported from Arabia.<br>Resembling the Sootool in appearance. Pulp sweet, tough.<br>Ben-nuts of old authors. The whole tree is esculent—the seeds and leaves are aromatic, and used in curries. The root is an excellent substitute for horse-radish. It is a valuable external stimulant. Rumphius says, in large doses, it produces strangury and abortion. "The leaves are recommended in Gonorrhoea as a mild diuretic." Horsf: loc: cit: p. 20.<br>An acid fruit, resembling a machang in shape.<br>A small and very handsome fruit, consisting of an outer shell strongly resembling that of the Ramboutan, of a bright-red color, within which is the seed surrounded by a whitish pulp, the part eaten.                                                                                                                                 |
| Kamoung ..         | Myrtus tomentosa.                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Karta-tanga ..     | (Not ascertained.)                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Katapang ..        | Terminalia catappa                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Kayoo kolit ..     | (Not ascertained.)                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 40 Khoorna ..      | Phoenix dactylifera.              | Small sweet jungle fruits, eaten by the children, as hips and haws are in England.<br>A small subacid fruit, of the appearance of a Mango, with the same flavor and a very fine scent.<br>A small very dark brown fruit consisting of a hard outer shell, containing a flesh-colored pulp, hanging in bunches. Sourish taste.<br>A fruit of the size and appearance of the Winter apple, resembling in all its qualities, the walnut of Europe.<br><br>The seeds of a large capitate flower, used in curries.<br>A small greenish subacid fruit growing in numerous clusters, excellent in taste. "The root, and a bath or cataplasm of the leaves, is applied (by the Javanese) externally in Rheumatism and local pains in various parts." Horsfield loc: cit: p. 16. The leaves are said to cure intermittent fever, to promote urine, and relieve the pain of the cholera. Id: They are stimulant and aromatic.<br>Small jungle fruit, eaten by the Malays. Used by infusion by lying-in women.<br>A very pleasant, subacid and favorite fruit of the Malays and others. In appearance it is like the Dookoo already described. The seeds of it are said to possess Anthelmintic properties.<br>The oblong large, coarse-looking, green-colored fruit of a variety of mango—rather prized by the natives. |
| Kichanee ..        | (Not ascertained.)                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Kiloor .....       | Guilandinia moringa.              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Kitapang .....     | Callicarpa japonica.              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Kledang .....      | (Not ascertained.)                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 45 Kolit lawang .. | Laurus kulit lawan                | Small sweet jungle fruits, eaten by the children, as hips and haws are in England.<br>A small subacid fruit, of the appearance of a Mango, with the same flavor and a very fine scent.<br>A small very dark brown fruit consisting of a hard outer shell, containing a flesh-colored pulp, hanging in bunches. Sourish taste.<br>A fruit of the size and appearance of the Winter apple, resembling in all its qualities, the walnut of Europe.<br><br>The seeds of a large capitate flower, used in curries.<br>A small greenish subacid fruit growing in numerous clusters, excellent in taste. "The root, and a bath or cataplasm of the leaves, is applied (by the Javanese) externally in Rheumatism and local pains in various parts." Horsfield loc: cit: p. 16. The leaves are said to cure intermittent fever, to promote urine, and relieve the pain of the cholera. Id: They are stimulant and aromatic.<br>Small jungle fruit, eaten by the Malays. Used by infusion by lying-in women.<br>A very pleasant, subacid and favorite fruit of the Malays and others. In appearance it is like the Dookoo already described. The seeds of it are said to possess Anthelmintic properties.<br>The oblong large, coarse-looking, green-colored fruit of a variety of mango—rather prized by the natives. |
| —layoo ..          | (Not ascertained.)                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Kooenee .....      | Do.                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Korinche .....     | Do.                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Kras .....         | Camarium cordifolium.             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 50 Kumbat .....    | The Juglans camirium of Loureiro. | Small sweet jungle fruits, eaten by the children, as hips and haws are in England.<br>A small subacid fruit, of the appearance of a Mango, with the same flavor and a very fine scent.<br>A small very dark brown fruit consisting of a hard outer shell, containing a flesh-colored pulp, hanging in bunches. Sourish taste.<br>A fruit of the size and appearance of the Winter apple, resembling in all its qualities, the walnut of Europe.<br><br>The seeds of a large capitate flower, used in curries.<br>A small greenish subacid fruit growing in numerous clusters, excellent in taste. "The root, and a bath or cataplasm of the leaves, is applied (by the Javanese) externally in Rheumatism and local pains in various parts." Horsfield loc: cit: p. 16. The leaves are said to cure intermittent fever, to promote urine, and relieve the pain of the cholera. Id: They are stimulant and aromatic.<br>Small jungle fruit, eaten by the Malays. Used by infusion by lying-in women.<br>A very pleasant, subacid and favorite fruit of the Malays and others. In appearance it is like the Dookoo already described. The seeds of it are said to possess Anthelmintic properties.<br>The oblong large, coarse-looking, green-colored fruit of a variety of mango—rather prized by the natives. |
| Langoonce .....    | Vitex trifolia.                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Lampanco ..        | (Not ascertained.)                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Langsat ..         | Langsat domestica var.            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Lanjoot ..         | Mangifera species.                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## APPENDIX.—(Continued.)

| MALAYAN NAMES.                        | LINNEAN, &c. do.                                              | REMARKS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 55 Leemoo godang.<br>—manis ..        | <i>Citrus decumana</i> .<br>—aurantium.                       | Pumpkin-moose or Shaddock—rind, a very agreeable bitter.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Leemoo kustooroe<br>—jamboe ..        | } <i>Citri varia species</i> .                                | Several varieties of orange, both indigenous and imported, are to be met with.                                                                                                                                                                                                                                                                                                                                                                                                                       |
| —jaspoon ..                           |                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| —neepis ..                            |                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 60 —soosoo ..                         | <i>Borassus flabelliformis</i> .                              | Different varieties of Limes and Oranges, the list of which might be greatly increased. Some of them are made into excellent preserves.                                                                                                                                                                                                                                                                                                                                                              |
| Lowtar ..                             | Phyllanthus emblica.                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Malaka .....                          | Garcinia mangostena.                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Mangis or Mangistan .....             |                                                               | The seeds of the Palmyra tree form very good preserves, and are only used for that purpose. A handsome tree and fruit. From its abundance round the site of the town at the first arrival of the Malays, Malacca is supposed to have derived its name. The fruit has astringent properties. The fruit is made into a cataplasm and applied to the head in cases of giddiness.                                                                                                                        |
| 65 Mangistan ootang<br>Manga dodol .. | <i>Embryopteris glutinifer</i> .<br><i>Mangifera indica</i> . | The far-famed Mangosteens. This fruit has been justly praised by all who have ever written upon it. It is too well-known to require description.—The <i>habitat</i> of it is extremely limited. We believe that it does not extend further to the northward than the old Port of Tenasserim in Lat. 11° 40',—and all attempts to cultivate it on the continent of India have failed. The shell of the fruit is strongly astringent and decoctions of it are used by the natives in bowel complaints. |
| —pao ..                               | —ambonensis.                                                  | Wild Mangosteens.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Mata kuching ..                       | (Not ascertained.)                                            | } Two varieties of Mango; the first of which is very excellent—but much inferior to the graft-mangoes at Madras. The common coarse Mango is very abundant and much used.                                                                                                                                                                                                                                                                                                                             |
| —plandoq ..                           | (Not ascertained.)                                            | A small fruit growing in thick bunches, consisting of a rough brownish colored round shell containing a deep purple-colored seed, surrounded with a whitish opalescent looking pulp like a cat's eye, hence its Malay name—much prized.                                                                                                                                                                                                                                                              |
| 70 Nam-nam ..                         | <i>Cynometra cauliflora</i> .                                 | A small sweetish tasted jungle fruit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Nanas .....                           | <i>Bromelia ananas</i> .                                      | A fruit of the size and shape of a kidney, of a brownish green colour, growing on the stem of the tree; the outer shell is the part eaten and when good has some resemblance to an apple.                                                                                                                                                                                                                                                                                                            |
| Nanka .....                           | <i>Artocarpus integrifolia</i> .                              | Fine-apple, very abundant and very cheap. "The unripe fruits are diuretic and employed as a remedy in Gonorrhoea." Hors: loci cit: p. 27.                                                                                                                                                                                                                                                                                                                                                            |
| Nasee nasee ..                        | Phyllanthus alba.                                             | A variety of Jack fruit—well known.                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Neeboog .....                         | <i>Caryota urens</i> .                                        | A small white sweetish fruit in clusters—not much prized.                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 75 Nona ..                            | <i>Annona reticulata</i> .                                    | The small flat pulpy fruit of this palm is made into a good preserve for the table.                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Pala .....                            | <i>Myristica moschata</i> .                                   | The Bullock's heart—a much prized fruit.<br>Nutmeg. Made into preserve, when in a half-ripe state.                                                                                                                                                                                                                                                                                                                                                                                                   |

## APPENDIX.—(Continued.)

| MALAYAN NAMES.      | LINNÆAN &c. do.              | REMARKS.                                                                                                                                                                                                                               |
|---------------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Papaya.....         | <i>Carica papaya.</i>        | A pleasant, well-known fruit. The seeds are employed by the natives as Anthelmintics.                                                                                                                                                  |
| Pinang.....         | <i>Areca catechu.</i>        | Common Betelnut. Sometimes employed in decoction as an astringent in Diarrhoea.                                                                                                                                                        |
| Pisang.....         | <i>Musa paradisiaca.</i>     | The Plantain. Of this about 40 varieties might be enumerated. The best are the Pisang mas, P. raja, P. oodang, and P. medji. Decoctions of the root are used as emollient applications.                                                |
| 80 Poolasan.....    | <i>Nepheli species.</i>      | A very delicate, and pleasant fruit.                                                                                                                                                                                                   |
| Rambootan.....      | <i>Nephelium lappaceum.</i>  | Differs from the preceding in size, and in having long bristle-like processes on the outer shell.                                                                                                                                      |
| Rambai.....         | <i>Lansii species.</i>       | This pleasantly subacid fruit, about the size of a plum, hangs in graceful clusters from the branches of a large tree. The pulp surrounding the seed is the part eaten.                                                                |
| Rambaya.....        | <i>Metroxylon sagu.</i>      | From the pith of this tree Sago is prepared. The flatish fruit is made into preserves for the table.                                                                                                                                   |
| Rookan.....         | <i>Carrissa spinarum.</i>    | A common fruit, of a purplish color, clustered round the stem, good in tarts, or making jellies.                                                                                                                                       |
| 85 Salak.....       | <i>Calamus zaiacca.</i>      | Fruit used as a preserve.                                                                                                                                                                                                              |
| Sattool.....        | <i>(Not ascertained.)</i>    | A fruit of a yellow brown color, about the size of a moderately large apple—consisting of a thick hard rind containing 5 or 6 cloves, resembling the Mangosteens; taste, sourish.                                                      |
| C Sappan.....       | <i>Cesalpinia sappan.</i>    | Little used.                                                                                                                                                                                                                           |
| Seri kaya.....      | <i>Annona squamosa.</i>      | Custard apple. Well known.                                                                                                                                                                                                             |
| Sika duduk.....     | <i>Melastoma.</i>            | A common wild fruit—rather astringent, little prized.                                                                                                                                                                                  |
| 90 Sookoon.....     | <i>Artocarpus incisa.</i>    | The Bread-fruit. Little used.                                                                                                                                                                                                          |
| Soongool ootan..... | <i>(Not ascertained.)</i>    | A kind of mango—oblong, large, pulp surrounding the seed of a rich sweetness.                                                                                                                                                          |
| Surba rasa.....     | <i>(Not ascertained.)</i>    | A sour fruit of the Mango kind, used in curries and in making chatnies.                                                                                                                                                                |
| Sooptom.....        | <i>(Not ascertained.)</i>    | A jungle fruit.                                                                                                                                                                                                                        |
| Soorboot.....       | <i>(Not ascertained.)</i>    | A handsome deep-red jungle fruit, about the size of a hen's egg, consisting of a sweetish pulp, surrounding 3 small brown seeds.                                                                                                       |
| 95 Sow or sao.....  | <i>(Not ascertained.)</i>    | This fruit exactly resembles an overgrown strawberry; externally it is of a greenish color mixed with red; internally of a fine pink color. Taste subacid.                                                                             |
| Tampang.....        | <i>(Not ascertained.)</i>    | Of little value as a fruit. "The bark is a mild tonic; it has been found useful in fevers and as a general roborant; used in decoctions."—Horsf. Soc. cit. p. 39.                                                                      |
| Tanjong.....        | <i>Minusaepi elengi.</i>     | A small subacid fruit.                                                                                                                                                                                                                 |
| Tampoo-ee.....      | <i>Lansii species.</i>       | A fruit in external appearance like a small Jack, and like it also containing rows of seeds, but without kernels. The pulp of a yellowish color, is of an agreeably subacid taste, and is highly prized both by Natives and Europeans. |
| Tampoonee.....      | <i>Artocarpus (affinis?)</i> | A small reddish fruit; used in making tarts and jellies.                                                                                                                                                                               |
| 100 Tomi tomii ..   | <i>Flacourtia inermis.</i>   |                                                                                                                                                                                                                                        |

## SINGAPORE.

Sandstone and argillaceous sandstone,\* form the chief geological features of this Island. Generally speaking, the island is formed of a succession of low ridges, with narrow swampy vallies between them—the ridges or low hills occupying the largest space. Bukit Timah, which is considered the highest hill on the Island, is not elevated apparently beyond 350 feet. The level portion, which has been as yet rendered accessible, consists chiefly of the tract extending from the Government Hill; in an easterly direction, as far as the little Red Cliff. It is bounded on the land side by Captain Flint's hill, and by Colonel Farquhar's on the N. E. side, and it extends a good way inland. A great part of the plain bears traces of having once been covered by the sea. Narrow parallel ridges of land appear, varying in breadth from 50 to 400 feet and having alluvial flats between, fit for the cultivation of rice, sugar-cane, &c. The stiff clay underneath is employed for the manufacture of bricks and tiles. But it would seem that the soil or clay of Malacca is better suited than that of Singapore, or Penang, or Province Wellesley, for this manufacture. In the two latter places, the clay is dug out so close to high-water mark that saline particles probably injure the quality of the bricks.

A sandstone is by no means a desirable foundation for a soil in a tropical region.

The argillaceous sandstone of this Island is more or less impregnated with iron. This yields, on decomposition, yellow, red, and white earths. The two first are probably fertile—the last is barely permeable to the roots of plants. The hilly ground is covered by

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\*The account of the nature of the soil here given, is extracted from a Paper drawn up some years ago, by Capt. Lake, for Government.

a soil pretty well fitted for most intertropical productions.

Singapore does not as yet contain many agriculturists. Trade is here the main object still of European and native settlers. From Papers, a series of which appeared lately in the *Singapore Free Press*, the public attention appears to be gradually turning to agricultural subjects.

The writer describes a hot wind which, conjoined perhaps with unfavorable soil, has prevented the Clove tree succeeding. The Nutmeg is said to thrive better. But this tree, more perhaps than any other, requires a humid atmosphere, and speculators will require to be extremely cautious in chusing the site of a plantation. The soil is undoubtedly better adapted to the clove than the nutmeg—were this advantage not counteracted by the wind alluded to.



## CHAPTER VII.

## PRELIMINARY OBSERVATIONS—ADMINISTRATION OF JUSTICE—CRIME—HABITS OF THE POPULATION &amp;c.

THE extent and outline of Prince of Wales Island, are both too well known to require a minute description. The bulk of the area is a mass of hills and forest, and the shores are slightly indented by many small creeks. Province Wellesley, by outflanking the Island to the north and south, secures it from any serious annoyances from the main land ; while seaward, pirates are the only external disturbers of its tranquillity, and these very rarely land to depredate.

The northern boundary of Province Wellesley is well defined by the Muda river, the source of which lies in the central range of mountains—and considerably to the northward of the latitude of the river's mouth—so that it has a pretty long course. These mountains may have an elevation of from five to six thousand feet above the level of the sea. They are not however continuous ; for several large gaps appear at wide intervals. They abound in tin ; and gold is also found at their base.\* The Muda river winds very much ; so that, although the direct distance from its mouth to the brick pillar which marks the British and Siamese boundary on the N. E. is only thirteen miles—that by the course of the stream is twenty-one miles.

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\* The writer, about a year ago, passed beyond these mountains, to inspect the Tin mines. He has some intention of describing the geological features of this part of the Peninsula, hereafter.

It is thirty miles, at the least, by water from Penang Town to the pillar just noticed, and from the mouth of the river to the pillar is commonly seven or eight hours' pull, or poling, against the current. The banks are high, excepting those within a few reaches of the sea, and this condition is occasionally the cause of floods, which, when they occur either at early seed-time, or when the grain is ripening, are apt to do a good deal of mischief.

The river up to the brick pillar, has long been a neutral thoroughfare to British subjects, and the people on the Keddah side;—the expression in the original Treaty of Cession leaving it doubtful which bank was meant for the British line. But, as the Siamese maintain no regular police, the trouble of keeping this route to the interior free from decoits, falls, at any rate, on the English police.

The area of the Muda district is about fifty square miles, and it contains a population of 18,500 souls. This tract, as above observed, exhibits traces of having been cultivated and well-peopled at a remote period. Rice, sugar-cane, and cocoanuts are the chief products. Spices have scarcely been fairly tried as yet. The soil is very fertile.

Betwixt the Muda and Pry rivers, there are several creeks or streams which can be navigated by small boats. One of these, the Qualla Tulloh Ayer Tawar, forms a convenient boat-harbour, and gives its name to the flourishing village on its banks, and to the surrounding district.

This district embraces an area of about thirty miles square, and it contains a population of 13,340 souls. The soil is deep and decidedly alluvial with exception of a few narrow sandy ridges, called *permatangs*. The cultivation, generally, does not differ from that of Muda district, but spices have been lately introduced and promise well.

The Pry river disembogues a little to the southward and eastward of Penang Town. It is about a couple of hundred yards wide at its mouth. There is a bar which may however be crossed at flood-tide by vessels of 300 tons burden at least. These might even proceed ten or twelve miles up the river; for it is deep and maintains a pretty uniformly decreasing breadth of from 100 to 50 yards up to this point. Afterwards it suddenly diminishes to a narrow creek, over which the branches of trees from both banks thickly entwine, admitting only of the passage of boats. But this diminution of its volume takes place beyond the British territory.

It might perhaps be shewn that this river once flowed into the sea at the spot described.

Captain Forrest, the well-known old Straits navigator, mentions in his account of these seas, that he was chased by a French privateer in the vicinity of Penang [*then unoccupied*] and escaped by running up the Pry, in his small vessel, until he could ascend no higher.

Elephants are occasionally shipped from this river for the Coromandel Coast, as I have already noticed in a preceding chapter. The last vessel which took elephants to that Coast, shipped them in Keddah, and the vessel was afterwards lost.

