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## Art. XIV. —History of Tennasserim

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ART. XIV.—*History of Tennasserim, by Captain JAMES LOW,  
Madras Army, M.R.A.S., &c. &c.*

(Continued from page 54.)

CHAPTER IV.

TRADE OF MERGUI, TAVOY, AND MARTABAN—IMPORTS AND EXPORTS OF  
THE CEDED TERRITORY.

A THINLY peopled country can only carry on an advantageous commerce under the following circumstances. It must be an emporium to which the commodities of various nations are sent, not for its consumption, but to be shipped to other ports; or it must yield produce which is denied, or scantily allowed, by nature to other regions, and which can be raised and manufactured by the industry of a few.

Now, Tennasserim, it has been shewn, is a very thinly peopled country. Nor does it come under either of the above descriptions in a manner sufficient to warrant our giving it the name of a commercial territory. But, lest general assertions should be objected to, it may be proper to enter on a few details.

The trade on the Tennasserim coast is almost exclusively maritime. There was, indeed, formerly an internal traffic betwixt the provinces bordering on Ava to the north-east and south-east; but it fluctuated, and was, besides, confined to what is now the Burman half of Martaban. The Siamese court is too jealous of its subjects and its neighbours to admit of an extensive over-land trade, even were such suited to the wishes of the Burmans. This would facilitate emigration, open a door to spies, and might injure the royal monopoly at Bankok. They have, however, allowed a few small parties to come over the passes to trade since the British took possession of the coast. It is probable that these were merely sent to aid their officers in gaining information of the state of affairs there. While Siam continues to exhibit a decided aversion to any free and manly mercantile alliance with any European power, it is highly improbable that she will throw open the passes over her mountains.

Before the British had formed permanent settlements in the straits of Malacca, European or country ships might have found an occasional cargo at Mergui and Tavoy; but since the native trade of the Peninsula and of the Straits has been drawn to Penang and Singapore, and can be most cheaply carried on to these ports in Chinese junks and Malay prahus, the regular trader has found it unnecessary to go further in search of the cheap produce of these countries. The

wood-trade is, perhaps, the only branch of commerce calculated to attract shipping; but it is chiefly confined to Rangoon: and, perhaps, while the supply there can always be made, by a stretch of Burman authority, to exceed the demand, the forests of Martaban will not be greatly encroached upon. Sapan-wood, were it not an article of limited consumption, might induce country vessels to visit Mergui. Hitherto the quantity has been confined to a cargo for a vessel of about three hundred tons.

#### MERGUI.

The Tannau people carry on a brisk petty commerce with the ports lying betwixt it and Rangoon. They also occasionally visit Penang, the Nicobar Islands and Atcheen, Chittagong and Dacca. They exchange their own produce for betel-nut; raw and wrought silks; white muslins; crockery; woollens in small quantities, and chiefly coarse and of a green colour; petroleum, from Rangoon; cutlery; Chinese umbrellas, which, although made of black varnished paper, are yet very useful guards against sun and rain; a little opium and gambier; and several other European and Indian articles of little value. To the Nicobar Islands they take rice, arrack, tobacco, black and blue cottons (which last come from Penang), and rolls of silver-wire. They receive in exchange betel-nut, tortoise-shell, occasionally a little ambergris, a few pearls, and, not unfrequently, goods which the natives have got from the wrecks of vessels. The Mergui boats are of various dimensions, and are generally built of sassafras or some other durable wood.

#### TAVOY.

The natives of this place are more adventurous and richer than the Merguiers, and trade to the same places. Their boats vary from two up to forty-five tons' burden. These are seldom decked; yet, as they rarely venture out during the south-west monsoon, and the sea is very smooth in the north-east one, they serve every intended purpose.

The rivers and creeks which run up at short intervals on a long line of coast into the heart of the primeval forests, yield every possible facility for procuring ship-timber.

In rating the size of the native vessels, as above, it is not intended to assert, that larger ones have not been built by the people of this coast. They are not, like the Chinese, bigoted to one invariable model; and they could, under European superintendence, build a ship of any reasonable size.

A sloop or cutter of fifty tons' burden has been built, decking and rigging in the native way included, for five hundred rupees.