The banks, about half a mile up from the embouchure, are high and muddy; and docks might be easily cut out of them, especially close to the Chinese village, at a very moderate cost. Native vessels of 300 to 400 tons burden or even more, have refitted here. This village is the chief depôt for firewood for the shipping and the Island. Along the beach, to the northward of the mouth of this river, may be seen the remains of the stockade which the commanders of the Lanoon fleet erected; when, having confede-

rated with the King of Keddah, they came to attack Penang in March 1791.

On the 19th of that month, twenty Lanoon prows entered the Pry river. They were followed soon after by the Bindhara of Keddah, with a fleet of ninety boats. The combined parties then began to construct stockades close to the sea beach. On the 23rd. most of the merchant vessels left the harbour, but the inhabitants of the Island asked permission to attack the enemy.

On the 12th of April, four small vessels and several gun-boats were ready for the attack. At four o'clock in the morning, Captain Glass led three companies of sepoys and golundauze and 20 Europeans against the stockades, which were carried after some shew of resistance. The armed vessels then attacked the enemy's fleet, being led on by Lieutenants Raban and Mylne. The enemy were soon driven out of sight. But they returned on the 14th, when they were again attacked, and driven off with great loss. The loss on the attacking side was four native soldiers killed, and 3 Europeans and 18 native troops wounded. The enemy's force was estimated at about 9,000 men.

This aggression was made by direction of the then Rajah of Keddah, who had, it seems, repented of his cession of Penang, but who, of course, disavowed the imputation of having instigated the attack.

It is instructive to notice here the imbecility of the Malays at a period when they had not ceased to be dreaded, even at European settlements—Nine thousand men dispersed by about four hundred! It was the last crusade of this roving race against Penang, and it is likely to remain so.

Pry district contains 9,814 souls. Besides the common products already stated for the other districts, this one bids fair to yield more valuable ones.

Nutmeg plantations have been made and thrive well. There are a few low hills in this tract, most of which are partially cultivated. The soil on them is good. That of the plain is deep alluvion. The district varies, inland from the sea, from 5 to 7 miles in depth; shore-wise, it stretches about six miles. The surface square area may be about 25 miles.

The next river southward of Pry is the JURU. It is about 100 yards wide at its mouth, but it soon becomes very tortuous and narrow; and branches off into numerous creeks. The source of the chief stream lies in *Moratajam*, a hill 1,800 feet high. The western slope of this hill lies within the English territory—the eastern appertains to the Siamese.

The depth of water over the bar is  $7\frac{1}{2}$  feet at spring tides, and large boats can reach within half a mile of the above hill. JURU DISTRICT contains about 28 miles square, and has a population of 3,800 souls. There is less available land for cultivation in this district than in any of the others, owing to the space occupied by creeks and their belts of mangroves. Nutmeg plantations are rising up also in this tract, and bid fair for success. There is a considerable variety in the soil. For the most part it is alluvial. The rest consists of dry but not sterile ridges, and hilly lands, which last are fertile. A good deal of clayed sugar is here made by Chinese. There are some tin ores found in this, and the next two districts of Battu Kawan and Krean; but, notwithstanding several attempts, they have not yet been successfully worked.

The two districts of Battu Kawan and Krean lying to the southward of Juru, and including BATTU KAWAN Island, and the KRA Islands, embrace an area of about 35 miles square. Battu Kawan Island contains nearly nine square miles. About one-half of

this area is fit for cultivation; and on it the Chinese raise a considerable quantity of sugar, as before noticed.

The PULO KRA are two steep Islands, separated from Battu Kawan by a channel of a little more than a mile wide. The channel which divides Battu Kawan from the main shore is so narrow that it is indistinguishable except on a near approach to it. The former has therefore commonly been supposed to form a part of the latter.

Several Penang cultivators have begun to raise spices on Battu Kawan hill; and the attempt will probably be followed by success, many nutmeg trees being already in bearing. This district contains about 1,500 souls, but they are included at present in the Jurú census, although I have kept them here distinct.

The Krean river forms the southern boundary of the Province—which it separates from the Malayan State of Perak. It is about the same breadth as the Pry; but the entrance is intricate, and not to be easily threaded by vessels of much burden. When over the bar, the channel is deep and broad. The depth over the bar at spring tides is about 9 feet; at other times it hardly exceeds four or five. Inside this bar, and up to the distance of one full tide—or nearly 20 miles, by the course of the river—the depth varies from 20 to 90 feet. But the river can be navigated in small boats for four or five days beyond this point—as its source lies in the high range of hills called Bukit Patani, and sometimes Bukit Perak, because they divide Patani and Perak from each other.

It is sixteen miles and a half to the mouth of the Krean from Penang Jetty; and six miles further in a *direct* line up the river—but ten by the channel—

to the Police station at the boundary pillar at Bookit Toongal.

On the Perak side, there is a population of perhaps one thousand souls. Although the British territory actually terminates on the north bank of the Krean river, yet the latter, from its mouth to the boundary pillar, has, by custom, become a neutral passage towards the interior—and as is the case at Muda, the task of preserving the peace here falls on the English police. Perak is a weak state, and were it not for the incidental protection which the British settlement on the north bank of the river gives to its subjects on the south bank, this last would remain untenanted. The actual controul of the navigation of the river is gladly yielded therefore to the British side—and thus a free communication is maintained with the interior of the Peninsula.

Beyond the pillar, the north bank appertains to the Siamese; the river, and the south bank, to the Perak state. The influence of the Siamese at this post is so feeble that they dare not trust any of their own officers to guard it. Malays, therefore, are appointed to the task.

From Krean river, Penang is supplied with most of the lighter materials, especially artaps, for house-building and roofing—and also with large quantities of firewood, rattans, dragon's blood &c. A steamer touching at Penang could always be supplied with *solid* firewood at reasonable rates.\*

As yet there are but few regularly constructed roads leading from the beach to the eastern boundary of the Province, when compared with the ex-

|                             |      |               |                                |
|-----------------------------|------|---------------|--------------------------------|
| * Split bundles,            | 100, | wgt. 1 picul, | price 15 pice or cents per pl. |
| Kayoo riboo logs,           | 100, | " 3 "         | " 7 " or " "                   |
| Kayoo kapoor, or long logs, | 100, | " 12½ "       | " 5½ " or " "                  |
| Kayoo besar, or large logs, | 100, | " 32 "        | " 7½ " or " "                  |
| Round logs,                 | 100, | " 10 "        | " 6 " or " "                   |

tent of surface. The actual extent of all the made roads, however, exceeds 38 miles. The road from the civil station to the brick pillar on the N. E. boundary will be, when finished, about fifteen miles in length. It has advanced nine miles already.

That to the Muda river from the same place, which is finished, is upwards of nine miles long, and the central road to Pry frontier, also finished, six miles in length. The cross roads lead chiefly along the ridges of light soil, formerly described, and they are, on both sides, fringed by houses and orchards so that they form continuous streets. There are about forty wooden bridges over creeks and streams.

The eastern boundary of the Province was formally settled by Treaty with the Siamese in 1831; and without very nice references to its actual distance from the sea—a natural frontier being desirable.

Population and cultivation have so rapidly increased that it has been found impossible, with the appliances at hand, to overtake either by roads; so that even now several highly cultivated tracts are insulated during the rains, and rendered almost inaccessible to all but Malays. No sooner is a new road here opened through the forest, than both sides are speedily peopled and cultivated; and as the soil is swampy and richly alluvial, heavy crops of rice surely reward the ryot for his pains. The convicts suffer much from fever and ague when constructing these new roads, as they are obliged to work a great deal in water. Several cases of Cholera also occasionally occur amongst them when so employed.

In one of the first chapters of this Dissertation the superficial extent of the Province is given at about 120 miles—which is perhaps the full extent of cultivable land. The total surface, including islands, rivers and creeks, may be rated at 150 miles square, at

the least. I regret that the want of an accurate survey has prevented me from elucidating the localities by a map.

#### ADMINISTRATION OF JUSTICE.

The supreme judicial power is lodged with His Majesty's Court of Judicature for the incorporated Straits Settlement. The Honorable the Governor, or President for the time being, or the Councillor for the time being, acting as such Governor or President, has judicial precedence. The Honorable the Recorder ranks next, if present, and then the Resident Councillors acting in their capacity of Judges.

This Court, with the aid of the Magistrates, holds regular Quarter Sessions of the Peace, which are adjourned, and the business is afterwards conducted by two or more magistrates. There is a Court of Requests which extends to Province Wellesley. Its duties, in the latter district, are performed by the principal Assistant there, who is one of the Commissioners.

There is likewise a sitting Magistrate on the Island—and individual Justices of the Peace on Penang occasionally exercise alone their authority—although not perhaps to the extent that would be desirable. There is likewise a Coroner, whose duty formerly extended to Province Wellesley.

Province Wellesley lies within the jurisdiction of the Court of Judicature. The principal Assistant there for the time being, independent of his political and executive duties, exercises the functions of Magistrate—a Commissioner of the Court of Requests as before stated,—Police Superintendant,—Coroner, and Collector. In the latter capacity, he has not, of course, any judicial authority—yet it is probable that the investigations which necessarily take place at his office, and under his immediate cognizance,

respecting disputed landed property, or boundaries, are the means of preventing much ruinous litigation. As a provincial Magistrate, however, he labors under the disadvantage of not having any aid at hand in those numerous cases where the Law requires two Justices to sit. Owing to this circumstance, many natives submit to injury and loss rather than proceed to the Island. Sir Ralph Rice, when Recorder, was so prepossessed with the advantages to be gained to the natives there, by an extension of judicial authority, at the time when Mr. Maingy was its able and enlightened Superintendent, but who had not the power of a Justice of the Peace—since given to his successor—that he expressed it as his opinion that this gentleman could not have too much power, if legally given. It is probable that this remark was chiefly elicited more by a consideration of the peculiar character, the prejudices and locality of the population, than by any reference to its numbers, which did not then much exceed one-third part of what the population now amounts to.

The Court of Requests cannot decide cases where the debt exceeds thirty-two Spanish dollars. The limitation is not apparently considered as any boon by the native population, especially by that portion of it situated in the distant parts of Province Wellesley. This may perhaps, as regards the latter, be fairly inferred from the fact that since the regular Court of Requests began to act, which is upwards of a year ago, there has not been one appeal made from thence to the higher Court. Long before the regular Court was established, a Court of Arbitration, over which the Assistant Resident presided, settled all disputes about debts. Appeals may be made from the decisions of individual or joint Magistrates to the Court of Quarter Sessions, or to the Court of Judicature,

But none have as yet been made. Final appeals are made to the King in Council.

The Malays are less fond of practised litigation, where the cause of continuing it rests with themselves, than the natives of India ; and however imbued with the spirit of gaming a number of them are, yet they do not exhibit much of it in Courts of Law, unless over-ruled or excited by interested men.

The Coroners select their Juries indiscriminately from amongst Europeans, the descendants of these, and natives. It is from the latter classes that, almost exclusively, the Juries in Province Wellesley have as yet been supplied. It must be confessed that in the present condition of civilization there, the process is rather a tedious one. But were the forms to be simplified, and rendered more intelligible to the untutored capacity of the people, there can be little doubt that the ultimate effects of this part of the judicial system on the native mind would be of a very salutary nature.

The heads of sections and villages would willingly settle minor disputes amongst their neighbours ; but the ryots have little or no faith in their impartiality—and where there is a European officer of Government or other well-accredited functionary, they invariably resort to him for justice. I regret to observe that in so far as my experience extends, there is not a native at this Settlement of Penang who could be safely entrusted with the power of a Justice of the Peace—or even with a lesser judicial independent authority.

Previous to the final settling of the Province it was little better than a den of murderers and robbers. A rogue, when once fairly ensconced within its fastnesses, could defy all pursuit. The pirate and robber ENGA MANET, was an instance in point, and of crime going long unpunished. His depredations not

unfrequently accompanied by murder, had been carried on unchecked for nearly seven years in the harbour and its vicinity, although two hundred dollars had been offered for his apprehension. He at length became, in 1826, so daring as to threaten to sack Penaga village, close to the chief civil station. This offered a fair opportunity for apprehending him which was done by a party of sepoys and peons at the opium shop on the Keddah side of Muda river. This was not accomplished before his second in command had been run through the body by a sepoy of the then Local Corps whom he had wounded. When Enga Manet was reminded of his late threat, he replied to me with a smile, that fate was against him. His wife, a coarse, powerful woman, accompanied him in his piratical excursions. He was tried for one of his burglaries and hanged. He went to the gallows with the utmost composure, and only spoke to request that the Governor would take care of his family. The conscience of such a man is clearly nothing more than his own opinion of his own actions ; and that opinion was probably quite satisfactory to his mind. Here prayer and piracy are too often consecutive acts. Offenders in European communities rarely meet death with such apathy or coolness as this fellow displayed. Their resolution is generally either an effort of despair, or affected in order to appear with eclat to the last in the eyes of their associates. The current of life pours thro' the veins of the life-enjoying European felon with an impetuosity rarely to be found or expected in those of the Asiatic, and the revulsion therefore arising from the anticipated punishment is much more powerful in the first, than in the second case. The Malay generally gains in bulk and sleekness while imprisoned previous to trial, and one who at a late Session was

pretty sure how matters would end—(he had committed murder) was heard to exclaim:—"what is the use of fattening me up; better hang me at once!" So late, however, as two years ago, a Malay named **Mat Prawy**, who had been a noted depredator, but not a murderer, in Penang harbour, during a period of three years, ventured to establish himself in the thick mangrove jungle betwixt **Pry** and **Juru**, in Province **Wellesley**. As he had cunningly confined his excursions to the prahus of trading Malays coming from foreign ports, there was nothing tangible for a magistrate, until he stole a boat in that Province. A strong party of armed police penetrated with difficulty through the mud and jungle, to his haunt. He and his gang, consisting of about twenty men, were taken by surprise, but had they stood firm they might have killed half at least of the police, who were struggling in the deep mud. **Mat Prawy** was forsaken by his 20 companions, but he disdained flight, drew his sword, and would have cut down the constable, had not a peon fired over the shoulder of the latter and killed the pirate on the spot. This encounter, and the dispersion of the gang, has deterred others from being so daring.

The British judicial code presupposes that every British subject is fully aware of the laws to which he is amenable. But amongst the bulk of the natives here, this dictum becomes little better than a law fiction. If too, as has been stated, the fear of death has but a slender influence in preventing crime, the improvement of popular morals will be proportionally slow.

The natives of the Straits Settlements take but slender pains to protect their lives and property. A man's house ought to be substantial before he can reasonably claim the right to call it his castle. This

term, when applied to a Malayan house, is, with a few exceptions, hyperbolical, and becomes an apt illustration of the easy transition from the befitting to the ridiculous. Propped upon tottering nibong posts, with a floor composed of nibong laths, tied by split rattans, and sufficiently widely laid to admit of a kris or spear being thrust up into the sleeping compartments, —with walls of mat-work or palm leaves, and nibong laths, in which a large aperture can, in a few minutes, be cut with a pocket knife, and furnished with a door of similar materials, fastened inside by a latch, which can be easily lifted through the aperture alluded to, —the domicile of a thriving Malay presents the most inviting aspect to the robber. Nor, when the latter has got into the house, is it difficult to find out where the ornaments and cash are deposited. He is pretty certain of securing the whole by carrying off all the pillows and wicker-baskets within reach; for to the protection of such frail depositories do the Malays often trust sums or property of the value of from one hundred up to five hundred dollars, or more!

Gold and silver ornaments are rarely recovered. They are pawned at gambling and opium shops, or melted down. The creed of Mahomed is not a parsimonious one; but it is necessarily, from its inhibition of usury, in many situations, an accumulating one to the professors of it who are not engaged in trade. Our agricultural moslems have not as yet gained a sufficient acquaintance with the world to know how to employ their savings to their own advantage, or to that of the community. A good deal of capital, therefore, runs the chance of being lost or dissipated either in the manner above described, or by being buried under ground. The benefits of the Savings Bank are not appreciated by them, although there is no *necessity* for their *accepting* interest on deposits.

An improvement in house-building and domestic arrangements is beginning to be perceivable amongst the substantial ryots. But they have not yet reached that stage of neatness and cleanliness in their houses and gardens, which would augur any rapid degree of improvement in domestic economy.

When not greatly overmatched, the Malays defend their frail tenements very manfully, and often wound and sometimes kill assailants. The Malay invariably raises his house from 3 to 5 feet off the ground, whether the site be low or not. The Chinese and settlers from India have ground-floors, and these are rarely surmounted by an upper story. These two classes, especially the first, build better houses than those of the Malays, and they understand full well the devious paths of usury, and the thousand-and-one ways by which money can be rendered prolific at the expense of the feelings of humanity or duty. When a Chinese or a Malay builds a house, many ceremonies are performed.

The first class, when they have provided materials and dug the foundation, write the name of YONG KONG-SEN-SOO, a famous architect of old, on a piece of bamboo and fix it on the spot. A cock is then sacrificed, and its blood is sprinkled over this bamboo: this ceremony is intended to drive away devils. When the rafters have been put up, two bags made of red cloth are placed over the roof, one at each gable. In each of these are iron nails, paddy and beans, to bring good luck. When the house has been fairly built, YONG KONG-SEN-SOO is propitiated with a feast of good things and requested to go home.

The Malays consider the month of December as the most propitious for laying the foundation of a house. They put sometimes small bits of gold and

silver, but more frequently iron dross, below the pillars to drive away evil spirits. A cocoanut and certain herbs and plants are tied also to the chief supporters, and on the tops of these are fixed tri-coloured knots of cloth; red, black, or blue and white.

These are remnants of Booddhism. The Malays, while confessing that they are rites unauthorized by their religion, are yet afraid to build a house without performing them. The metals were, in ancient times, typical of the planets; hence the iron dross, and perhaps the sailor's *horse shoe*!

## POLICE.

The peace of the Settlement, generally considered, is maintained by means of a native police, which is as operative as might be expected, with reference to the classes out of which its individuals are, of necessity, chosen.

The obstacles to an all-pervading police are everywhere manifold, and here they are not few in number. Nor is it probable that were better materials at hand, the improvement would be great, because many of these obstacles are inseparable from the free exercise of English law, and derive additional force from the education and habits of the varying tribes which form our population. Where a community is small, the espionage, if not the expense of a very extended police, might not be relished—and it is doubtful whether, with the general want of discretion and presence of mind discoverable in the conduct of the natives in the mass, and the necessity which would thereby be imposed of multiplying checks, a commensurate advantage would be derived by any great degree of extension.

Settlers, it is to be hoped, will, for their own, if not for the public interest, afford such facilities as may lie in their way to the working of the police; as it is

trusting to increased civilization and wealth, which time will most probably bring, for the means of creating a more efficient body. Meantime, the one thing needful to render any police, however trustworthy it may be, really efficient, will have to be sought from amongst the native population themselves, namely the disposition, if not the ability, to co-operate at all times in keeping the peace. The law does indeed provide for such co-operation ; but the salutary provision is here, as in too many other instances, nearly a dead letter, owing to the fear, ignorance, obstinacy or apathy of the native. The police of Prince of Wales Island is chiefly and unavoidably drawn from amongst the emigrants from Bengal or Madrás. A few Chinese, Malays, and Jawi Pakans form the remainder.

Of the first two classes it must be said that they virtually lose caste from the day they reach the Straits. No one who has been for a little while there, will have failed to notice the laxity of conduct superinduced in the majority of these two classes, and particularly in the men from Bengal, who are mostly Mussulmans, by the combined agency of distance from their country ; the mind-degrading, moral miasma of sea ports, and the contamination suffered by daily and too familiar intercourse, if not companionship with convicts, until the keen sense of moral disparity becomes almost obliterated ; and lastly, to the prevailing custom amongst these people of combining to support each other when thrown out of employment,—without scruples as to the *cause* of dismissal, which creates an indifference to character.

It is probable that natives of the military caste, who still retain some regard for character, continue longest unaffected by these deteriorating influences.

The Chinese are good peons to look after Chinese, but the free-masonry which binds together by oaths,

and it is surmised, unhallowed rites, the members of the different tribes and Congsis or clubs, will ever render it dangerous to trust a Chinese police alone on important occasions, amongst their own people. It is not now the interest of the Chinese in the Straits to be turbulent; if so, these congsis would be dangerous engines of mischief. In China they are severally proscribed and the members are punished with death. If a man known to be a member should fly, his family are imprisoned. This marks sufficiently the opinion entertained in China of the intention of these congsis.

There are four at least of these lodges known to exist here, and there may be more, and it is believed, that two-thirds of the Chinese population, at the least, are members of them.

Inviolable secrecy is equally the characteristic of these associations as of free-masonry. It is so far lucky that sectarian jealousies keep the several congsis from coalescing. In 1799, the Chinese on Penang became seditious, but by energetic measures they were speedily reduced to subordination.

In the trials of the offenders, it appeared in evidence, that it had been proposed to set up an independent jurisdiction, for which five hundred Chinese had voted—and that these people had bound themselves to protect each other against the law, and vaguely to plunder the Settlement on a fitting opportunity, as their brethren had done at Rhio, with regard to the Dutch.

The members of this conspiracy took an oath before the Joss or Tokong, the peculiar deified saint whom they worshipped, to be true to each other, and the oath was repeated at the festival of the new year. The oath was likewise administered by the chief of the congsi privately; when each member presented

him with a cup of samchoo, or spirit. Little comparatively as we yet know of China, one thing is notorious that its people are prone to turbulence, although the cause may originate with the rulers. It would be difficult at the present day to decide whether the atrocious and interminable laws of this heaven-born Empire are the cause, or the result of the character of the people.

Sir G. Staunton declares that it is only the destitute or worthless portion of the Chinese who emigrate; from which it should seem that oppression does not make them forget nationality. In the *Choonsin Congsi* or club, at this Settlement, the badge is a silver ring. The entrance money is two dollars, and the members are believed to amount to several thousands. The word *Choonsin* is engraved on the ring. The *Yee-shing Congsi* is another of note.

There can be little doubt, that the heads of these congsis settle many disputes and complaints privately, and in a summary manner, where both parties belong to their congsi. It is a voluntary arrangement amongst themselves, and when it does not extend to crimes of magnitude, is perhaps a better check on the manners of the clan than could be obtained, by a scattered police, or appeals to the magistrate with all their accompanying perjuries.

But it is not merely the peace, or at least the regularity of the social system, which is interrupted by such associations. They form very powerful engines for defrauding the revenue, and it is no doubt owing to them that the full value of imposts on opium and arrack cannot be obtained, and that the Chinese can always defeat the plans of any farmer of these who is not a Chinese.

If all the congsis were unanimous, there would

either be little or no excise revenue, or the greatest share of that would go to the chief of the whole; who would no doubt become the farmer. As it is, the members of any one congsi will never inform, or give true evidence, against each other.

The Chinese at Battu Kawan sugar-plantations in Province Wellesley, nearly all belong to one congsi. They were very turbulent before 1829, having turned out on several occasions to the sound of the buffalo horn, against the civil power. They were then armed with long wooden spears, the ends of which were hardened in the fire and also with iron missiles, resembling a trident, the inner prong being longer than the other two. They have long since discovered that fighting would be a losing game, and have subsided into comparatively quiet planters; yet it is well known that their chief derives a large sum yearly from keeping a gaming house.

But the Chinese have also congsis of a more harmless nature and of a truer masonic character. The initiatory rites are involved in as impenetrable obscurity as those of their western brethren. The members receive, when duly qualified, a diploma, which consists of certain secret or cabalistic characters written on red cloth. The members have likewise a peculiar phraseology, and certain signs, by which they can make themselves known. The gait, the mode of depositing the umbrella on entering a house, are two of these signs.

The members of such a congsi are pledged to afford aid to each other on all occasions and in distant lands. It is believed that were a Chinese here to betray the secrets of his congsi, he would certainly be murdered. It is said, that amongst the ceremonies attending the initiatory oath for the more equivocal congsis, blood is let from the arm of the new brother.

When a Chinese is apprehended for, or accused of a crime, however atrocious it may be, his whole *congsi* are unanimous in their endeavours to get him off. Subscriptions for counsel, high bribes to adverse witnesses to keep them away, and to forthcoming ones to perjure themselves; dreadful threats to conscientious witnesses; and connivance at the escape or secreting of the accused, are the means resorted to as matters of course.

When a *congsi* is opposed to another by the criminal accusation of an individual of one of them, no bounds can be assigned to the use which is made of these illegal means.

Where the emigrant Chinese are left to the almost unchecked operation of their own laws and usages—as happens in many ill-governed Malayan countries where they have settled as traders and cultivators,—they then appear to visit with appropriate severity any infringement of these laws, where such is confined to one clan. It would seem that in seeking the protection of nations dissimilar to themselves, they do not lose sight of their fancied superiority over all, and therefore think it degrading, to be punished by *Barbarian Eyes!* Be this as it may, it is pretty evident that self-interest, cold, sordid and far-sighted, and the gratification of the senses are, in their relation to foreigners, if not so absolutely, the solid substrata of the Chinese character. On these, as a fixed base, rests apparently, nine-tenths of their actions, public or private. But it is the very selfishness inherent in their disposition which renders them the most useful class of native subjects in the Straits; for when this fault is found in company with energy and intelligence, it often takes the form of a public good, if not carried too far; more especially as that selfishness is rarely accompanied by avarice, and leads to a liberal

expenditure of what they earn. Much of this selfishness too, may be more superficial than real, and may take its tone from the trammels of the social system, or from the superstitions, of this bustling people. Thus, in *China*, a man will pass by another who is in danger of being drowned without helping him. A foreigner would exclaim against the inhumanity of such conduct; but the Chinese there know that every one who should happen to be seen near the spot where a man is found dead, runs a serious risk of being implicated in murder. The habits of Chinese society have all a leaning to the side of luxury, and it almost necessarily follows that incessant industry is required of its members to enable them to enjoy that luxury; and as physical enjoyment is their supreme aim, few of the Chinese—of ours at least—distract their minds by serious mental occupation.

Were the iron rod which now keeps the busy multitudes of China in subjection, to be broken, and a more equitable rule to be substituted, there can be little doubt that they would exhibit an equal degree of frigidity on political subjects, and as strenuous a disregard of whatever should not minister to the senses and the cravings of self-love and interest, as they now display in the Straits, in Siam, and in other Indo-Chinese regions;—and that, under such circumstances, it would be quite a matter of indifference to them who swayed the Capricorn banner within the great wall.\*

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\* The Leecong, which is the sign of Capricorn in China, sprawls on the Emperor's banner. His Imperial Majesty is privileged with a portraiture of this fabulous animal on his standard, each foot of which has five toes. The figures of it on inferior banners have no more than four toes. The rich theatrical silk dresses of the Chinese are emblazoned with representations of it. It is the Macara, or horned alligator, of Hindoo astronomy and mythology. The Mangkon of the Siamese.

A Malay, after long training, may become a pretty expert policeman, amongst Malays; but he is generally too artless, and apt to be duped. His attempts at police *craft* are easily seen through; and avoided by those against whom they are directed. The same may be said of Malayan politicians, whose attempts at Machiavelism are clumsy and abortive. I do not here include treachery, which, although it has been successfully practised by *maritime* Malays, is an acquirement, which any people, devoid of principle and possessed of sufficient animal courage, may easily practice.

#### JAWI PAKANS.

A *Jawi Pakan* is the offspring of a man of Hindostan and a Malayan woman. He inherits the boldness of the Malay, and the subtlety, acuteness, and dissimulation of the Hindoo. He is indefatigable in the pursuit of wealth, and most usurious in the employment of it when gained. Few employments come amiss to him. He cloaks ignorance where it exists, or makes up for it by pretence and zeal. His fingers seem to have a chemical affinity for the precious metals; and although he avoids downright theft, yet the transit of money or money's worth, through the former, is at a discount, varying in amount according to his calculations of detection. He is cringing to superiors, overbearing, and where there is no check on his conduct, tyrannical to inferiors: like one of the feline tribe when it has changed its quarters, he carefully obtains a perfect acquaintance with all the trapdoors, outlets and hiding-crevices of the position in which he is placed. These secured, he makes the most of that position. If he holds a public situation, he tries to balance his peculations or malpractices with the above chances of escape, and generally succeeds, and should this fail, he compounds for safety with his *defrauded* creditors and dupes, and quashes

informations. It is not here intended to include a whole class in the above description; yet it is to be feared that exceptions to the picture are fewer than could be wished.

When under strict management, the Jawi Pakans are undoubtedly a very useful class in the Straits; and might not conveniently be dispensed with. They are acute accountants; expert, but not very liberal merchants; good assistants in public offices, and the only natives here who are acquainted with land-measuring. They are often smart interpreters of two or more languages, wily diplomatic agents, and generally respectable in the outward man.

Province Wellesley, owing to the peculiar localities just described, has its police somewhat differently selected than that of the Island. It is composed, in a great measure, from men of disbanded sepoy regiments; who are well armed with muskets and swords. The present strength is about seventy men only of all ranks. About one-third of this body is almost exclusively employed in guarding the several lines of frontier, beyond which, as might be supposed, are congregated all the offenders who have escaped from public justice; and over whom, owing to the distance from Keddah, the Siamese exert but an inefficient controul. The remaining two-thirds are detached in small parties along the principal roads and rivers; and from the nature of their duties, which often lead them against armed bands and through places infested by tigers, and over swampy and jungly tracks near the boundary, where there are no roads, their situation is not envied by their brethren on Penang, who perform their duties under the shelter of the garrison; and have little occasion for fighting in earnest. The executive is also assisted in the Province by a body of elders or yeomen, who with vo-

lunteers, have, on several occasions materially aided in driving off marauding bands from the boundary, and who are ready enough to act when called upon on other emergencies. But the Straits police—at least the provincial part of it—labours under the disadvantage of not being supplied *readily* with intelligent and trustworthy night constables, the disposition of the very best of them being liable to be corrupted even by the very small portion of power entrusted to them.

The salliant population of Province Wellesley—or those who could be easily spared for a while from their families—amounts to not less than five thousand men, who have all, more or less, been used to the musket or the spear, the parang and kris. The able-bodied men of all this population has never yet been called out *en masse*, but it is believed that the number just specified could be assembled for defence in the course of six hours, and probably eight thousand within two days. The stake which the Malayan population now has in the soil, the hopelessness of its being ever able to regain Keddah from the Siamese, and the length of time which has elapsed since a large portion of it was driven from that country—during which a new generation has sprung up, having local attachments—and also its hatred and fear combined of the Siamese sway, are circumstances which, it may be supposed, would make its members no lukewarm or nerveless resisters of aggression from without.

The Chinese and Chuliahs have been excluded from the above statement. The former will only take up arms when the danger presses close upon them, but the latter are, in the Straits at least, proverbially cowards, and are not ashamed to confess their weakness and to palliate it by asking why they should possess courage when none of their ancestors ever had any, or would venture to fire a musket ! The

yeomen not being stipendiary servants of the state do not take any *judicial* oath, and therefore have no legal power.

There is no village system amongst the Malays resembling that which obtains in India. The elders or yeomen possess therefore hardly any more authority or influence over the people than what personal character and their station as landed proprietors may, as in other countries, give to them. A very few years more will suffice to obliterate the slavish feeling which attached the Malays to the *Dattoo*, or heads of districts in Keddah and Patani, before their emigration into the British territory. There are but very few families now who do not act entirely for, and by, themselves—a sign that their minds are nearly weaned from the abject feeling of submission alluded to.

The regular police may be rated at one and two-thirds persons to the square mile, or one policeman to every 675 souls of the population. That 47,280 souls and upwards—the present population of the Province—so peculiarly situated, should be controuled by so small a body without the aid of soldiery, (for the small guard of sepoy at the civil station is not available for general or police duties) would argue favorably for its real character; and may serve to rebut those vague and gratuitous vituperations against the Malays, *as a people*, in which many persons unreflectingly indulge, and may also inspire a hope that British rule will help to still further soften their manners, and give stability to their morals.

When the population did not exceed fifteen thousand souls, it had usually from seventy to eighty sepoy, and thirty peons, for its protection. The reduction, therefore, in the ratio of the protecting force,

to the population has been nearly one in three. It may be perhaps conceded, however, that the police have now their full complement of work. Had the protecting strength gone on increasing with the population, it would now have been upwards of three hundred men. It is manifest also that a further allowance in this estimate is admissible in consideration of the troops having been removed. The settling of this Province, may, I think, be considered as the first attempt which has been made by the British on any wide scale, to bring a Malayan provincial population at once within the scope of British legislation, embracing the discipline of one of His Majesty's Courts of Judicature. Neither Singapore, Penang Island or Malacca, can be deemed exceptions, the population at these places having very gradually accumulated, and being chiefly concentrated in the towns. Nanning is the only province which might seem an exception, yet the population there did not very lately exceed 5,329 souls, and is probably much less now.

## CRIME.

The amount of crime is believed to have been decreasing, reference being had to the increased population. But occasionally a sudden run of crime will occur, as in the year 1833-34.

My data are not so sufficiently ample and consecutive as to permit me to frame a comprehensive statement of crime during the last 20 years. The Police records are incomplete, and an adequate estimate cannot be formed from the number of committals or trials, merely. The chances of detecting, or at least of ascertaining, the crimes which have been committed, are now so much greater than they were before, that a comparison, could it be made, of the actually reported amount of crime at a period ten or twelve years back, with that now reported to the Police,

would not be correct, and might shew perhaps one-third less of crime for the former period than for the latter.

The following particulars may help to elucidate this subject—meagre as they unfortunately are.

| <i>Sessions of<br/>Oyer &amp; Terminer.</i> | <i>Cases of<br/>Murder tried.</i> | <i>Other Cases of<br/>Magnitude tried.</i> | <i>Amount of<br/>Population.</i> |
|---------------------------------------------|-----------------------------------|--------------------------------------------|----------------------------------|
| Four of<br>1816 & 1818. ....                | 9                                 | 103                                        | 45,000                           |
| One of 1833. ....                           | 6                                 | 9                                          | 82,000                           |
| One of 1834. ....                           | 3                                 | 6                                          | 86,000                           |

List of casualties in Province Wellesley :—

| 1834.                             |    | 1835.                            |   |
|-----------------------------------|----|----------------------------------|---|
| Murdered .....                    | 9  | Murdered .....                   | 2 |
| Killed by tigers & alligators.... | 36 | Killed by tigers & alligators .. | 6 |
| Drowned .....                     | 5  | Do. by falling trees .....       | 2 |
| Other accidents .....             | 3  | Drowned .....                    | 3 |
| Total, 53                         |    | Total, 13                        |   |

Being somewhat more than 4 Inquests monthly. Most of the murders were committed by bands of robbers from beyond the frontier.

This year (1835) has not exhibited one murder case on the Calendar, but two at least have been committed, the perpetrators having escaped.

From the limited authority vested in the magistracy, individually and even collectively, it is probable that the Calendars of petty offences will be greatly swelled in future, at the holding of Sessions of Oyer and Terminer. The most common crime is petty theft; then burglaries, with or without maiming; next murder, or cutting or stabbing with intent to kill. False coining has been occasionally attempted, but the counterfeits have generally been so badly executed that they have been quickly detected.

Much good has been effected by the natives being prohibited the wearing of arms, and by the increased number of magistrates. The native now finds that the kris is not the surest avenger of his wrongs, and

he, in general patiently submits to the regular course of justice.

Fixed householders of regular habits are allowed to keep arms in their houses for self-defence. In Province Wellesley, for several years back, the respectable ryots have been supplied with tickets describing the arms they are allowed to keep, and numbered according to a register kept in the Principal Assistant's department there. Notwithstanding this precaution, there is little doubt that many disreputable persons keep arms clandestinely, for bad purposes ; for the police not unfrequently take up such at night with arms in their hands. These men are treated as vagrants. In Province Wellesley, nothing but the most rigid measures could prevent the (it is to be hoped small) marauding portion of the society, preying on the rest. When the census is taken, every family or house is furnished with a board or wooden ticket, corresponding to its registry in the Police books, and having the names of its members or inmates written on it. By these means the police can go direct to their object; instead of having, as was the case a few years back, to wander over a wide space in search of it.

The crimes of murder and maiming are, in seven cases perhaps out of ten, committed in a fit of jealousy ; which is too often *not* misplaced.

While in England or Scotland the utmost commotion is excited in a country district by the commission of murder, and the pursuit of the guilty individual is eager and steady—our peasant here, on such an event occurring near his residence, shuts his door and pretends ignorance of it, or at best affords but tardy aid to those sent in pursuit.

Thus crimes are seldom reported to the police until the offender has stepped across the boundary. If the crime be committed on the Island, then two hours

will suffice to place the perpetrator beyond the fangs of the law, and if in Province Wellesley, from a few minutes to two hours are sufficient. Offenders having thus in a manner outlawed themselves, they either join themselves into bands of robbers, as a matter of course, or betake themselves to the genteeler pursuit of piracy, which has, time out of mind, been the perquisite of the younger and unprovided-for branches of Malayan families of high rank, and the refuge of the felon.

#### GAMING AND GAMBLING.

Gaming or Gambling—for here the terms are nearly synonymous,—is perhaps at this moment the greatest evil existing, and it is to be feared, rooted in the native social system of the three Straits Settlements, and it is in itself sufficient to paralyze the efficiency of any police by corrupting it.

It is not my intention to tritely expatiate on the immorality of gaming, but to point out, if possible, its peculiar hurtful effects in our very mixed native community.