The imports to Tavoy are chiefly cotton from Martaban and the Straits of Malacca; tobacco from both of these places, and from Rangoon; earth-oil from the latter; piece-goods, cutlery, iron in bars, China ware, European and Bengal articles, brought from Penang in Chinese junks; gunpowder, fire arms, muslins, betel-nut prepared for chewing, raw sugar, and spices.

The exports consist of the articles described under the head, "PRODUCE OF THE PROVINCE."

Before the conquest of the Tennasserim coast, its governors were too much in the habit of constituting themselves the chief merchants; but they, as well as the court of Ava, had, perhaps, more liberal ideas on trade than their neighbours, the Siamese. A deputation from Tavoy, expressly with the view of encouraging trade, visited Penang a few days only before the account reached that place of the war having broken out. They were received with attention by the governor, the Hon. Mr. PHILLIPS; and after having witnessed a review of the troops with great apparent satisfaction and surprise, they were informed, to their great consternation, that the British and Burmese were at war. They were sent back under the escort of a gun-brig; and it was, perhaps, to the impression made on them by the sight of British troops under arms, that the speedy surrender of Tavoy was owing.

Formerly all trading vessels arriving at Tavoy paid a sum of one hundred ticals each, as a port duty, and, afterwards, seven per cent on goods disposed of. On leaving the port, the *myúwún* expected a handsome present. Vessels belonging to the country paid dues in proportion to their burden.

Tavoy is the only place on the Tennasserim coast that can afford to export grain, the average exportable quantity of which is rated at eight hundred koyans;<sup>1</sup> and this would appear to be less, by upwards of nine hundred koyans, than the quantity required to supply the deficiency caused by the consumption of rice exceeding the produce in the provinces of Mergui and Martaban.

#### YÉ.

The trade of this place may be considered as included in that of Tavoy.

#### MARTABAN.

The produce of this country has been already described. The imports are nearly the same as those of Tavoy and Mergui. A great

<sup>1</sup> See page 26.

deal of internal petty traffic is carried on by boats of from one to ten koyans' burden. These boats are seldom decked ; and are, therefore, either covered in with date-leaf roofs, or are furnished with movable coverings, made of mats or leaves.

Every family, so situated as to have access to the main rivers or to their branches, is supplied with one boat or canoe at the least. The canoes, and even boats of four and six koyans' burden, are framed out of single trees. The trunk is cut to the proper length, and then smoothed with the axe : one side is slightly grooved. By the slow application of fire to this side, the trunk opens gradually until it becomes wide enough to form the hull and part of the sides of the intended boat. The upper parts are composed of thin planks, or of the central fibre of the leaf of a large species of the palm (termed by the Malays, who also adopt the practice, *sambier*). These are sewed together by strong twine, this last being often formed from the strong fibres of the climbing plants. The seams are seldom caulked with any thing better than dammer,<sup>1</sup> and frequently with clay. These boats are often unsteady ; but they sail fast. One of fifteen koyans requires about fifteen men as a crew for a voyage from Mergui to Rangoon.

In 1825, the number of native boats in Martaban amounted to about two hundred large and three hundred small, exclusive of the coasting prábus, the number of which was not ascertained.

The northern and eastern parts of Ava, the country of Laos, and the districts or provinces inhabited by the Shǎän tribes, also the confines of China and Yunan, are accessible from Martaban.

A caravan used to arrive at the latter place annually, in times of peace, from the country of Shaumpé, inhabited by the Shǎän race, and one occasionally from Laos. These consisted in general of about fifty merchants. Martaban, therefore, has the advantage of Tavoy and Mergui, both of which are *politically sealed* on the land side. These merchants conveyed their merchandise on the backs of horses, mules, and small oxen. It consisted of lac ; a great variety of medicinal drugs, or roots and barks ; swords ; long knives ; manufactured cottons and silks ; raw silk ; sugar candied ; yansong, or earth-nuts ; blank books, made of very thick and blackened paper prepared from the inner bark of a tree ; ivory ; rhinoceros' horns ; and other less valuable articles. They took in return salt, spices, cotton, quick-silver (used copiously by them in medicine, especially in leprous complaints), red-lead, sulphur, assafœtida, borax, alum, chintzes, and

<sup>1</sup> A preparation of resin and oil.

piece-goods, coriander and other seeds, coarse broad cloth, and various European articles.

The Martaban native traders visit Penang occasionally. They also visit Mergui, Tavoy, Rangoon, Rakhein, or Arracan, the Nicobar Islands, and, but rarely, Acheen.