Gaming is a vice which is widely diffused amongst the Indo-Chinese nations ; and the rulers of the latter, equally with the Dutch, have generally subjected it to a tax, it is believed to the advantage both of the community, and the revenue; for we should not do wisely to presume upon any European experience, while called on in these countries to say how any given English law would operate. The antiquity of this vice in the east is indisputable. We find in the native annals demigods and kings, staking powers and kingdoms at games of chance ; and chess, which is unconnected with chance, is not only with them a game of skill, but one at which empires may be lost or won.

It has been casually remarked in the first chapter, that Marco Polo has described the Chinese in his day

as a race who were "more addicted to gaming and *other modes of cheating*, than any other people on the earth." It may, in continuation, be added that in respect at least to the first charge, they amply sustain the same character, at the present day. Marco Polo was himself a governor of a Chinese province, and had gaming been a religious ceremony, he doubtless would have qualified the above remark.

I am not aware that it now is, or ever was so in any part of China. Chinese of any reputation for veracity will hardly venture, even to suit their own purposes, to affirm that such is not the case. It must be assumed as a fact until shewn to be otherwise. But Chinese emigrants to the Straits have, where they could, introduced gaming amongst the amusements of their festivals, especially those of the new year. The gaming-farms in the Straits were abolished in 1810, consequent on a Presentment of its immorality and evil tendency, by the Grand Jury of Penang.

Notwithstanding this measure, the community was divided in opinion as to the advantages expected from it, and several of the members even of the Grand Jury, settlers of influence and intelligence, afterwards acknowledged in 1818, that they had passed too hasty a judgment.\*

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\* Mr. Carnegie (the elder) says: "I have seen with great regret the evil done (by gaming) by corrupting the police, which will never recover its efficiency until the farm be re-established. It is really impossible to prevent the Chinese gambling; so all that can be done is to regulate them and keep them with proper bounds."

Mr. P. Carnegie observes, "I was one of the Grand Jury which presented, yet experience has since convinced me, that we judged very erroneously, and that our remedy, in place of curing the disease has made it much more inveterate. It is an incurable disease in the Chinese character; gaming has increased and criminals cannot be so easily detected as formerly."

And Mr. R. Scott, although he disapproved of the gaming farm, as it

The Chinese were, nevertheless, permitted for a long time to game openly at their festivals, while an interdict lay on every other class of British subjects. This was virtually pronouncing that, the vice which the law reprobated and prohibited as injurious, became quite innocuous when fumigated with the incense of the Tokong or Joss-house, and it further involved the startling anomaly of the law protecting and saving harmless amongst one class of subjects, a practice which it condemned, and must have punished as destructive to morals and social order, if indulged in by any one of the other and still more numerous classes.

It is sufficiently notorious that gaming has alarmingly spread amongst the native population since the period when it was relieved from the control of the licensed renter of the tax.

Formerly, heavy punishments, including fines, were imposed on persons convicted of keeping open gaming houses, or gaming openly in large parties; but the Police reports in 1818, shewed that no good had been thereby accomplished. Now, it but rarely happens that any cases of gaming or gambling are brought before either magistrates or juries; because, not only can the keepers of gaming houses and other practised gamblers, afford to bribe the police peons highly; but they are, it is to be feared, too often able to defy the latter when not bribed. If similar effects are felt in London, what must be their extent amidst the heterogenous, and in many respects, partially civilized population of the Straits?

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"would, he thought, hold up gambling as sanctioned by law and entice people "to become gamblers," yet adds, "I am fully aware of the great difficulty of "putting a complete stop to a vice that seems inherent in the character of the, "Chinese and less so amongst the Malays."

Sir Ralph Rice, the Recorder, opposes the licensing system, on the ground chiefly, that he thought it would appear like sanctioning by law a pernicious vice.

From the year 1810 up to 1818, there were no less than 690 convictions for gaming in Penang alone ! which was then the chief British station in the Straits,\* and some of these convictions were for the ninth offence ! It was besides known that an equal number, at the least, of informations had been laid ; but which were not followed by convictions. It was also ascertained by the magistrates that not one in five of those who gained or gambled privately, were noticed by the police. At the periods alluded to, Penang was the centre of the trade of the Straits ; and the circulation of capital was much wider here than what it is at the present day. It was then estimated that the coin exchanged at Chinese *Po* or dice tables, in private houses, and secret haunts, exceeded the sum of 150,000 Spanish dollars annually, the tax being about 40,000 dollars. The attempt to suppress the vice, or rather the ceasing to license it, threw the above sum in the hands of the gamblers. At the same time, it was officially reported that the police did nothing but watch gamblers in order to extort hush-money from them.

It would now seem that all hopes have been long since abandoned of abating the evil by mere police regulations, and the natural result has been the same nearly as if an immunity had been given to it ; if not, as if a premium had been offered for its encouragement. However positive the law against gaming may be, yet, if its actual influence can go no further than to skin, without probing the evil, the latter will take the dangerous and seductive shape of a forbidden indulgence, which is yet unpunishable, and therefore merely a connived-at nuisance. If, as has ever been loudly asserted, the practice has become *inveterate*,

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\* In Sept. 1818. Malacca was transferred to the Dutch.

the regulating of it would seem to be the only mode of softening its attendant evils. To put, then, the spirit of gaming under a high pressure in one direction, will force it more violently out at some other vent.

If the British legislator has been as yet baffled in his attempts to abolish dram-drinking, ought it in reason to be expected that in one of its colonies like this, legislation should be found more easy, in regard to gambling and gaming? It might be argued on plausible, and perhaps tenable grounds, and as the converse of, or corollary to, the "greatest happiness principle," that it is not only the business of legislation to increase the sum total of human happiness, but to reduce, regardless of prejudice and mistimed impractical morality, the sum total of those lesser evils, which, although not amounting to actual crimes in themselves, do, in their aggregate or individual results, inevitably tend to diminish greatly the total amount of the happiness and comforts of the human race.

But if gaming cannot be repressed entirely, there is probably much truth in the argument, that by moderating and regulating it in its eccentric course by legislative enactments, an equal, if not a greater, benefit would accrue to society, than has been gained by regulating dram-drinking.

The Temperance Societies would confer perhaps a less doubtful benefit on society, than that they are now aiming at, could they successfully grapple with mental as well as physical cravings, and reclaim the gamester from his ruinous course.

The legislature does not say to the dram-drinker, that a gin-shop is a pleasant, or reputable, or desirable place of resort. On the contrary, it brands by various enactments of law, the drunkard as one de-

graded below the level of civilized life; and since it cannot gag the sot, it forces him to pay back to society something in compensation for the injury he is doing to it by his pernicious and contaminating example. The two vices we are treating of are nearly allied, although one is a moral, the other a physical one. The only difference of any consequence seems to consist in this, that the law views every degree in which gaming is indulged in, as an offence against it; while it is only the excess in the use of ardent spirits or opium, which it condemns as of evil tendency, and punishes when it betrays itself in *excess* of action. The difference, therefore, might seem to some merely an unimportant distinction. Drinking a few glasses of wine, and playing for a couple of hours at penny or six-penny whist, are very harmless acts both; but to drink a bottle of raw spirits, and to gamble away one's own or win another's fortune at dice, at a sitting of a few minutes are vicious acts, because their consequences are injurious or dangerous to public morals; although the latter is perhaps the forerunner of greater misery and mischief to society than the former, being more speedy and comprehensive in its operation. But in practice, as well as in principle, the vices alluded to, namely, gaming, drinking spirits and eating or smoking opium *to excess*, are about equally prolific of crime amongst the *lower* classes of the people.

Dram-drinking begins with physical excitation and ends by both mental and bodily debasement. The effects of opium are probably of a much slower and less destructive order. Gaming sets out by over-exciting the mental energies, and finishes by dissipating both these and the physical powers. It is doubtful which of the two poisons deepest the stream of society in its lower grades.

The licensing system in Europe proceeds on the principle that the virtuous and well-disposed portion of the community is not affected by it. Would this argument not likewise apply to gaming?

Fifty years have elapsed since Penang was settled, and 16 since Singapore was occupied by the British; yet gaming is on the increase. The frequent meetings of large parties of men in barricadoed houses, or in retired spots, for the purpose of gaming with dice, in defiance of the police, where the latter have not been bribed, adds fuel to the passion, while it manifestly fosters still more illegal combinations affecting both the life and property of the peaceful and industrious subject. At such orgies, daily and nightly held in town and country, there is no one to temper the ferocity of the frenzied gambler, or check the recklessness of the inveigled novice. Stolen property circulates without question; native servants in Government offices, private servants, soldiers, sailors, nay convicts, may here congregate with the professed burglar. The easily-duped peasant, the deeply-skilled Chinese, & the fiery Malayan trader, from the Celebes and other eastern islands, may meet here in vicious fellowship.

In European societies, a high degree of civilization serves to gloss over, and to soften down, the gambling propensity to a more manageable and less hurtful shape than could be here obtained. There too, the danger to communities is not every where equal; for it depends on the temperament, the habits and education, of the individual nation which indulges the passion. Where the stiletto and the kris are ever ready to second a proneness to sudden deeds of blood, the danger is doubled. Where too, concealment is necessarily resorted to, the victim of the *Po* table is not restrained by the presence of those who might dissuade him.

If gaming could be always, or even frequently, proved, and severely punished, the police would be still more exposed to be corrupted; for it would then be the interest of gamblers to double their bribes to secure a connivance at their breaches of the law. Scarcely a single conviction in a year is ever now effected. The police officer must have the warrant of a magistrate before he can forcibly enter a house. If not bribed, he is narrowly watched; so that he cannot take gamblers by surprise. Before he can get a warrant, the party will have dispersed. Besides, it may be asked what private individual would incur the trouble, and run the gauntlet of law expenses, by acting the odious part of a prosecutor !

If individual magistrates had the power to levy heavy fines, by summary process, on gamesters and gamblers, then something might possibly be done towards diminishing the vice, altho' counter-checks would oppose themselves to such a course, not to be perhaps easily removed. Private gaming—and it is not here always easy to say what is and what is not so—is only illegal by statute, and therefore not easily tangible.

The vice then, in general, has thus been long emancipated from the check of public opinion. This last phrase may sound strange as applied to the Straits population. But amongst the Malays and Chinese, public opinion has weight in a greater degree than is perhaps generally suspected.

Both of these classes, and particularly the Chinese, are scrupulous observers of certain forms of outward decorum. They, equally with other classes of our native community, assign the same low level in society to the opium consumer and the gambler. However some amongst each of these classes may privately indulge in these vices, the whole openly agree in reprobating them; and the respectable natives

not only condemn, but avoid them—"Diya makan "dan hisoop chandoo, dan main judi"—"he eats and "smokes opium and games"—are terms of reproach which are daily uttered by persons of every class, and even those natives who are most notoriously obnoxious to this reproach, cannot bear to be publicly taunted with it, knowing full well how it affects their credit and character in society, and how it renders them objects of suspicion to the police, and to every one whose property has been robbed.

Were the use of opium to be interdicted as rigidly as the practice of gaming is, the mass of the people would probably soon become debased; not so much because the indulgence would be more cheaply procurable, but on other accounts. Where the propensity to the vices of smoking or eating opium, and gaming or gambling, can only with safety be openly indulged in, the dread of loss of reputation will deter numbers from risking its loss. But where a prohibition exists, and these practices may yet be privately enjoyed, at a slight risk of detection, that salutary dread is removed, and the temptation becomes irresistible. It is in vain to urge that men who have any reputation to lose, or any respectability of character, will be found frequenting the common and open opium shops, or open gambling-houses, supposing that these last were not under the ban of the law. The law of necessity connives at, because it cannot reach, several disputable and demoralizing practices; yet no grave and reflecting native would therefore follow them, any more than that he would desire to be known as a devout worshipper at the spurious shrine of the Paphian goddess.

When gaming was licensed at this Settlement, the holder of the license—as the farmer of the license to retail opium now does,—kept in his pay a large

body of peons, and exerted himself to the utmost to prevent clandestine gambling ; and what self-interest urged either of these individuals to do, could not, it may safely be stated, have been effected by any police ; while, at the same time, these very peons were of material assistance to the regular police by multiplying the chances of detecting offenders of every description, who now shelter themselves under what would else be no cloak to guilt. It will be shewn in the account of the Chinese clubs, to what extent that portion of the population can nullify the law where positive ; and make the most of any relaxation of the law in regard to luxuries, and gaming.

It might be perhaps urged that by an advocacy of such principles, taxing might be extended to keepers of houses of bad fame. But here the analogy holds but partially ; any such licensing and taxing would directly tend to increase the crime of seduction. It is pretty well known that the non-licensing system, by leaving such places in a manner within the pale of nuisances, without exposing them to much real danger, operates in a great degree, as an encouragement to them.

The unprecedented extent to which gaming is now carried on in the Straits Settlements, with all but perfect impunity, cannot fail, one would imagine, to have a much worse moral influence as regards the ostensible and promulgated intent and operation of the law affecting it—perhaps even of the *law as a whole*—than if this practice were to be treated and stigmatized as a vice of so pernicious a nature to society as to require that its intensity should be diminished and its ramifications cut off by fiscal arrangements of local applicability and proved efficacy.\*

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\*The remedies proposed at different times were, to allow of a certain number of gaming-houses, which were to be opened at day-light and shut up at 9 p. m. under a heavy penalty.

No *respectable* Chinese or Malay, or other native, is ever seen in an opium-house, and as the holders of the licenses and their people are very alert, it is believed that the use of the drug is much less general than it otherwise would be.

But gaming lies under the ban of the law and will, with all its—under any circumstance—inevitable train of evils, continue to increase, because it gains strength by a feeble opposition and is thereby enabled to defy the law, because privacy favours it, and the law's delay is one of its best protectors; because avarice, corruption and every bad passion are enlisted for its defence against punishment, and for its concealment, and since no Government, however willing, might be able to afford to keep up a police capable of watching the individuals, of a considerable population, the majority of whose members was inclined to gamble.

The Chinese are the chief holders of Po or hazard tables. The cash now circulating at these, is probably much less than it was in former days; yet it cannot be doubted that there is a large sum thus drained out of the coffers of the native community, part of which, is sent to China. When Penang contained only 3,000 Chinese, the remittance from the proceeds of gaming, yearly, was estimated at 10,000 Spanish dollars.

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The Chinese to be allowed fifteen days *free gaming* at their new year's festival, by special permission—no people in Government pay, or convicts, to be admitted—no pledges to be allowed, or arms admitted, under heavy penalty—no credit to be given, or debt to be recognized in a Court of Justice, or bond—no purchasing or trafficking to be allowed in the house—gaming in other places to be punished by fine—the farm not to be sublet or relet without permission, under a high penalty—the gaming-houses to be under European superintendence.

Were such a thing as licensing or farming to be ever again established, many subsidiary regulations to, and modifications of, the above, might be required.

The *Po-yin* is a six-sided die, made of buffalo's-horn; each face is divided into two equal parts, the one being painted red and marked in Chinese characters *Po*, the other white and marked *T,hong*: both of these words imply good luck. The outer box is made of brass, about an inch and a half square; it has no cover, but an inverted brass box is made so as to fit and slide into it. At the centre of the bottom of the outer box, inside, is a compartment for holding the die, one only being used at a time. When the die is placed in this, the inner box is slid down over it. The lower end, now the upper, of the inverted box, is somewhat convex and is on the same plane nearly as the edges of the opening of the outer box. On this convex surface, the *whale*, which now looks like a single box, is spun round on the table.

On the table there is drawn a cross, as represented in the diagram. The die being shut up, and the box with its enclosed one having been inverted by the holder of it, he twirls it on the table and then places it in the centre of the cross, the angles of the box being made to coincide with the lines forming the cross. The stakes have been all previously deposited. He then lifts up the outer, or larger box, leaving the smaller one with the die lying loosely on a small pin fixed to the bottom, so that the player, having once opened or drawn up the box, cannot cheat by pushing it down again, the smaller box being then impeded by the die. The person who challenges the holder of the box puts the die into it. The holder calls out his colour or not as he pleases; the red being that on which he will win, if silent. The challenger may call out his own colour, in which case the holder of the box must take the opposite colour.

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The Chinese likewise play and gamble with small cards, divided into partitions on which Chinese characters are written.

In short, the Chinese make gaming a business. The rich Chinese merchants, when trade greatly flourished, thought little of losing thousands of dollars at a sitting. Perhaps many of the failures might be traced to this propensity.



## CHAPTER VIII.



## ADMINISTRATION OF JUSTICE.

## JUDICIAL &amp; OTHER OATHS.

Amongst the majority of the natives of all classes in the Straits, truth, it is to be feared, is treated as a mere abstract quality; which rises to the rank of a temporary virtue in proportion only as it can be rendered profitable, whether *per se*, or by the greater degree of value in the market which it may happen to give to its opposite falsehood. But as truth is a virtue, the want of which most of the long established religions of the East have reprobated and denounced, so the native who least puts it in practice, is loudest in its praise. A bias to truth has by some been deemed natural to the human mind. Were such the case, it is certain that the neutralizing passions, where education did not step in, would take from it the very accessories which render it a virtue. Savages have never been remarkable for any thing so much as a disregard of truth, and the old remark, and the key likewise to many anomalies in man's moral nature—that lying is the defensive weapon of the weak—in some degree, accounts for this, and is a principle which can be traced under the form of cunning throughout a large portion of the inferior creation. Were this natural weapon to be only employed against violence

or wrong, neither the moralist nor the legislator might greatly regret its effects, however both might lament that its use had not been superseded by more legitimate armour.

Society has unfortunately no shield against mendacity as directed towards life, property, or fame, than what must be derived from a conscience undebased by superstition and bad passions, from manly feeling, and an instructed understanding. It would be difficult, if not impossible, to fix the degree in which all, or any, of these exist, or act, or are deficient, amongst the native population, where superstition prevails, and education is neglected; meaning that sort of education which gives a healthy tone to the mind.

The legislators of almost every country on the globe, and of those around us here in particular, have proceeded on the straightforward principle that truth will not be spoken unless in cases where the matter at issue is indifferent to the person adjured; and it is a striking instance of the belief prevalent in the world, of the little reliance to be placed on any religion for counteracting the mendacity of the human mind, that the professors of Christianity are perhaps the most rigid in enforcing the test of an oath, even on occasions where, if the religion had any influence, an oath would be unnecessary. Custom alone has reconciled the conscientious individual to the odium which he would otherwise have felt to attach to him, for taking an oath, *because* he was suspected of a want of veracity. The public, that is the law, may question a man's veracity. Can a private person do so and not give a just offence?

The mahometan religion—next to Christianity in its various branches—occupies the second place in the religions of the world, and would act steadily, and perhaps powerfully, on the conscience, were it pro-

perly understood by its votaries, and were it not, at the same time, affected by neutralizing circumstances.

It is virtually, on the whole, a religion of the tongue and of street-corner prayer, and the more ostentatiously and repeatedly its forms are observed, the more holy is the professor considered by the multitude. But, as, to the mahometan, the future rewards of the faithful are chiefly sensual, so he naturally enough considers that sensual indulgences in this life are foretastes allowed him of paradise, and to the qualifications of his passions therefore, he is led, too easily, to sacrifice truth.

When a follower of Islam is sworn in any of our Courts in the Straits, the moulla, or other appointed officer, places the koran on his head and he repeats his creed—‘there is no God but God, and Mahomet is his prophet’. He is then directed to speak the truth, and nothing else. This mode of adjuration has not been *imposed* by British law. It is employed under the native Malayan governments, with this difference, that in the latter case a greater degree of solemnity is observed.

This religion came to the Malays directly from the fountain head, Arabia. The bulk of the mahometan population of India within the Ganges, has been, since the conquest of that region by their ancestors, imbued with many Hindoo superstitions which must weaken the power of their proper faith, and insensibly detract from the intensity of the usual oath. Amongst the Islamites, also, of the Straits and adjacent countries, many original superstitions have not yet been eradicated by converting zeal, and exert an influence not the less sure because unobtrusive in their operation.

It is important to note that whereas the Hindoos of India have obstinately resisted all attempts to convert them from their faith, the Buddhists of the Straits

and Eastern Archipelago adopted the mahometan religion, after, it should seem, but slender persuasion. They appear to have slavishly followed their converted chiefs, and their belief is not perhaps yet so deeply rooted as to be proof against any other well-managed religious crusade ; especially if preceded by one of the pretended prophecies now agitating the mahometan world, regarding the speedy supercession of its religion by another.

A considerable portion of the mahometan population of Keddah, since its conquest by the Siamese, has been reconverted to the Booddhist faith ! Perhaps something more than persuasion may have been employed to effect this.

In the days of Malayan rule in the neighbouring state alluded to, the defendant in a criminal case was allowed to expurge himself by swearing in a mosque on a passage of the koran, that the charge was false ! The passage is that beginning with "Wa Allah, Wa B'illah, ta Allah". Witnesses were not required in such a trial. The complainant too, did not take an oath. Sometimes the oath is, amongst the Malays, "demi allah or demi qullam (or kulam) allah"—"By God, or by the word of God."

I had an opportunity, when sent on a political mission to the Malayan and mussulman State of Perak, which bounds Province Wellesley on the south, in 1827, of being present when the rajah administered the oath of allegiance to his chiefs. They were all assembled in the balei, or hall of audience, which was partially supplied with sofas and chairs. The koran was placed on a low stool in front of the assembly, and beside it stood a large jar filled with water, which the the Rajah consecrated by dipping into it that portion of the regalia which consisted of arms and armour. The arms were then placed

leaning against a pillar, and a small regal crown of gold was put over the mouth of the jar. The chiefs then swore fidelity on these regalia.

The belief—sometimes pretended—amongst the Malayan mahometans here, is that perjury will be visited on the offender within seven days, or seven months, or seven years, by temporal punishment, and also by future retribution. Marvellous stories are current and credited, of sudden death happening to perjurers. It is just possible that, on some occasion, a revulsion of remorse, fear, or superstition, may have produced death. But it cannot have escaped the notice of those who have long resided in the East, that notwithstanding all the terrors and denunciations of superstition, with its interminable list of supernatural agencies, there is not perhaps one thief in fifty, who is detected by the juggling ordeals and mummeries of the professed thief-taker.

The Imams in the Straits will inform any inquirer that they consider it superfluous to tender an oath to a true believer, although they grant that there may be some difficulty in ascertaining this last point.

The mahometans are, in general, prevented by the simplicity of their religion, compared with the idolatrous systems of the East, from investing the sanction of an oath with any very appalling forms, and the appeal is therefore, in their case, made pretty directly to the conscience. It has often happened that a plaintiff or complainant (without reference to his religion) has expressed in an English Court here, his willingness to rest satisfied, and to withdraw his complaint, provided the defendant would swear that the latter was false; not that the plaintiff believed that the defendant would speak the truth by such a denial, but because he hoped that he should be avenged in the retribution which would follow the perjury. Such a mode of

expurgation is, however, too repugnant to common sense and English law to be tolerated. The latter wisely removes this temptation to false swearing. I recollect an instance of feeling somewhat akin to this. Two soldiers, natives of Bengal, who had been intimate friends, had a slight quarrel; one of them who thought himself aggrieved, deliberately shot himself through the body close to where I happened to be seated, and on my inquiring the cause of such a rash act, he quietly replied that he desired that his blood should lie on the head of the person who had offended him : he then expired.

Generally considered, it is to be suspected, that, in the case of mahometans who are deists—of Hindoos of India, who are blind polytheists—of Booddhists, who are a sort of atheists, and also materialists in some degree, and of the mass which has embraced several anomalous superstitions branching off from, or existing independent of, these—that conscience is satisfied by the jesuistry of striking a balance betwixt perjury and religious zeal. Faith, in a mussulman, varnishes over more sins than the most charitable or moderate men of European sects could desire in their most sanguine mood. The fanatic has only the power of looking at objects in a *camera obscura*, distorted by false light.

Were oaths to be dispensed with amongst the native population of the Straits, the last would probably gain instead of losing thereby. It can hardly be doubted that the sanction is nullified by the operation of two things: either that those who submit to it would speak the truth without it, or that those who would deliberately assert a falsehood without it, would not be restrained by an oath from so doing. It is only, it is to be supposed, because a scale of punishments suited to the degree of enormity of the per-

jury has not been devised, or rendered practical, that oaths are at all required. Let the records of British jurisprudence in the East declare how much more potent, on the whole, is the fear of a temporal punishment, than that of one in a future state.

Bad as the moral feeling of the native too commonly is, regarding the nature of truth, there can be little doubt that even now the fear of detection and temporal punishment limits the instances of wilful perjury. Besides, it is quite clear that where, as amongst most Asiatic people, religion embodies in its ordinances, and announces the severest punishments in a future state, to those guilty of lying only, the person who *believes* in that religion has little occasion to take an oath. The punishment, in his apprehension, is certain whether he swears or not. If he does not believe in the faith he professes, then an oath is still less necessary and his assertion on it amounts to no more than simple affirmation.

A little investigation into the religious and civil codes of India and Indo-Chinese countries would shew that throughout these regions, the imposition of an oath was originally a religious not a civil act, and that the priests with whom the practice of administering oaths and of investing them with supernatural terrors, originated, felt their own consequence greatly enhanced by it. So much is this the case that they still retain the privilege, in many of these countries, of being the adjurers. Hell is the portion assigned both to lying Mahometans and Hindoos of all denominations, as well as to Christians. The Indo-Chinese native creed and dogmas assign to the liar a very hot mansion in *Roroowa* in *Narok*, or hell; where he is tormented in manifold ways during a period of four thousand *Yogas*. Four thousand years on this earth are considered, in these creeds, as equal to one

day and one night in the Dootsida Savan; and four thousand years in this last are deemed equivalent to one day and one night in the Roroowa, or portion of hell alluded to. How many masses would be required to get a soul out of such a purgatory, where a day and night comprise the number of 5,840,000,000 ordinary years !

As belief is inappreciable by, and intangible to, human laws, where these are not cruelly inquisitorial—and even occasionally where they are so—it would be important could an approximation to the required knowledge, in cases where natives are concerned, be made. By the legislative enactments for these Settlements, the natives are to be sworn in such manner as shall be most binding on their consciences. Now, if it be assumed, as I fear it must, that mendacity—leaving perjury for a while out of the question—is, amongst the majority, secretly deemed but a venial offence, and that the dread, if any there be, is of the OATH, not of a dereliction of the truth—can we feel assured, that amongst the followers of so many conflicting creeds, there are not too many who, by professing a religion they do not believe in, gain the advantage of swearing by what is not, in the smallest degree, binding on their consciences? The law is nerveless here. It has no check at command. It must proceed to try and elicit a certainty through the medium of an uncertainty.

It has not unfrequently occurred in the inferior Courts here, that a witness has hesitated for a moment as to the peculiar creed to be sworn by, and this often perhaps from mere want of reflection—not from bad intention. Women, more frequently than men, exhibit this glaring indecision, where they have married out of their own pale. Yet what can more strongly exemplify the slender hold which religion—here—has at all on the minds of the people!

Adjurations, on solemn occasions, amongst the Malayan, Mahometans and the Booddhist nations to the eastward, are generally managed under the superintendence of the priests. But it would be impracticable for the presiding judge of an English Court of law, whether civil or criminal, to see this done, because the swearing must be in a temple, and the forms are often tedious.

The influence of the priesthood would, however, amongst the several classes above alluded to, seem on the decline. Its origin has been explained. The rulers of the remotest periods to which history reaches, engrossed the offices of high priest & king, and many modern eastern native rulers would gladly retain the double power thus conferred. Mahomet was both king and prophet. The emperors of Ava and Siam often take the holy yellow mantle for a few years before they ascend the throne, and live in a monastery; and as a proof that, in Siam, the sacerdotal once took temporal precedence of the civil character, it may be observed that the high priest is of superior rank to the king, which the latter can afford to permit, since the former has no temporal authority now.

In the Straits, the test of an oath may, in civil and criminal cases, be required from the following classes:—

1st.—Britons of various Christian sects, independent of those who are of the Established Churches of England and Scotland—also a few British and foreign Roman Catholics, being Europeans; other Europeans and Americans.

2nd.—Descendants of Europeans, born in this country, and professing either Protestantism, or the Roman Catholic faith.

3rd.—Occasionally, native Christians from the Churches of India; chiefly Nestorians.

4th.—Armenians, who form a very orderly and respectable, although small portion of the society.

5th.—A few converts to Roman Catholicism from amongst the Chinese and Siamese settlers.

6th.—Jews.

7th.—People of every nation professing mahometanism, which extends its trade to the Straits; embracing Arabs, Persians, and Turks; Africans, Indians, Chinese, natives of the numerous isles of the Malayan Archipelago, Achinese, and other people from Sumatra; and Javanese.

8th.—Hindoos, from the lowest grade up to the Brahmin, classed here under the common titles of Bengalee, and Kling or Chuliahs, although the term Kling embraces mussulmans also.

9th.—Booddhists from Siam, Ava, Tenasserim and Ceylon; Chinese and Cochin-chinese; Peguers.

The classes enumerated from 1 to 6 inclusive, with the exception perhaps of the third, must rank foremost in the scale of veracity—an assertion which, as regards Christians here at least—does not perhaps rest so much on the superior moral tenets and influential nature of the Christian religion, as on the facts that most of the individuals composing these several classes in the Straits, are men to whose worldly prosperity, character is nearly indispensable and the greatest number of whom are far removed from the temptations which accompany absolute poverty. Amongst the mussulmans, the Chuliahs are perhaps the most given to lying. But Chittagong men and Bengalese do not rise much above them.

In the Keddah State, while under the Malayan and mahometan law, a false witness was punished by having his face blackened. He was then gonged, and at the same time flogged, through the streets.

As an instance, however, of unequal justice, it may be mentioned that where a woman denied having been legally separated from her husband, and oral or written proof was wanting, the latter could have the separation confirmed or decreed by merely swearing in the Imaum's pulpit in the mosque that it had once taken place. Such was the advantage which the inferior condition in which the female sex existed here, gave to the men.

The Chinese, amongst themselves, attest a solemn asseveration by sacrificing a cock. This, in fact, is a species of ordeal, since it supersedes further evidence. The person so swearing or rather imprecating, must chop off the cock's head at a single blow, else he is deemed guilty, or his charge adjudged to be false. One can imagine an intending perjurer, who is imbued with superstitious terrors, failing to perform this simple operation. But in British Courts of law, the only adjuration practised consists in the prosecutor or witness burning a slip of yellow paper which he holds the while, in his hand, and on which several Chinese characters are stamped, purporting that the person swearing has appeared in the presence of the dispenser of justice—to speak the truth in the matter at issue—and that, should he perjure himself, then every sort of calamity will befall him. By this act of burning, the Chinese conceives that the printed characters on the paper are conveyed away to the invisible world as records against the witness, should he forswear himself.

The above ceremony of chopping off a cock's head may remind an antiquary of the Jewish ceremony of the Capara, which took place on the vigils of the Chipur\*, or day of expiation, when a white cock's head, bearing the sins of the people, was twisted off.

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\* *Vide Asiatic Journal.*

Somewhat allied to this was the Roman sacrifice to *Æsculapius*. The Chinese here do not require that the cock should be white.

During my journeys in Tenasserim in 1824, I found several tribes amongst those called *Kayen*, who venerated the fowl; because, as they said, it once happened that a dog ran off with the only remaining copy of their sacred creed, which was written on parchment, and that being pursued, he dropped it on the ground, when a fowl scratched out all the written characters with its feet. Thus, said they, the feet of the fowl are sacred; for to them adhered our holy volume.

Several of the Samang, or wild tribes on the Malacca Peninsula, will not proceed on a journey until the thigh bone of a fowl has been inspected and a fortunate omen elicited; and I have been informed by Battas of Sumatra, that when one of their tribes is going to attack another, the astrologer or diviner twists a red cock's neck, and then holds him suspended by the head. If the dying convulsions cease first in the left foot, and wing, victory is pronounced to his party—if the reverse, defeat, and the expedition is postponed.

The fowl is one of the emblems portrayed on the Prabaat, or impression of the foot of Booddha, which may be seen in the Booddhist temples of Ava and Siam. It is probable that this tissue of superstition is of astronomical origin, since the fowl figures amongst the heavenly signs in the Hindoo, and other Eastern astronomical systems. I cannot close this digression without noticing, that while employed several years ago in exploring the ruins of an ancient Booddhist temple in Province Wellesley—an account of which I have promised to the Asiatic Society of Calcutta—I obtained a small copper pot which

had been carefully built up with bricks at the depth or four five feet. The lid was firmly luted, but on being handled, the vessel crumbled nearly to pieces. Within it was found the figure of a fowl constructed of thin silver wire, which also fell to pieces on being handled. But the bill and feet were perfect, being made of an alloyed metal, chiefly gold.

That very intelligent traveller, and almost universal linguist, Mr. Gutzlaff, observes of the Chinese, that "they are a very irreligious but most superstitious people;"—or, as a phrenologist would say—they are deficient in the organ of veneration; unless superstition, which is fear, has not a chamber in the same organ.

The Chinese do certainly treat religious matters as pastimes; and it is best that they should do so with such objects of adoration as their pantheon presents to their eyes and understandings. A Chinese, on a festival day, may be seen with a smiling face saluting to one of the images or paintings of a divinity. He will break off from these devotions should any thing amusing occur; and where thousands are collected and sports of all kinds are being exhibited, this easily happens.

Although Booddhism be the state religion of China, and there are a few tutelar and other deities worshipped there, still it should seem that the bulk of the people is composed of little better than demonologists, and spirit-worshippers; and that they are inveterately attached to judicial astrology, to divination, geomancy, necromancy; to the making of offerings to the spirits of earth, air and water; to amulets, enchantments, and absurd propitiations.

Amidst such a labyrinth of errors, how can it be expected that the obscured mental vision of a Chinese should appreciate the sacredness of truth!

We now come to the Siamese. It has been before

observed, that they are materialists and atheists, notwithstanding that Brahma and other Hindoo gods find a place in their ritual. In some sense they are polytheists; but since their deities are abstracted from the idea of the creation of the universe, and were themselves created beings, they can hardly be viewed in any other light than that in which they have been here represented.

I now speak of the genuine Siamese Booddhism; not of the dogmas which may have been ingrafted on it. It might naturally be asked, what religion this people has to grapple with conscience? It may satisfactorily, I presume, be urged in reply, that their religious system embraces not only severe temporal retribution, but, as before adverted to, the most complicated and awful degrees of punishment in a *future state*, for crimes committed in this world; amongst which falsehood is especially held up to vengeance. I have already treated this subject in my account of the Prabaat\* and shall not therefore enlarge further upon it here. Adjurations in Siam take place almost invariably within the precincts of a pagoda or temple of Booddha.

The great oath of Siam embodies a formidable array of imprecations. Mr. Crawford obtained a translation of it out of a manuscript of mine, and it will be found in his account of his mission to Siam. I have thought it requisite, however, to insert it here, in order to render this chapter more complete. It is pretty fair evidence to prove the low mark at which veracity stands, or stood at least, when the oath was framed in that country. To a mind dimmed by superstition, whether puerile, poetical, or gloomy, nothing can be more bewildering than the

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\* *Vide* Transactions of the Royal Asiatic Society of Great Britain and Ireland.

giving to truth a varying value by an increased or diminished intensity of the oath. But the Siamese are still at the very threshold of jurisprudence; for where witnesses are not procurable—and even on other occasions—they resort to expurgation or proof by various ordeals, such as walking bare-footed over fire, putting the hand into melted lead, or boiling oil, diving under water for a given time; or if there be an accuser, and accused, until one party comes up—the other being adjudged innocent should he escape the alligators or drowning. Drugs are also administered to the parties. Imagination may here occasionally do much.

A case of ordeal by diving took place very lately at the Siamese port of *Kotah*, close to the British boundary pillar in Province Wellesley, where one of the parties was *all but* drowned.

The witness declares, as if in the presence of the divine Phra Phoot-thee-rop [a designation of Booddha,] that he is wholly unprejudiced against either party and uninfluenced by any consideration, whether pecuniary or otherwise; and he continues: “if what I have spoken shall prove to be false; or if, by colouring the truth, others shall be led astray; then may the three holy existences, viz. Buddha, and Dhamma—[Dhurma, or the sacred Bali writ, personified,] and Phra Sangha—[or the hierarchy]—in whose sight I now stand, together with the glorious dev’atas of the twenty-two firmaments, punish me. If I have not seen, yet shall say that I have seen; if I shall aver a knowledge of that of which I am ignorant; then, should innumerable incarnations or descents of the the divine essence happen for the regeneration and salvation of mankind, may my erring and migrating soul be found far beyond the pale of their mercy;—wherever I go, may I be encompassed with dangers

arising from murderers, robbers, spirits of the ground, of water, air, and the woods. May the dev'atas who adore Buddha, and the gods of the four elements, harass and punish me. May blood perspire from my body, so that my crime may be manifested to all. May such evils overtake me within three days hence; (or) may I suffer instantly—and may the lash of the sky [lightning] cut me in twain. May one of the four preternaturally-endowed lions devour me;—or let me be poisoned by herbs or bitten by venomous snakes. Let alligators, and Hera, [a fabulous horned alligator] and Mangkon, [a fabulous Saurian animal which, in Siamese astronomy and mythology, represents Capricorn] and huge fishes, attack and devour me;—or may the dread of such punishments keep me for life a prisoner in my house, estranged from every pleasure. Let me be a slave to a tyrant, and let me die by *cholera morbus*,\* and then be hurled headlong to Naraka, (hell) there to go thro' innumerable kinds and gradations of torture;—such as carrying of water over these flaming regions in wicker baskets, to assuage the heat felt by *T'han Wetsoowan*, when he enters the infernal hall of justice.—[He is one of the thirty judges of naraka who sit by rotation, and was once a king on earth.] Thereafter, may I fall into the lowest pit of hell;—or, should these punishments not be allotted me, then may my soul after death migrate into the body of a slave, and endure all the miseries attending the worst condition of such a being, during a period of years measured by the sands of four seas; (or) may I animate the body of a beast during five hundred generations;

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\* The cholera morbus, in perhaps its sporadic form, has been very long known to the Indo-Chinese nations and is not unfrequent at the changes of the monsoons. There are numerous cases of this sort every year on the Kedah Coast.