#### EXPORTS.

The average of a late general estimate, from authentic documents, for one year, gives—

	Rupees.
Imports .....	650,000
Exports .....	175,000

leaving 475,000 rupees as the balance of imports over exports; a drain which the natural resources of the country alone could not support.

Under the Burman government, bullion was not allowed to be exported.

It is evident from the above statements, that this coast has a long course to run before it can be enabled to supply exports to balance imports; and that much of the ability of the natives to meet the latter with bullion, depends on the accidental stimulus of a civil and military expenditure.\*

#### MANUFACTURES.

Tennasserim affords but a brief catalogue of manufactures. That of cloth may be ranked as first; and this is confined to the supply

* Prices of bázár articles in 1825.		Rupees.
Oil of sesame, per Ava picul <sup>1</sup> .....	70	
Eight guntangs, <sup>2</sup> or one basket of sesame-seed .....	7	
Areca-nut, per Ava picul .....	70	to 100
Tobacco Do. ....	70	
Gambier Do. ....	50	to 100
Pepper Do. ....	50	
Lac Do. ....	100	
Cocoa-nuts, per hundred .....	12	
Salt, per picul.....	6	
Wax, per Ava cattie <sup>3</sup> .....	1½	
Indigo ley, per picul .....	20	
Ivory, per cattie.....	3	
Cotton, per picul .....	13	
Rice, per koyan <sup>4</sup> .....	50	
Silk thread, per cattie, seventy ticals' weight .....	50	

<sup>1</sup> Picul, a weight containing 100 catties; estimated at 125 Dutch, or 133½ English, pounds.—MARSDEN.

<sup>2</sup> Nearly equal to 1½ gallon.

<sup>3</sup> Cattie, 22½ dollars weight, vide p. 45.

<sup>4</sup> Koyan, vide p. 26.

of only part of the demand for it, since considerable quantities of English and Indian cotton-cloth are imported. In the subjoined note will be found a list of the different sorts of cloth used on the coast. The weavers are almost exclusively women. There were about six hundred, chiefly Tavoy debtors, who sell their services until they can redeem themselves; and a certain sum is struck off monthly, according to the ability of each to earn his livelihood. In the town of Tavoy, however, the cloth is considered inferior to that of Ava. Of late years, piece goods, in imitation of Burman manufactures, have been sent out from England. As they are cheap, the natives buy them; but they complain, that the colours are not durable, except the yellow. But the respectable natives will not buy these goods because they are cheap and worn by the vulgar. Besides, they say that they can wear one of their own cloth for a year, while the European article only lasts a few months; and this circumstance, after the novelty has worn off, may make them reject an article only inferior in this respect to their own. The Burman loom is simple, but the cloth generally not more than two cubits broad, and that made by the *Kareans* only one cubit.

There will hardly, perhaps, be found a house (part of the inmates being females) throughout these provinces which has not a loom in it, and I have seen three or four at work under one roof. They learn to spin from infancy. It is evident, therefore, that these people are not dependent on foreign supplies, and that their home manufacture of cloth can only be supplanted by a careful attention to furnish them with a better, more durable, and cheaper sort.<sup>1</sup>

## DYEING.

The Tennasserim people acknowledge that the Malays surpass them in the knowledge of this art, and follow them where they

<sup>1</sup> Cloth manufactured on the Tennasserim coast :— Ticals. Rupees.

1. Lekyeit, 20 to 25 cubits long, 3 broad; party-coloured, waved, cross stripes: used by both sexes for a lower dress ..... 30 to 50  
The yüllekheit, or the drilled sort, is best.
2. Chetkyeit-pacho, 19 to 20 long, 3 broad; silk, striped ..... 25 to 28 & 35  
The plain sort is called balla.
3. Loun-acher, a silk cloth, waved and checkered, of 25 threads ..... 35 to 40
4. Lo-un-ngache; another sort worn by men..... 40 to 80
5. Wen-kaba; silk, waved and party-coloured ..... 25
6. Kivet-thaup; checkered ... ..... 15
7. Pacho-achein; silk, ribbed, and party-coloured; same length as No. 6: worn by both sexes ..... 30

can. The following rules have, therefore, reference chiefly to the Malays:—

## BLUE.

Dye the cloth or thread of a light blue (*vide* the next process); then take one catty of kheit or mallan (thick lac) and boil it in one guntang of water until two-thirds have evaporated; take of the juice of the makhanapen (*Mal. Assum Jarva Mudah*) one half catty, and mix it with one chupa<sup>1</sup> of water; throw into it a piece of alum about the size of an areca-nut. Saturate the cloth repeatedly until the colour becomes good,—drying always in the shade.

## LIGHT-BLUE.

Dye the cloth first with indigo alone.

## YELLOW.

About two chupas, by measurement, of the choppings of turmeric, or of the heart of the jack<sup>2</sup> (*Artocarpus integrifolia* of MARSDEN), are mixed with one guntang of water, by measurement; the whole is boiled until about one half of the liquid has evaporated; a small piece of *tawas*, or alum, is then put in and allowed to dissolve; the thread is then immersed and dried alternately, until a proper colour is obtained. To fix the colour more, the thread is again immersed in an infusion of turmeric.

## TO DYE RED.

A lie is prepared with ashes of the Ramei Popei (*Kayú Kadúdu Mal.*), and of this take  $2\frac{1}{2}$  parts by weight; of the leaf of the Ramboon-ben (*Mal. Assam Simpor*), one quarter part; and of the *nang-chí*, or hnanzí, or sesame oil, one quarter part: with this mixture a quantity of thread, about half a catty's weight, is well saturated, and then dried in the sun. The process is to be repeated thirty times with fresh lie and ingredients, taking care to dry the thread each time as above directed: next wash the thread well in clear running water. To fix the colour, take a quantity of *nyobei* wood (*Mal. Kayú Mang-kúdú*, the *Morinda citrifolia* of MARSDEN), pound it, and infuse in water for a few hours; immerse the thread or cloth, and then dry it in the sun; repeat the operation until the colour becomes brilliant. Finish by washing in pure water.

<sup>1</sup> *Chupa*, the shell of the cocoa-nut; a measure estimated at two and a half pounds avoirdupois.—CRAWFURD.

<sup>2</sup> This yields the finest dye. It is only employed amongst the Burmans to dye cloth used for religious purposes.

## TO DYE BLACK.

They use the following substances :—*Mé*, or indigo, (of that liquid sort used and manufactured by Chinese, Indo-Chinese, and Malays.) Of this they take a quantity, equal to one chupa by measurement; the rinds of four unripe cocoa-nuts (*aungsí-nú*), pounded and mixed with about four guntangs of water, and about two handfuls of slaked lime; mix all of these ingredients well together in a vat until the bubbles which arise look black; let the vat remain quiet for a night: the thread or cloth is then to be fully saturated with the supernatant liquid, and dried in the shade, and the operation is to be repeated until a good colour is obtained.

## GREEN.

Dye first of a light blue; chop a piece of the wood *kidderang* (one cubit long, ten inches in girth,) into small pieces; boil these in one guntang of water, until one half has evaporated; take it off the fire, and put into it a bit of alum (about the size of a nut); immerse the thread or cloth three several times, drying betwixt each immersion in the shade. To fix the colour, take two chupas, by measurement, of the leaf of the *assum kandes* (perhaps the *Garcinia* of MARS-DEN); pound the leaves, and mix them with a decoction of one half chupa of turmeric; saturate the cloth four several times, drying in the shade after each time.

The Tennasserim people are considered better artists in general than the inhabitants of Pegu and Ava.

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CHAPTER V.

## REVENUE.

It is not here intended to enter into very minute details respecting the revenue at present derived from this coast. It is chiefly proposed to describe, as briefly as possible, the sources from which the Burman government drew revenue, although it would not, perhaps, be easy to shew the precise amount derived from each source. Where the rulers were despotic — where offices were sold, and delegated power proverbially unstable — and where the necessities of the state, and the cupidity of men in office checked enterprise, and were met by the obsequious and abject submission of the lower orders, whose time and labour were not at their own disposal, and whose

energies could not have always been willingly lent, the rent must have fluctuated greatly in its amount.