(or) may I be born a hermaphrodite five hundred times in succession—or migrate during a similar period into the body of a blind and deaf beggar and endure every loathsome disease, and thereafter be precipitated to hell and suffer crucifixion at the hands of P,hreea Yom, [Yama] a king of that region.”

On other occasions, that portion of the Siamese Bali ritual is read to and repeated by the witness, which begins with : “ *Sakk'hé kamé cha roopé k'heeree seek'ha ratate;*” &c. which corresponds with the Sanscrit I believe, word for word ; only some of the consonants are interchangeable, as, k for g, ch for jh ; &c.&c.&c. Then came the Phra Barramat, containing the number of 21,000 chapters of Bali theology and theogony, *cum aliis multis*. Thereafter appears a long string of dev'atas—*Phra Een* and *Phra P,hrom* (*India* and *Brahma*) taking the lead.

The Chankoo, or Siamese priests, are exempted from the formality of an oath in their own country. They merely affirm or deny, by a movement of their taraphat or fan of palm leaves, I believe this rule has not been attended to in our courts of justice. It is very rarely indeed that a priest ever appears in one. He should so act as to have no cause originating in himself to appear, for he ought to estrange himself from all wordly affairs. But were the rule adhered to, these priests would be placed in the same apparent relative position as the Quakers, with perhaps this essential drawback, that the yellow *chewon*, or mantle, of the former would not be so safe a guaranty for their integrity, as is the sober garb of the latter. They are an incubus on the Siamese nation from their preposterous numbers. One of the surest ways of rendering men vicious is to assume them to be so, and to treat them with suspicion. But if the natives of Siam are yet influenced by their codes of law,

which we have no reason to doubt, we should be compelled to receive, with some distrust, the statements on oath of those classes of Siamese who are precluded by their customs and by these codes from giving evidence *at all*. This extraordinary people, whose respectable ascent, viewed as an Indo-Chinese race, up the steep path of civilization, is ever retarded, and often changed to a descent for a while, by the trammels of inveterate custom and of *hereditary* barbarism;—this nation, or rather government, which sees nothing but perfection in all its institutes;—has endeavoured to get rid of the evil effects of perjury by a sweeping exclusion of numerous classes, which, in civilized societies, form a vital part of the body politic, from the privilege of giving evidence in a court of justice or elsewhere. It is probable that here, as in other matters, the practice of the Siamese courts may relax; and be at variance with the law digests. These last however, shew no less than twenty-nine exceptions, the following being the principal ones. It will be evident from the context, where the exclusion is absolute, and where only ordained to prevent interested persons giving evidence.

The digest from which this list has been taken does not explain the reasons. But these have been put down as given by a respectable Siamese of Bankok.

1. Debtors—because afraid of the creditor.
2. Blacksmiths—because noted and reputed as pilferers of the iron given to them to make implements.
3. Scoffers at religion—this requires no explanation.
4. Slaves—because under the controul of their masters as property—eligible in indifferent matters.
5. Gamesters—because liable to be bribed, and reckless.
6. Empirics—because in the habitual practice of deception.

7. Executioners—because cruel in mind, and reckless.

8. Shoemakers—This prohibition is derived from Hindoo institutes ; the profession being considered degrading.

9. Braziers—for the same reason as ironsmiths.

10. Breakers of any of the eight commandments of Booddha—this is plain enough.

11. Vagabonds—this is self-evident.

12. Theatrical performers of every description—because dissolute in their manners.

13. Persons afflicted with loathsome or incurable diseases—because, as some Siamese affirm, they are expiating crimes committed in a previous state of existence.

14. Children under seven years of age, and persons whose age exceeds 70 years—imbecility.

15. Habitual slanderers—this is a very fair hit.

16. Obstetricians—because they are bribed often to kill the infant in the birth—so say the Siamese.

17. Sorcerers—this is also evident enough, relatively to Indian ideas.

18. Personal enemies of those against whom evidence is to be given—this is clear enough.

19. Convicted felons—because they have lost all regard to character.

In British courts here, the Siamese are sworn on the D'hamma [Durma] Chaow, or Booddhist scripture, which is held over the head of the prosecutor or witness, while he repeats his creed, beginning thus: *Namo Tatsa, B'hakkhawato Arahato ; Sammasam P,boot-thasa.* He is then admonished to speak the truth. The same form is used for the Burmese, only the Dhamma or Chaow is in the Burmese character, and the words are a little altered in the pronunciation.

The mode of swearing in the Hindoos need not here be described, as it is the same as in Hindoostan. But what are we to say to the Samang, the Bilas, the Allas, the Mani, the Lamor, the Jihall, the Lalleh, the Teo, the Pallé, the Taming, the Battu, the Kalantan, the Kunseeoo, the Kumta, Keen, Bé-enor, Tedeh, and Kensat—all wild, or nearly so, tribes scattered over Sumatra and the Peninsula, and who profess to be its aborigines?

I have encountered some of these tribes in Perak and other places, and have occasionally had whole families at my station for weeks at a time. The *Allas* swear by thunder and lightning, and the falling tree of the forest. The *Bila*, as far as could be elicited, acknowledge no god or spirits, or future state; yet they have evidently some vague apprehension that something happens after death. They also swear by thunder, which they venerate and propitiate. With the exception of the woolly-haired Samangs—who are nearly as dark, but not so glossy, as Africans, nor at all to be compared to them in stature and muscular strength—the other tribes are, generally speaking, far from being positively savage in their aspect or manners. Several have fairer complexions than the generality of Malays. I observed the same contrast betwixt the *Kayen* tribes of Tennasserim and the Burmese; but more particularly the Peguers, who are, for this portion of Asia, rather a dark race. As an instance how little a society can help itself in securing a guaranty for the truth, I will mention a circumstance which occurred at one of the late Criminal Sessions in Penang. A native land-holder, a man of substance, and a kazee, was brought before the Jury on a charge of dealing in slaves. The complainant was a Batta woman from Sumatra. As most of the Battas who are settled here,

have been converted to Islamism, it has perhaps seldom happened that one has been called on to take an oath according to the Batta form, and it was very clear that there was no one present in the crowded Court who would have ventured to say how she ought to have been sworn. The woman being prosecutrix, and also just severed from a savage tribe, rendered it most desirable that she should be sworn according to the form most binding on her conscience. There was, it must be premised, no one to swear, that she was a Batta, either in person or mind. It is clear therefore that the Judge and Jury had only this guaranty for the truth being spoken, that the witness exhibited a simplicity and unembarrassed earnestness of manner, which great adroitness and duplicity only could have enabled her to assume. She desired to be sworn on the earth, or ground—the form being, as she said, to place her right hand on it and imprecate every calamity and torment to be her portion, should she forswear herself. Some earth was brought into the Court, and she laid her hand on it and swore by it. It should seem, however, that the witness ought to place the hand on the ground itself. But then again, witnesses must be sworn “in open Court!” The accused was convicted to a certain extent. This mode of imprecation, or of giving force to an assertion, seems to be of Hindoo origin. The Malays, although Mahometans, yet swear amongst themselves by the *Bumi* or earth, which they strike with the palm of the right hand, whenever they wish to produce a *strong conviction* of their veracity; and such earnestness, joined to long personal observation, induces me to believe that this lurking superstition and remnant of Hindooism often inspires more dread than an asseveration on the Koran!

The following account was obtained by me from Battas from Assahan in Sumatra, and especially from a Battese of Toba, a place inland of that district.

The chief of the tribe collects points of krisses, bits of old iron, spear-points and the like, from the people. Of these, a representation of a man is constructed, which is about a cubit in height. It is called *Opong*, and it is distorted in every possible way in order to exemplify every degree of torture to which man can be exposed. This image is kept in the chief's house, but it is not worshipped. When any one has to be examined on oath, on any occasion whatever, the image is brought forth, and he is told that if he speaks falsely, he will, within two months, become as distorted in body as it is. To this he assents.

Although the punishment imprecated here, is a temporal one, yet this form of adjuration is deemed by these Battas the most binding, because most feared. Swearing by the earth is,—it should seem to be in Sumatra, by this account—only had recourse to, and allowed, when complainant and defendant agree to rest satisfied with it. But the punishment following perjury, in this case, is a future one—the earth being supposed to reject the body of the perjurer, and to prevent his spirit from resting in peace.

When to the mendacity of witnesses is added the difficulty of obtaining able interpreters; a conception may be formed of some of the accidents which affect the course of justice in the Straits of Malacca. The chief languages current are: European, chiefly, of course, English; Hindoostanee, Tamul, Arabic, Teloo-goo or Gentoo, Bengalee; ten at the least distinct dialects of Chinese\*; Burmese, Mon or Peguan, Siamese,

\* Fokien, Changfoo, Kain-choo, Teow-choo, Macao, Siam, K, hangeen, Choong-san, Shiyong-san, Chinj, hia.

Malayan, (the lingua franca of the Straits) Javanese, Bugese, and the Batta tongue.

Possessed of a knowledge of Malayan and assisted by approved interpreters for other languages, a magistrate in the Straits may get through business, although slowly. For it cannot be denied that the necessity of depending entirely on or of employing interpreters, loses time and doubles labor, besides the mischief of a circuitous communication of the evidence to the Judge.

It is impossible to supply the magistrates in Penang or Province Wellesley, with interpreters who understand the English tongue as well as the native languages. In the former, they are occasionally indulged with an English interpreter from the Court of Judicature. But magistrates would do well to acquire a competent acquaintance with Malayan and Hindostanee at least; and they would, no doubt, gain also much time, save labor, and feel the more satisfied with their own decisions, did they add to these, a knowledge of the most common dialect of the Chinese, the Siamese, and the Tamul languages.

The Petit Jury have here a great advantage over perhaps both judges, magistrates, and barristers, in the number of languages which *collectively* they understand; so that they are not, while empannelled, easily misled by bad interpretation; while they are, from their constant intercourse with natives, well qualified to appreciate the evidence adduced by them.

It cannot be expected that the professional Judge should be a linguist in such dialects, entering on his duties, as he does, immediately after his arrival from Europe. He must therefore solely depend on an English interpreter; and this last—let him be ever so able and intelligent as a linguist, in one or two of the most prominent languages,—will often be forced

to elicit truth by an indirect process, at every halt in which that evidence loses in freshness and perspicacity. For instance, a Batta witness speaks to the Batta interpreter; he transmits it in bad Malayan perhaps to the Malayan interpreter, who delivers it in improved, or perchance amplified Malayan, to the English interpreter, who, in his turn, tries to convey to the Judge and Jury as much of the original meaning as may not have evaporated during this judicial alchemy. In this part of the world there is no jesuitical kissing of the thumb, or evasion of the preliminary or accompanying form. The perjury is straightforward and unblushing.

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CHAPTER VIII. PART 2ND.  
RELIGION.

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ROMAN CATHOLIC RELIGION.

A late statement in the *Prince of Wales Island Gazette* makes the number of conversions in Penang, amongst the Chinese alone; during the past ten years, to have been 750; but the actual present number of proselytes is not given. In the same statement the number of converts in Province Wellesley is rated at about 80 Chinese.

The chief local pastor, the Reverend Mr. Bouché, is very indefatigable in his vocation; and if we may be allowed to doubt the sincerity of the greatest portion of his *converts*, he may still lay fair claims to the merit of having successfully aided in the work of civilizing the natives. I believe there are some converts, also, amongst the Samsams, or mixed descendants of Siamese and Malays. The rest are not noticed in the statement alluded to in a very precise manner.

The Chinese, we know, are Boeddhists and metempsychosists, as well as the Samsams, and the lowest classes of the former are grossly superstitious, while

the liberalists amongst them are little better than moralists in a scholastic sense, and very irreligious.

Little, therefore, would be lost to any of these classes by a renunciation of their crude dogmas and philosophical morality—even were that to be in favor of a religion of a far less reasonable tendency than the most bigoted catholicism. There is also much in the external ceremonies of the Romish Church which assimilates strongly with the pomp and circumstance attendant on Buddhism, whether Chinese or Indo-Chinese; so striking indeed, is the resemblance in several instances, that the Propaganda and other Roman Catholic missionaries, who first visited China, were highly indignant and scandalized at it.

There are two Roman Catholic chapels on the Island, of substantial architecture; also a female seminary and several schools. The two latter are, it is believed, well conducted and cannot fail to do good.

It has been surmised that the Roman Catholic pastors have it in contemplation to settle a portion of their flock in Keddah. But it is to be hoped they will first weigh the matter well, as the responsibility might be heavy, should the Siamese hereafter treat them as they do their own proper subjects, or in other words, plunder them on some false pretence.

#### MALAYAN RELIGION.

The Malayan mahometans hold to their faith with a tenacity more the result of habit and education, than of conviction or actual prejudice. Yet there is hardly an instance of one being converted to Christianity—I mean a conversion that is sincere. They accept with pleasure Malayan versions of the Bible, [the Dutch translation] read the same in a respectable manner, and are quite alive at the coincidences these exhibit with their own koran; and could they

be convinced that the Bible is the older book of the two, their veneration for it would be increased. Still they would adhere to their objection against taking it as the guide of their conduct, that as it was superseded by the koran, the dispensation of the later prophet Mahomed is therefore the most orthodox. Divested as their minds are of the severe and repulsive bigotry which disgraces the moslems of continental India, and indeed of the countries of Asia to the west, they are better fitted than these are to mix in commercial and social intercourse with people of other persuasions.

The Malays do not generally consider the professors of other creeds than theirs, as thrust beyond the pale of salvation. I have heard an educated Malay observe that a man only sins when he disobeys the injunctions of his own faith, and regarding that very indigestible and orthodox portion of Mussulman dogmas, the ascent of Mahomed to the seventh heaven, that it may be viewed in a metaphorical light.

Some of the rich Malays, Suids, and others, will drink beer and even wine ; but they seldom do it publicly. To the credit of the Malays here, it must be admitted that they are very rarely, if ever, *seen* under the debasing effects of ardent spirits, and but very seldom indeed of opium. When it is stated that a man may get quite drunk at the expense of 8 or 10 cents or pice, this first fact is remarkable. The second may be explained by the price of the quantity of this drug required for complete inebriation. Were either case to be otherwise than here represented, the most dreadful mischiefs to society might accrue from such stimulants acting on the warm tempers of men, who have scarcely yet shaken off the impression that they are the natural avengers of their own wrongs and quarrels. It is also a very satisfactory fact that

the practice of running amok is hardly known at Penang, or indeed at any of the three Settlements.\* I do not recollect more than two instances, at the former place, including Province Wellesley, during the last seventeen years, and the last I believe which took place on shore at Singapore, happened many years ago. A man ran amok, or as the Malays term it, *meng-amok*. He had gambled deeply, it was said, and had killed one or more individuals of his family. He next dosed himself with opium and rushed through the streets with a drawn kris in his hand, and pursued by the police peons. Major FARQUHAR, the then Resident, hearing the uproar, went out of his house, when the infuriated man who was just about to pass it, dashed at him and wounded him in the shoulder; but a sepoy who was standing as a sentry at the door, received the desperado on his bayonet at the same instant, and prevented a second blow.

There are two mosques on the Island; one nominally Malayan, the other Kling or Chuliah—but they are both open to all mahometans.

The Hindoos have a small temple in the town, and there is another of moderate size, but of a chaste order of Indian architecture, situated in the country near Suffolk House. It was built many years ago, by the Rauce Dhobee, or "Queen of the washermen," as she was termed, who made her fortune by monopolizing all the tubs; and it retains her title.

The Hindoos perform here all the absurd and often monstrous rites of their religion, with exception of widow-burning and dragging the car. The usual swinging on tenter-hooks is a public and disgusting exhibition—and in a civilized colony, is a nuisance and an offence against public decency and feeling.

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\* Since this was written, a case on board a boat has occurred at Singapore; but it is believed that the boat was from a distant port.

When people forsake their own country and voluntarily settle in another, they should be satisfied with the permission to celebrate those religious rites only which do not outrage the proper feelings of the other portions of the community, and which are not injurious to public morals, the decencies of life, and order. This is the utmost extent to which it should seem, under such circumstances, toleration ought to extend.

The processions of fakers—often in little short of *puris naturalibus*, and hideously painted and disguised—are Saturnalia, which, to say the most for them, can only be barely tolerated any where.

The processions of the mussulman tazias, or representations of the tombs of Hassan and Hoosseen, are costly and splendid, as observed from a distance; and were it not for the collision which takes place sometimes at them betwixt the rival tazia-bearers and their parties in the streets, when shillelahs, and even more dangerous weapons, are employed, they would be wholesome enough moral safety-valves.

The Malays never enter into any of these heterodox practices. Their religious ceremonials are of a grave and respectable character, and they hold the Mussulman of India to be little better than a Hindoo.

The Siamese have a rather pretty temple at Pulo Ticoos, and on the opposite side of the road is a Burman one of humbler pretensions. There is another and smaller Siamese pagoda at Battu Lanchang to the southward of the town. The Booddhists have sometimes dragged a car, but not of the description dragged by Hindoos. The priests of all of these temples and the respective monasteries, or *vat*, attached to them, are rather numerous. But they are idle and ignorant. Parties of them in yellow mantles may be seen perambulating the streets. They stop at a door, but do not ask for any thing, and pass

on if nothing is quickly offered. Their religion enjoins that they shall live on the alms of the pious votary; but they are forbidden to take money, or to look a woman in the face—two things which it is doubtful if they adhere to. The high priest of Siam occasionally sends them wholesome admonitions. There is only one priest and two or three Nien or Buddhist students in Province Wellesley, and no temple of note of the present day. I observe that Captain BEGGIE, in a late Work, has been misinformed on this point; although his work embraces many valuable facts which but for his diligence might have never emerged from their musty repositories.

But of all the classes of society here, the Chinese have the greatest number of festivals, or rather perhaps, keep the greatest number. Their profusion on such occasions also far exceeds that of other natives. This they are enabled to afford by means of their *Congsis* or Clubs. In each, an elder is yearly elected by ballot; and the image of the peculiar tutelary divinity, or deified sage of the Congsi, is retained in the house of the elder. The grand procession of the Diyong, which is the representation of the great snake or dragon, in 1820, cost, it was said, along with its attendant ceremonies, several thousands of dollars. The object was to expel the cholera which was then raging in Penang. The representation of the snake was formed of oiled and coloured paper with lanterns inside. It seemed upwards of two hundred feet in length, and was carried by a large party of Chinese. Notwithstanding all this expense, the snake-god was not propitious; the cholera swept on; and the Chinese were so mortified at the failure, that they were ashamed to bury their dead, and sunk them in the channel of the harbour at night.