A knowledge of the Burman system of taxation may prove instructive, but cannot be looked upon as a guide in framing financial regulations on a scale suited to British ideas. The Burman revenue of these provinces was derived, in a great measure, even under the most favourable circumstances, from imposts, and exactions of the most impolitic nature or injurious tendency. Thus, forced conscriptions were ordered, and large compensations in money taken in lieu of service. Rice and other kinds of produce, were exacted from the grower at the capricious valuation of a *myú-wún*, and sold by him at his own prices. Property was occasionally confiscated for pretended crimes, or on false accusations; fines were levied for misdemeanors; contributions of grain or money were made on feigned or real grounds, and bribes were accepted to screen delinquents.

It is the policy of the court of Ava never to allow a new governor of a distant province to proceed to his destination until he has delivered up his nearest relatives as hostages for his good conduct and fidelity. He well knows, that after this has taken place, any delinquency on his part will inevitably seal the fate of these pledges.

Hence it happened, that during the British war with Ava, so few of the Burman chiefs came over to the former. Many held out to the end of the war under circumstances where submission would not have been discreditable: but the *Golden Feet* will not admit any middle line of duty in such times.

MINGÍ ÚJINNA, who was the *myú-wún*, or governor, of Martaban when it was attacked by the British troops under Colonel GODWIN, did not display any heroism, for he was carried out of the place in a state of intoxication by his people, and left the *bogyaup*, or general, to defend it.

ÚJINNA was then, I was told, nearly seventy years of age, which may appear some excuse for his conduct. He did not, however, submit, but held out, along with scarcely one thousand men, during the whole of the war; sending detachments occasionally from his post in the jungle to annoy his enemy.<sup>1</sup>

The government of a Burman province consists of the chief and two members of his council. But the first is the responsible person. When one of their governors happens to fall under the displeasure of the court, he has friends who give him early intimation, and, probably, they are purposely informed of his danger. His object, then,

<sup>1</sup> He has since, it is reported, been decapitated by an order from Ava.

is to send handsome presents to the king and his officers ; which plan, unless his conduct has been daring and flagrant, generally proves successful. When actually dispossessed for speculation, he instantly expends, in a similar manner, a large portion of his gains to avert any investigation into his administration. The subject, therefore, has little chance of redress, since this connivance of the government at malversation is evidently one of the contingencies on which it relies for realising the revenues of distant provinces.

A governor is generally appointed for three years ; and, as he receives no salary, his emoluments consist of what remains of the revenue after satisfying the rapacity of his court.

Stating the case generally, the Burman government levied on this coast the accustomed assessment of ten per cent on all of the products which have been here described. It followed, in this instance, the rules which have been derived, according to the prevalent belief, from the reputed code of MENU. But a tenth of the produce of corn land is far below what a government may, with propriety, require, when it is the *actual proprietor of the soil* ; and it may be too high a rate for land which can only be cultivated with such kinds of produce as require a long time, and the application of considerable capital to mature. One tenth appears an equitable *tax* on the corn produce of private landed property. But it has been found, that the cultivators of this coast are willing to pay twenty per cent for the exemption they enjoy from the infliction of the operation of Burman finance.

The Indo-Chinese nations have on principle, or an affected regard for it, seldom disturbed the operation of this nominal assessment, because their actual power gave them the command of the purses of their subjects in many other ways.

The Tennasserim governors seem to have exacted a tenth on agricultural produce of every description ; a rate which must have fallen very unequally, since each species of cultivation required a different amount of capital and risk. A farmer who, after eight years of outlay of capital, unproductive until the expiration of that period, should be required to pay ten per cent on the produce of his plantation, would have just ground to complain that a grain-farmer, whose returns were immediate, and whose risk and capital were small, should only be obliged to pay at the same rate.

It does not appear that any estates were exempted from this rate of taxation. The ryot had, in general, a prescriptive right to the field or garden around his cottage. The right to cultivate a certain spot became, in fact, equivalent to a proprietary one. Hence it may be concluded, that the land on the Tennasserim coast, exclusive of cer-

tain tracts termed crown lands, is real *heritable*, if not *personal*, property.

The villages are not walled in, and but rarely well fenced around : occasionally a straggling bamboo fence may be observed.

As the ryots on this coast have now been set free from the indefinite exactions to which they were exposed under Burman rule, the corn assessment has been raised to twenty per cent, and that of other landed produce to twenty-five per cent.

The sources of revenue remaining to be noticed, are as follow :—

#### A POLL-TAX.

This was an arbitrary tax, and was regulated by the necessities of the chief of the individual province. It, of course, fell heaviest on the rich. In Tavoy town, the average rate was about four ticals a year for each householder. The unmarried had feudatory or mere service to perform in stead.

The Karians pay a poll-tax now which averages 3000 rupees per annum ; and certain fishing villages have been likewise assessed, it is reported, on the ground, that they do not contribute to the cultivation of grain.

#### FARMS OF LUXURIES AND CONNIVANCES.

Under these heads may be included the gaming-farm ; the sale of opium ; arrack ; and preparations of hemp or ganja.

*Gaming* is forbidden by the Burman laws ; yet the passion for it, when so strong as it may be found amongst the Burmans, and other people of Tennasserim, would have required greater virtue or tact in the rulers than actually existed to have arrested and subdued it by moderate measures. They, therefore, took the direct course ; and, when desirous of checking it, made the penalty a capital punishment. In general it was connived at, and a tax was levied on gaming licenses.

The abstract question respecting the consequences likely to arise from licensed gaming-houses being permitted in our eastern settlements, admits of much discussion, and cannot be decided on in a general way. Reference ought to be had to the numbers, means, and habits of the people. No moralist could be expected to lend his sanction to the practice of such a pernicious vice under common circumstances ; but rulers should be swayed by the results of experience, and be guided, in some degree, by the light which a study of the human mind is calculated to throw on such subjects. They are to reflect well, whether, in putting down and trying to extinguish the disposition to gamble, which roots itself so deeply in the minds of demi-

savage people, they are not, at the same time, diverting the passions into some more dangerous channel.

It is quite obvious, that where this passion actuates all ranks, nothing but a most efficient police, like that of the most irresponsible governments which modern Europe has seen, could serve to restrain it. But, as the British constitution and laws do not admit of inquisitorial proceedings, and as economy is required in expenditure, it follows, that no efficient check has been, or is likely to be, opposed to gaming. Since the farm was prohibited in the Straits' settlements, gaming has increased in a double ratio; dissolute characters have greatly multiplied; the native police servants have been bribed to connivance with the money which government would otherwise have received; and the apprehension of offenders has been rendered more difficult. Where one or two Chinese had the licenses, their local knowledge and means rendered it exceedingly difficult for persons to gamble privately; so that natives of bad characters, who frequented the licensed gaming-house, from no other being open to them, came immediately under the scrutiny of the police officers. If, then, it can be shewn that crimes have increased since the abolition of the gaming farms, policy alone may require their restoration.

In the Straits' settlements, it is the Chinese who are the principal gamblers. The Malays, however addicted to the practice, feel more ashamed of indulging in it openly; and it is chiefly confined to those who are locomotive.

In Tavoy, however, the indulgence is ardently sought for and pursued to an extreme. I have witnessed in 1824-25, at the licensed gaming-house there (which was kept by a Chinese), persons of both sexes, from the unreasoning age of ten or twelve years up to that of mere decrepitude, crowding in after the evening's bázár, and staking the whole of their day's earnings at the hazard table; and men have been known to stake their wives and families on a throw of the dice. Such a scene was never, perhaps, witnessed in any part of the Straits: the men only play there. The China renter at Tavoy paid, at the period above alluded to, a monthly sum to government of 1820 Madras rupees, or 21,840 rupees a year. The duty seems to have decreased since, and to have averaged from 1400 to 1600 rupees monthly. At Mergui, perhaps, 300 rupees may be taken as the average; and at Amherst, including the Yé district, 1800 rupees.

#### OPIMUM.

The use of this, and of every intoxicating drug, is strictly prohibited by the Burman penal code. During some reigns, the law

was enforced with savage rigour; and offenders had melted lead poured down their throats, or suffered violent deaths in other ways. But it depends greatly on the character of the reigning prince how far the laws are to be straitened or left in abeyance. If he is a rigid Buddhist, little mercy is shewn. If he is ambitious of popularity or of conquest, the law is allowed to lie dormant, or to be relaxed. During the late war it was scarcely in operation; and, it is believed, was often purposely infringed in order to conciliate the soldiery. The farms of this article now yield, on an average, at Mergui and Tavoy, about 1200 rupees monthly. In 1827, the farm at Tavoy yielded 967 rupees on an average, monthly. The opium cost to the renter 80 rupees a cake.