I have not space left to enter deeply into the Chinese superstitions, but will briefly describe their temples and chief festivals.

Penang, it may be remarked, offers to an inquirer, a better opportunity than perhaps any one given spot in the British Indian dominions can afford, for observing the performance of the rites of most of the religions of Asia. These rites however are not accompanied by all the Asiatic splendour which will be found in the countries themselves.

The *Changwoô*, or first day of the *Peang shin*, or new year,—which will correspond, for the ensuing year 1836 with the 17th day of February 1836—is a day of much rejoicing. At early dawn the Chinese open their doors and let off large bundles of *pang p'hao* or crackers, some of which are so large as to sound at a distance like musketry. They then go a round of visits to their friends, somewhat in the French fashion, to congratulate them on having reached another year in health, and to wish them future prosperity. These visits occupy three days. The visiter does not give presents. He is entertained with sweetmeats. These three days compose a sort of carnival, when gaming, carousing, histrionical and other amusements are the sole occupations of the people. It has been before observed that gaming is not, as far as can be learned, allowed on such occasions in China, nor is it permitted here.

The feasts are expensive. The table groans with whole pigs, and poultry roasted, boiled, and stewed;—preserves and fruits forming the dessert. The drink is samsoo, brandy and other European liquors. The Chinese pledge each other in the European fashion, and the conversation is very animated. The Chinese rarely get drunk, and seem capable of carrying off as goodly a quantum of strong drink as any bon vivant of

Europe. In the mean time, theatricals are being exhibited at the chief places of worship; for the Chinese, like the ancient nations of the west, have always joined these to their religious ceremonies. Indeed, where the plays often embody the heroic actions of the very gods and immortalized mortals worshipped, these would seem befitting rituals in honor of the two latter.

Amongst other amusements are fencing and leger-demain.

On the tenth day of this month, the image of *Ssayinkong*, a deified saint, is carried in procession from the house of the elder of the tribe—with whom it had remained during the past year—to the *Kwan yin miao*, or temple. Bands of, to refined ears, discordant and harsh music, accompany the effigy.

*Choakes*, or banners of red cloth, and *Koten*, or huge lanterns painted with flowers, are carried in advance; and *niong-soa*, or two-tiered umbrellas striped red and yellow, with deep fringes, are held over the effigy. Cloth flags are likewise displayed, emblazoned with devices. Among these is the horned alligator, the type of Capricorn. But it is here represented with only four toes. In this procession, a large wooden frame is carried along, supported by men who are concealed. Near each end of this frame, and above it, a man is to be seen standing in a fixed attitude, in which he is kept by means of iron rods concealed under his clothes, and rivetted into the frame-work below. Each of these men is surmounted by another, who appears to stand self-supported on the shoulders of his pediment, but who is also kept up by the iron rods alluded to. One of these upper men holds out an artificial flower, which, with his arm, rests on an iron rod. On the flower, and borne up in the same manner, stands a handsome and splen-

didly-dressed boy of five or six years old. The other man holds out a spear in a slanting position, on the sharp edge of which another boy seems to stand self-supported, but who is in reality kept in his position by iron rods. The Madras exhibitor was therefore no discoverer.

When the effigy or *tekong* has been deposited in the *Kwan-yin-men*, another of *Kwan-tzeys*, a deified mortal also, is conveyed thither with the same ceremonies.

On the 15th of this month, the penates, or household guardian spirits, are honored by offerings of food and fruits. The animal propensities of the Chinese are strongly exemplified in the nature of their offerings, and their fanciful belief that spirits carry their grosser passions and capabilities of indulging these, along with them to *Sizza*, the Chinese shades. The *Sizza* is one of the 72 regions inferior to the earth. There are, according to Chinese cosmogony, thirty-six regions superior to, that is, above, the earth. The Sinoese have only the water under the earth, and twenty-one regions superior to, or above it.

These penates are portrayed by pictures or images, and the latter are always put up in the most conspicuous part of the house.

The ceremonies conclude with the exhibition of painted lanterns, fire-works, and the invariable frast of good things; for in this particular instance the Chinese are counter-parts of John Bull; and wisely consider that no affair can be successful without a dinner, preceding or following it.

The temples, on the night succeeding the above day, are thronged with persons of all ages, and both sexes—for the Chinese do not here imitate their women. *Pai* and *Ponee* are two external acts of adoration performed before the images in the temples,

These are generally repeated four times consecutively. In the first, the worshipper falls on his knees, and placing his hands flat on the ground, he touches the latter with his forehead. *Kooee* is a mere act of genuflexion.

On the presentation of an offering of variously-coloured, but chiefly red waxen tapers and huge red waxen candles and incense, the adorer entwines his fingers—keeping the palms uppermost and open: he then raises his hands, so joined, to his forehead, keeping his elbows at the same time so far from the body as to form a segment of a circle. The *Koeeseon*, or priest, who is clothed in a flowing dress of red, black, white, or flowered green cotton cloth, continues the while to recite passages from the Bali language, which are not a little changed by the Chinese pronunciation—this last not being fitted to express polysyllabic tongues. He strikes gently, at the same time, on a hollow varnished piece of wood, called *Monggè*, which resembles a mis-shapen human skull, and which act, the Chinese say, is to prevent his attention from being distracted to the scenes going on outside of the temple. He now and then tinkles a small bell; which rite is well-known to be practised amongst the Booddhists of India and Thibet.\* A large gong is loudly struck at intervals. The priests of

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\* M. Jacquemont is perhaps the most recent traveller who describes the Booddhist rites—although but casually—in the upper Himalayan regions. It is greatly to be regretted that this *traveller's* friends [for as he had no hand in publishing he cannot be termed an *author*] have so injudiciously verified the princely adage "*save me from my friends and I will defend myself against my enemies.*" Had Jacquemont published his travels, much offensive matter would no doubt have been left out—and then the letters would have been doubly valuable. They will serve a good purpose even in their present shape, by dispelling much of the mist of prejudice and ignorance which floated betwixt the eyes of the people of Europe and British India. But the writer's *would-be* friends have injured his memory and perhaps future French travellers, by making him a betrayer of hospitality.

these temples occasionally play the cymbals, one of which they now and then throw up to some height and catch it on the other as it descends. They should only eat vegetable food. They are also bound to celibacy, and are interdicted the use of inebriating liquors. It is more than suspected that these rules are not here always strictly adhered to.

Women present offerings at the temples, as well as the men. Both supplicate the *Tokong* to be propitious, on any named occasion. The lots, which are small pieces of wood of a flattish oblong shape, are cast thrice, and if the result is unfavorable, the design of the supplicators is abandoned for the time. It has before been observed that the chief thing which is done at the great festival, is to cast lots for the guardianship of the *tokong* and purse of his temple, during the ensuing year; in doing which much electioneering ardour is evinced. But every one cannot indiscriminately become a candidate for the honor and responsibility. The whole body of each Chinese Congsi is represented by district deputies chosen by vote, and their number is generally ten. The popular votes are enrolled by people appointed by the voters. The deputies then proceed to the *tokong* or temple, where the lots, or *Shing k'hao*, which are pieces of bamboo, are cast thrice for each deputy, by the chief of the Congsi for the past year. When the lots have indicated that five out of the ten are elected, a ballot takes place out of these *five*, in the same manner, for the chief of the Congsi, or Loo-choo, for the ensuing year. The *Thau Ke*, or remaining four, are stewards for the *tokong*.

Those Chinese who can afford it, and are strict followers of ancient usages, have portraits painted of their nearest relatives. When any one of the latter happens to die, his or her picture is carefully locked

up in the picture chest ; where are also deposited the ancestral portraits. On new year's day, the whole of these pictures are taken out of the chest, and hung along the walls for the space of fifteen days, and daily offerings are presented to them, consisting of incense and odoriferous woods, and eatables. The pictures are then laid by until the ensuing year. The Chinese can take likenesses ; but these are formal, and generally border on caricature ; and their colours are never blended into the indefinable softness and keeping so essential to the art of portrait-painting, but seem as if they had been laboriously laid on, one after the other, with a trowel. They copy English portraits and landscapes with much fidelity, but no taste. The forte of the Chinese painters lies in drawing and painting costumes, birds, beasts, insects, and flowers. The brilliancy and durability of their colours are well adapted for these purposes.

Now and then a Chinese may be met with, who would only require a few lessons from a European painter, to put him in the path to a respectable degree of excellence ; and the same may be said of the Siamese.

#### THE YEE-WOA, OR SECOND MONTH.

On the nineteenth day of this month there is a procession with the image of *Kuan-yin-nea*, who was a celebrated virgin of old ; and in honor of this, her natal day, offerings are made to her on this occasion of vegetables and sweetmeats, but not of meats. It is chiefly those who are labouring under sickness who make these offerings.

In this month also, the Chinese visit the tombs of their ancestors ; a duty which is by all classes felt to be so imperative, that to fulfil it, opulent Chinese have been known to return to China from the Straits and Eastern Archipelago, at the risk of life & property.

The *manes* are honored by offerings of dressed meats, (for it is requisite to notice that raw meats are never found among the Chinese oblations to their *respected* objects of worship,) preserves and fruits &c. Incense is burned and *Yin-choa* and *Kin-choa* are consumed. These two last are thin slips of paper having a patch of gold or silver, or quicksilver leaf in the middle. They are intended to represent money, and in this instance they seem to have got the start of Europeans, whose notes are, it is to be apprehended, not cashable in Pluto's domains, even at a discount. This paper money which is not worth a farthing in this present world, is intended to furnish the *manes* who are wandering in the Chinese hades, with ample means for subsisting. The Chinese believe that in the *Yong cheeoo Yass*, or country of souls, gold and silver coin can be converted into paper-money of this description, and afterwards enchanted back to its proper nature.

How near do these Chinese fancies approach to those of the ancients of the west !

#### SA-WOA, THE THIRD MONTH.

On the twenty-third day of this month, the Chinese propitiate and worship *Ma-choo*, who is a female divinity, and the protecting saintess of sailors.

Dressed pigs, poultry and other food are placed before her shrine, and close to it expensive theatricals are exhibited, accompanied by excellent fireworks. The theatrical exhibitions are here made under a temporary house which is open to the populace in front ; who, as they pay nothing at the time for the amusement, are not supplied with any shelter from the weather. The women with their children sit in groups and circles, or in palankeens ; and the men crowd about the space in front of the stage. One of the best of their fireworks is a box from two to three

or four feet square. Within this are tiers of fireworks of almost every description. At the expiration of each separate tier, a small platform, or frame, drops about a foot below the box, on which are exhibited, in fire, puppets of men and animals, and Chinese characters traced in fire. The Chinese used to let small balloons fly at their festivals; but the practice being dangerous to property, is prohibited; for these are not inflated by prepared gas, but by rarifying the air in them by fire placed below, the under part being left open. If the Chinese are to be believed, the balloon was made use of by one of their generals who invaded the Burman country; but whether to *reconnoitre* like the French, or merely as an instrument of offence, has not been explained: the latter may however be presumed.

*Ma-choo* was a virgin of old, who was gifted with second sight, by which she was enabled to see, in a vision, the wreck of her father's vessel at sea, at the precise moment at which it happened.

#### TEE-WOA, OR THE FOURTH MONTH.

On the eighth day of this month, the Chinese hold a festival in honor of *Foot-so*, or Booddha, in one of his incarnations. His image is carried in procession. In China he is taken amongst the grain, and other cultivation, to preserve it from insects and disease; for Booddha's distinctive attribute was humanity. The oblations are tea, wine, and bread. Nothing which had life is offered.

#### NGO-WOA, THE FIFTH MONTH.

The festival of the deified sage *Toa Saya* [perhaps *Sacya*] is held on the 5th of this month, and boat-races form the chief occupation of this day. Bets run high occasionally. The prize does not generally exceed one hundred dollars in value, and consists of a golden ornament, and dresses. These are fixed to the winning post, which last is stuck in the mud. The

owner of the boat which first reaches this post seizes the prize. Sailing is not allowable in these races.

Several years ago, when the commander of one of his Majesty's frigates challenged all that Penang could bring against his ship's boats, the Chinese entered, amongst others, their gilded snake-boat, *Leoong Choon*, for the contest. It was a narrow canoe pulled by about fifty men. It darted from the starting-post with a shuttle-like velocity, and would, had the water been smooth, have left every other boat far astern; but no sooner did it encounter the abrupt ripple of the harbour than it filled and sank, and the rowers, few of whom could swim, looked in the water, with their bare pates and tails, like so many tad-poles. Fortunately the stern boats came and picked them up.

On the 13th day of this month, there is a festival held in honor of *Quantee*, who was a king, the Chinese say, of the west. He is a great favorite, and his portrait may be found in most of the houses of the Chinese.

#### LA-HOA, THE SIXTH MONTH.

*Quan-yin-nyeow*, a deified female, is propitiated on the nineteenth day of this month. Women are numerous at the celebration of this festival, & they offer gold and silver papers, preserved fruits, and sweatmeats at her shrine. The flesh of animals is not offered to her. The processions on this occasion are very gay, and all the palankeen carriages are in request. The male worshippers of this beatified spirit, when their veneration for her is sincere, wear round, flattish, and slightly conical caps made of rattans and other materials, and having flowing crests of horse hair dyed red. The dress for the body is a long white robe, the same as that of ceremony. Indeed, the whole of the dress described is properly the dress of ceremony. The deputation of Chinese wore it when they waited to congratulate

Lord WILLIAM BENTINCK on his arrival at Penang.

CHE-WOA, OR THE SEVENTH MONTH

Is one of peculiar sacredness to the Chinese, who believe, that from the first to the last day of it, the souls of the deceased are hovering abroad, and revisiting their ancient haunts. Viands are therefore spread out for their use.

The *Toa-so* is the chief of the *Kooee*, or spirits. In Penang he is annually represented, in this month, by a figure about twenty feet in height. It is constructed with split bamboos; the whole is then covered with paper, which having been painted, the dress is put on. He will be found seated giant-like, during two or three days, under a shed, close to the principal tokong-house in George Town. At night, a table, at which thirty or forty persons might sit down, is laid out before *Toa-so*, and it is covered with a costly profusion of viands and liquors, of which whole boiled pigs form a prominent part. When this ghostly guest has, it is supposed, satisfied his appetite, the contents of the table, sometimes even to the dishes, plates, glasses, &c. are given to the poor. At the sound of a gong, there is a general rush and scramble for these good things. One night's entertainment of *Toa-so* will cost from two to three hundred dollars. The expenses attending this festival, and indeed of all the rest of their festivals, are disbursed out of the religious funds, belonging to each tokong. Some of these are said to be rich, and they are readily supplied by voluntary contributions; for as these festivals resemble carnivals or saturnalia, the poorest Chinese grudges not his mite, but looks forward to them as to recreations, and days of unfettered enjoyment. When sufficient honors have been paid to *Toa-so*, a chest made of paper is filled with models, also in paper, of various articles of dress, for his use. The

whole is then burned. The effigy of *Toa-so* is finally consumed, so that he may return to his abode.

PE-WOA, THE EIGHTH MONTH.

On the 14th day of this month, the effigy of *Ssayankong* is carried in procession to the temple, and ceremonies are performed similar to those established for the festival on the first month.

On the 15th, *Kotee* is worshipped, and *Saya*—perhaps the Thakaro Sri Sacya Moonee Khodom, or fourth Siamese Booddha—propitiated. The Chinese give sacred feasts on these two days in honor of the two worthies just named. Large plum and seed cakes, rivaling in bulk at least, those of England, are baked for these occasions.

Booddha is worshipped also on the fifteenth day, and under the title of *Sang-po Foot-so*. He is represented in the usual contemplative attitude, being seated with his legs crossed, supported by an expanded lotus flower, and dressed in loose robes. The lobes of the ears are distended, and his head-dress resembles a curled wig, but tapering to a small point at the crown. He has bracelets on his wrists, and anklets on his ankles. The countenance is Chinese.

On his right is the figure of *PhoHean*, a priest of old, and perhaps one of Booddha's favorite disciples, who is here seated on a six, or perhaps—as the head is turned—a seven-tusked elephant, recumbent. This is no doubt the famous king of the elephants of Himalaya, celebrated in Bali writ. The figure holds a long-stalked lotus flower with both hands. His hair is long and flowing, and the head-dress resembles a sort of ornamented cowl, with a flame-shaped ornament in front. He wears bracelets, and his dress is the same as that of *Foot-so*.

On *Foot-so's* left, sits another figure, *Woon-choo*, a famous priest of old, on a recumbent lion or *sai*, with

long tusks. This figure is dressed like that on *Foot-so's* right, but he holds in his right hand a small sprig or flower, and in his left, a cup, or pot.

Gardeners are much attached to *Foot-so*, because perhaps his doctrines being mild and bloodless, he is the natural patron deity of agriculture. The Chinese believe that this triad were translated into a state of beatitude without tasting of death. This Booddha is apparently the third recorded in the Siamese Bali scripture, under the title *P,hokaro Katsap'ho Phoot-t'ho* ; unless, which seems probable, he was merely a follower of Booddha the fourth. The Siamese believe that their third Booddha, as above named, instructed the Chinese in the religion of Booddha, and that he now lies in a divine slumber on a hill in the country of Rachakhra [Raj girha in India.] His funeral rites have not accordingly been yet performed, nor will be, until the coming of the fifth Booddha, or *Pha See-an*.

#### KAO-WOA, THE NINTH MONTH.

On the 9th day of this month, the Chinese fly paper kites. In China, this amusement or ceremony is believed to drive away diseases, and pestilence. It is performed on the tops of hills. With us, the Chinese confine themselves to the plain.

#### TZA-WOA, THE TENTH MONTH.

On the third day of this month, the Chinese hold a festival in honor of *Congfootzoo*, or Confucius. They present food and other offerings to him. The Chinese here seldom, if ever, carry his effigy in procession, according to custom with some sects in China. But all persons pretending to learning, keep a picture of the sage in their houses.

#### TZA-YEE-WOA, THE ELEVENTH MONTH.

In this month, the Chinese propitiate *Choo Soo-kong*. He seems to be a sort of *Æsculapius* ; but

the manner in which, as before described, he is hurried over the fields by the searchers for medicinal roots, is a counter-part of, if not the ceremony, of searching for *Proserpine*, as has been noticed in a preceding chapter.

The fifteenth day of the *Tza Yee Woa*, or 12th month, is solemnized by the worship of all the penates, and the offerings which have been made are afterwards distributed gratuitously amongst servants and dependants.

On this day, it is incumbent on labourers to state positively whether they intend to remain or not with their masters throughout the approaching year.

On the 29th or 30th, the festival of *Kooee-nen*, or of the last day of old year, is held with ceremonies similar to those already described. The penates are again propitiated, and the manes of deceased ancestors venerated and honored.

In an old dilapidated temple at Battu Lanchang, which was formed by partly closing up the entrance to a cave formed by overhanging granite rocks, were, sometime ago, to be seen three painted wooden images. The centre one represented *T'ho tee Pa-kong*, who was a famous sage of old. He is now invoked by Chinese grain cultivators, and by those who are obliged to reside temporarily in forests and wild places. He wears a flat bonnet and is dressed in the Chinese costume.

On his left sits *P'hang K'hoan*, the recording spirit, with his tablet and pen; and on the right *Seeou Kwee*, the punisher.



## CHAPTER IX.

### GENERAL REMARKS.

There is a good road stretching nearly from one end of Penang Island to the other, and intersecting the cultivated tracts ; besides which there are numerous cross-roads. There is no want of land or water carriage ; provisions are good and more plentiful, perhaps, than in the places further down the Straits, although dearer than on continental India. Province Wellesley, like all *new* countries, has its inconveniences. Among these may be chiefly enumerated the rather over-frequent visits of tigers ; the occasional swarms of muskitoes, and the miry state of the new-made roads in the rains. Tigers have been seen at Singapore ; and if choice, and not accident, took them there, they will probably, as they have done here, increase in numbers as cultivation advances, until no more jungle shall remain to shelter them. These animals very naturally follow man where he is an agriculturist, since they can easily help themselves to his cattle, poultry, and dogs, which last animal is here with them a favorite prey ; for where dogs are plentiful, men and cattle are little molested. Penang has fortunately escaped the infliction. Yet tigers annually visit the *Kra* Islands, from the main land, and a swim of twice the distance would bring them to *Pulo Jirja*, from which Island to Penang the distance is still less.

With the exception of bread which is got from Penang, all ordinary supplies are abundant in the Province. Malayan carpenters, sufficiently expert in house-building, may be had at about half a rupee, or even less, a day. There are brick-kilns on the banks of the Pry river, where bricks and tiles are manufactured. Excellent durable timber can be obtained at the rates mentioned in the account of Woods, from the forests of the interior, and granite is near at hand. A close-grained, light-blue, primary marble can be had at the Lancavy Islands, or at *Khao Wong* hill which lies up a branch of the Muda river.

A substantial bungalow, from 60 to 70 feet long by 35 or 40 broad—the under story of brick and mortar, the upper constructed with the best kinds of wood, with a tiled roof, and the whole interior and exterior of the upper story painted—might be built perhaps for twelve hundred Spanish dollars.

Some of the richest natives are beginning to build brick houses. They have hardly as yet been able to shake off the impression made on their minds by the despotic rule of their former masters in Keddah and other Malayan countries; where, with reference to Malays at least, to build a brick house is deemed an insult to the ruler, and punished as a state offence.

Strangers visiting Penang, will have to depend at first more on private hospitality than on the accommodations in taverns; there being little encouragement for the latter. Moderately-sized houses are generally to be hired, unfurnished, at the rates of from ten to thirty Spanish dollars a month. Palankeen carriages may be had for a dollar, or even  $\frac{2}{3}$  of a dollar a day; a poney for the same, and a boat for one dollar.

The sights in Penang are but few. There are the Flag-staff hill and grounds, from which an ex-

panded view can be had of the opposite continent, with its massive chain of mountains in the distance. Here, amidst the mists of an elevation of 2,200 feet, and in a temperature often so low as 65° of Fahrenheit, the Indian convalescent soon renovates his constitution, if that has not been so far shaken as to require a more bracing air. The rose and other flowers of northern climates, here also remind him of other scenes; while the beautiful fir tree of this region serves to aid the illusion. The hill on the eastern face is very precipitous, and the clacking of Achie's, formerly Amie's, flour-mills in the valley below, can be heard distinctly in a calm evening.

These mills were once famous *lions*. But since old Amie, like a true Chinese, returned to lay his bones in the celestial empire, the mills are little visited. The spot on which they stand is pretty, and it is a delightful ride of about five miles from town to them.

The great tree is a very old *lion*, and still shakes his shaggy mane on the hill sloping upwards from Ayer Etam valley. It is not so remarkable for girth, as for the height to which the stem maintains that girth, which last is averaged at 32 feet. The distance is about eight miles from town, and part of it must be performed on horseback. The waterfall is the third monster. It is not possessed of any very strong character, although worth visiting. The volume of water is not large, but the height from which it is precipitated being about 200 feet, the effect is very pleasing. Last and not least to a utilitarian eye, are the spice plantations of Glugor, and others now rising up on the island.

To those who are fond of riding, the many broad and shaded roads, intersecting the plain, will be duly appreciated.

The geologist will not find much to interest him,

unless he could penetrate the opposite continent of Malaya, and have the forests swept out of his path; but the botanist will only be puzzled where to begin his researches on the ample field spread out before him.

The zoologist will not want employment; but the conchologist must not expect to be rewarded for the trouble and risk of stalking over mud-banks, and of exposure to the sun.

Horses require to be taken great care of on Penang, and the generality of the residents therefore prefer the Achinese ponies, which are hardy, active, and sure-footed, and are good climbers of the hills.

The chief public buildings are the Church, which is a handsome building, although the steeple is too low;—the School-house adjoining;—the Court house, and the Public offices. There is also a small theatre where amateurs occasionally keep alive in the minds of the audience the reminiscences of more brilliant exhibitions in other climes. The Hospital, Poor-house, and Jail are not, in point of architecture, possessed of attraction; although substantial. There is a handsome Armenian chapel, and two Roman Catholic chapels, of substantial construction.

The shipping is supplied with water by means of an aqueduct leading from the hills—and the latter has been always considered good. It is hard, differing entirely from the water of the town wells; which is soft and occasionally brackish at high tides. The vessels frequenting the harbour pay a small sum per ton for it.

The bazars contain a few shops where Europe articles chiefly are sold; and therefore termed Europe shops; besides many Chinese shops of respectable appearance.

The Chinese carpenters' and upholsterers' shops

are numerous. But although the Chinese can make tolerable furniture, they are careless and seldom finish well, unless watched.

Ironmongers of the same class abound, and they may be observed in their work-shops, which are open to the street, all day long, fabricating muskets, swivels, and blunderbusses—the *polish* to which is bestowed on the *outside* of the barrels, leaving a rather rough bore. These arms find a ready sale amongst the natives, and from their appearance, one might be apt to imagine that, in using them, the danger would be greatest to the users of them. Arms were once contraband articles here, but, as it would be hard to deny to the honest trader the means of defending himself, and as the pirate might always be able to get arms somewhere, the prohibition to sell them has been removed.

I do not think however that the chief argument formerly advanced to justify the permission to fabricate or sell arms is altogether an undeniable one ; namely, that natives are less dangerous with fire-arms in their hands than with their national weapons.

If pirates *could* be prevented from obtaining fire-arms, the petty traders would doubtless not be molested as they now are. In regard to piracy it is quite clear, that as the Malayan states decay—and the deterioration is now going on rapidly—it will increase, and that there are only two modes of putting it down. The first would be the controuling of all the native Malayan states; a measure as yet perhaps precluded by political considerations. The second, the employment of fleets of boats, occasionally disguised like the native prahus ; a plan which could be carried into effect, although at a very considerable expense, if extensively acted on. But if piracy be thus considered as a practice identified with the very being of the

dismembering Malayan states, still it is not to be thence inferred that it may not, by vigorous measures, be so far checked as to be rendered a very dangerous pastime—the total sum of piracies being, at the same time, reduced. This may be done by the force of money, not only in gaining accurate information of the haunts and intended expeditions of the piratical fleets, but in laying sure snares for them when they set forth on the latter. Gun-boats would be most useful, next to small flat-bottomed steamers; for it has been well proved that the boats of English men-of-war have no chance in *coming up* with the pirate *clippers*, and a very slender one of surprising them.

But no measure will be truly effective so long as the right to overhaul is not given. It is believed that his Majesty's ships have not—or at least do not, if they have—exert this essential auxiliary. The pirates know this already, and presume upon it. An Admiralty jurisdiction would not much mend the matter—but only make the persons detached in pursuit of pirates more cautious than before—seeing that to prove that any individuals are pirates is no very easy matter, when no overt act of aggression has been committed.

The late Dr. M. WARD, of the Madras establishment, in his valuable paper on the Medical Topography of Penang and Malacca, gives it as his opinion that Province Wellesley is a healthy station, and that its climate seems to correspond with that of Malacca. It does seem on the whole, certainly, more healthy than the Island of Penang. The chief diseases which prevail amongst the natives, throughout the population on both sides of the harbour, are fevers, remittent and intermittent; the former often proving fatal. These are generally brought on by exposure to sun and rain, deficient clothing, and imprudent bathing. It is only surprising how any of

them do recover from acute diseases, when the low state of native medicine is considered. There is a pretty general prejudice amongst the natives against English medicine; which is, no doubt, kept up by the native practitioners. But when a Malay is at the point of death, he will, as a *dernier* resource, apply to the English physician. The Malay is taught to believe that all English medicines have, as two of their ingredients, calomel and mummies, or calcined human bones !

The small-pox occasionally commits great ravages. Vaccination has sometimes partially succeeded, although the Malays display too much apathy regarding it. The Chinese gladly avail themselves of its blessings. It has been found very difficult to import the virus. The Raja of Ligor made a strenuous attempt to introduce it into Lower Siam; but it is supposed without effect, owing to the badness of the virus.

Exposure to the cold land-wind at night, and to dews, which are very copious, will, no doubt, induce febrile and other diseases. Exposure also to the *direct* rays of the sun from 8 A. M. to 5 P. M. is always attended in Penang with some danger to Europeans ; and the natives frequently suffer from it. But such is the perfect ventilation in Province Wellesley that one may ride out during the day with safety, provided a thick umbrella is held over the head. The same practice cannot however, even with this precaution, be recommended for Penang, where the air is more saturated with moisture, and acts as a lens ; and the radiant caloric is not driven off by the wind.

The barometer has been observed in Penang to perform four revolutions in the twenty-four hours. At 4 A. M.—It is lowest and remains so a short while, then ascends ; until

10 A. M. when it remains some time stationary, and then *descends* till

4 P. M.—It is again stationary a while, and then gradually *ascends* till

10 P. M. when it is at its maximum: it is again stationary for a short period and then between

10 P. M. }  
& 4 A. M. } it descends to the minimum.

These revolutions are most regular, and the maximum and minimum are greatest at the full and change of the moon.

It appears that the change has not been found to exceed either way an inch of the mercury in the barometer.

Dr. WARD estimated the mean temperature for the year on Penang Hill to be 71° of Farenheit.

That of the plains..... 79½

Of the mornings ..... 75½

Mid-day till 4 P. M..... 83½

Evenings after sunset ..... 80°

Highest temperature..... 90°

Lowest temperature ..... 70½

Average monthly range .... 11°

Greatest range..... 13°

That of *Malacca* seldom higher than ..... 83°

Medium temperature ..... 80°

#### MALAYAN GRAIN MEASURES.

2 Kai or 4 kupoe, are equal to 1 chupah.

4 Chupahs, „ 1 gantang.

16 Gantangs, „ 1 nallie.

10 Nallies, „ 1 cooncha.

5 Coonchas, „ 1 coyan.

The coyan is 800 gantangs—one coyan by *measure*, of rice, weighs about 6,033 lbs. avoirdupoise, and is nearly equal to 1,044 bushels.

The gantang is a measure containing about 256 cubic inches.

Rice is not heaped but squared off in measuring, and much fraud is practised by the Chinese and other dealers, in the mode of doing this, and in lessening the quantity of the solid contents by other contrivances. To prevent such frauds, the gantangs and lesser measures are stamped at the Police offices on Penang and in Province Wellesley. A similar arrangement for weights also would be attended with much advantage, —and if they could be made in England so much the better, and distributed here.

Rice is imported from India in bags, containing about 20 gantangs each, forty making one coyan.

#### LAND MEASURE.

1 Jumba..... 12 feet square, 144 feet superficies.

20 Jumbas..... 1 square orlong.

1 Orlong ..... 400 square jumbas.

An orlong is nearly equal to  $1\frac{1}{2}$  acre, or 1 acre, 1 rood, and 12 perches.

4 Histas or short cubits.... 1 dippa, or long cubit, the breadth across the body to the extremities of the extended arms.

#### WEIGHTS.—[Avoir du poids.]

|                            |      |     |      |
|----------------------------|------|-----|------|
|                            | lbs. | oz. | drs. |
| 1 Tai or tahl, nearly..... | „    | „   | 23   |

|                                                  |   |   |    |
|--------------------------------------------------|---|---|----|
| 16 Tahils—1 cattie— $1\frac{1}{3}$ lbs. or ..... | 1 | 6 | 13 |
|--------------------------------------------------|---|---|----|

|                                            |
|--------------------------------------------|
| 100 catties—1 picul— $133\frac{1}{3}$ lbs. |
|--------------------------------------------|

40 piculs—1 coyan. But the coyan being a measure, the weight must depend on the article measured.

3 piculs—1 Bhara—428 lbs.

The Chinese cattie weighs  $22\frac{1}{3}$  Sp. drs. and is in most general use—The Malayan, 24 Sp. drs.

Hence 15 Malayan catties = 16 Chinese.

The merchants buy by the Malayan, and sell by the Chinese picul.

## COINS.

The dollar is the favorite coin in the Straits. It exchanges in the bazars for a number varying from 100 up to 120 pice. At present, it is pretty steady at 106. Indian rupees are also in circulation, but gold coins are hardly ever seen. There are also half-dollars, and the divisions of the sicca rupee. A sicca rupee exchanges in the bazar for 50 pice, on an average. On this subject, there are printed tables, which may be consulted as they are too voluminous to be here inserted. The sicca rupee will soon, however, be superseded by the new coinage.

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I fear that I shall have to rely on the Reader's indulgence for any repetitions which may be found in the preceding pages. From the manner in which the greatest portion first appeared, and other circumstances, these could not easily be avoided. I have not been able either to superintend in person the getting the work through the Press, although I have been fortunate enough to obtain the obliging aid of the Proprietors of the Press in correcting the proof sheets.

***F I N I S.***



# ERRATA.

|      |      |     |                                                                                                  |
|------|------|-----|--------------------------------------------------------------------------------------------------|
| Page | 4.   | For | "going along" read "going on along."                                                             |
| "    | 5.   | "   | "leases of 20 years" &c. read "of 40 years endurance, the<br>"term having been increased since." |
| "    | 5.   | "   | "land thus held," read "lands thus held."                                                        |
| "    | 10.  | "   | "bad" read "high."                                                                               |
| "    | 11.  | "   | "are far behind" read "is far behind."                                                           |
| "    | 14.  | "   | "oxen are never" read "oxen are rarely."                                                         |
| "    | 15.  | "   | "run" read "ran."                                                                                |
| "    | 17.  | "   | "the comparatively" read "this comparatively."                                                   |
| "    | 35.  | "   | "male tree" read "male trees."                                                                   |
| "    | 38.  | "   | "tapping" read "topping."                                                                        |
| "    | 55.  | "   | "chrySTALLize" read "crystallize."                                                               |
| "    | 55.  | "   | "chrySTALLIZED" read "crystallized."                                                             |
| "    | 57.  | "   | "subsequent" read "subsequent."                                                                  |
| "    | 58.  | "   | "Tinctona" read "Tinctora."                                                                      |
| "    | 59.  | "   | "either of a" read "either in the state of a"                                                    |
| "    | 59.  | "   | "credily" read "credibly."                                                                       |
| "    | 59.  | "   | "chrySTALLIZATION" read "crystallization."                                                       |
| "    | 62.  | "   | "infused into" read "infused in."                                                                |
| "    | 78.  | "   | The 2nd. para : is misplaced.                                                                    |
| "    | 82.  | "   | "may be seem" read "may seem."                                                                   |
| "    | 82.  | "   | "Budda" read "Buddha."                                                                           |
| "    | 101. | "   | "year" read "ear."                                                                               |
| "    | 101. | "   | "sudden" read "suddenly."                                                                        |
| "    | 102. | "   | "year" read "ear."                                                                               |
| "    | 103. | "   | "right" read "rite."                                                                             |
| "    | 103. | "   | "Kandari" read "Kundoori."                                                                       |
| "    | 103. | "   | "hundah pulah" read "hundah pulang."                                                             |
| "    | 107. | "   | "tythe" read "tax."                                                                              |
| "    | 110. | "   | "up one" read "up to one."                                                                       |
| "    | 115. | "   | "Tijah" read "Jijah."                                                                            |
| "    | 120. | "   | "then wealth" read "their wealth."                                                               |
| "    | 124. | "   | "its effect" read "its effects."                                                                 |
| "    | 126. | "   | "whole population" read "whole population of the Province."                                      |
| "    | 154. | "   | "on its natural state" read "in its natural state."                                              |
| "    | 160. | "   | expunge than.                                                                                    |
| "    | 164. | "   | "companionship of" read "companionship with."                                                    |
| "    | 170. | "   | "are not so much" read "is not so much."                                                         |
| "    | 171. | "   | "wiithout" read "without."                                                                       |
| "    | 171. | "   | "value produce" read "valuable produce."                                                         |
| "    | 171. | "   | "do eat it in grain" read "eat this grain."                                                      |
| "    | 173. | "   | "modes of gains" read "modes of gain."                                                           |
| "    | 174. | "   | "belongs" read "belong."                                                                         |
| "    | 182. | "   | "in general sand" read "generally in sand."                                                      |
| "    | 209. | "   | "makes" read "make."                                                                             |
| "    | 210. | "   | "Penang Plain" read "Penaga Plain."                                                              |
| "    | 220. | "   | "remarks from us" read "remarks from me."                                                        |
| "    | 237. | "   | "natives there" read "natives of the Province."                                                  |
| "    | 238. | "   | "practised" read "prolonged."                                                                    |
| "    | 245. | "   | "severally" read "severely proscribed."                                                          |
| "    | 260. | "   | "in the hands" read "into the hands."                                                            |
| "    | 260. | "   | "than to skin" read "than to skim."                                                              |
| "    | 261. | "   | "impractical morality" read "impracticable morality."                                            |
| "    | 265. | "   | "disputable" read "disreputable."                                                                |
| "    | 266. | "   | "shewn" read "seen."                                                                             |
| "    | 272. | "   | "qualifications" read "gratifications."                                                          |
| "    | 286. | "   | "India" read "Indra."                                                                            |
| "    | 286. | "   | "wordly" read "worldly."                                                                         |
| "    | 289. | "   | "its" read "their."                                                                              |

The Author regrets much that the above list is so large. He trusts to the indulgence of the Reader as he had not an opportunity of correcting the proof sheets,