## ARRACK.

The Burmans, the Peguers, and most of the independent tribes termed Kayen, or Karean, are acquainted with the mode of distilling a spirit from rice. In a house in a remote Karean village, I was presented with a cup of weak spirit just taken from the receiver. The still was managed by the family. It consisted of an earthen boiler, to which was luted an oval-shaped earthen vessel tapering to a small aperture, whence proceeded a tube which, with the condenser, were cooled by water being allowed to drop on them. The Bali language is the vehicle of the prohibition to drink ardent spirits or wine; and it is also that of the different modes by which these can be prepared from various substances, such as grain, fruits, and barks.

Hemp, and date, or cocoa-nut juice fermented, were clandestinely farmed out. It is believed, that much hemp in that state, called *bhang* in India, is used by the Burmans. It is, perhaps, the most deleterious drug, rated under the title of *luxury*, which the people use.

Toddy, or the juice either of the cocoa-nut tree, or of that species of marsh-palm, termed *Nipah* by the Malays, is sold in a fermented state; and, as it is exceedingly cheap, a man may become intoxicated to the height of his ambition for the value of one half-penny. Its effects are long felt.

Compensations for crimes and assaults, and fines for misdemeanors, were fertile sources of emolument to a Burman chief; and this last circumstance must always have prevented him from taking wholesome measures for removing incitements to lawless acts, since his own interest was affected.

Such a state of things was debasing to the rulers, and pernicious in its consequences to society. The poor man could not pay enough,

and suffered the full penalty of the law, while the rich one bought a speedy immunity.

Treason, however, was an unpardonable crime; and a murderer did not escape. A reference to the short chapter on Burman laws will shew the general rate of fines for offences. The rates vary according to the circumstances affecting the population of each individual province. The present revenue from fees may be averaged at 7000 rupees a year.

Shops were taxed at various rates. In Tavoy, the tax was farmed out to three of the principal shopkeepers, each paying, it was said, about fifty rupees only. I did not learn what retailers paid. Women chiefly conduct the business of retail. They are of all ages, and many are pretty far advanced in life before they take to shop-keeping; and have lost the charms calculated to blind a purchaser to defects in their goods. But they are blessed with the full and ready use of their tongues. The bázárs are now farmed out for about 200 rupees a month.

Net fishing-boats, if in good repair, were taxed three ticals each; but if employed in line fishery, only one tical. A drag or floating-net was taxed five ticals, and a fishing-stake twelve ticals.

Fish are most abundant and cheap at Mergui, twenty different kinds, at the least, being procurable in the bázárs. Ten rupees were afterwards levied for each fishing-stake; and this tax is now in force.

In Tavoy, a tax on the transit of goods by land was collected at certain favorable spots;<sup>1</sup> but its amount was a mere trifle, scarcely exceeding a few hundreds of rupees.

The Betel-leaf farm at Tavoy, yielded about nine hundred sicca rupees monthly.

#### COLLECTION.

The Burman government collected the revenue at the least possible expense. An officer with twelve or fifteen assistants, or peons, traversed each district at stated periods, ascertained the quantity of land in cultivation, and the quantity of produce likely to be derived from each species of soil.

A tenth of the estimated produce (where the actual quantity could not be ascertained) was transmitted, at the expense of the cultivators, to the chief town of the province.

As all the rice lands, which were long under cultivation, had been measured, and little addition was made from year to year, the produce from season to season did not vary very considerably.

<sup>1</sup> Myá-ú, Kyamyagi, Kamyagni, Chinchai.

The rice crop is not here subject to great fluctuations, being always sufficiently supplied with water; but the produce of dry land cannot be calculated on with certainty. Fruit-trees may be stated to yield only two full crops in three years. In one out of the three years a very deficient crop is generally looked for, if not a total failure. The same remark is applicable to cultivation in the Siamese and Malayan parts of the Malacca peninsula. This is probably a provision of nature to prevent the too speedy consumption of the vital principle of plants in these climates, where vegetation is exceedingly rapid, and is never checked and suspended as in colder latitudes. Drought acts, in some measure, like cold in arresting the progress of the sap, but it differs from the latter in this respect that, if protracted, it dries up the sap entirely, while cold retains it only in a state of quiescence.

If one-third of the gross produce of corn land is a fair *rent* for a landlord to receive, the exaction of only one-tenth would seem to argue in favour of Burman forbearance. But it is, in reality, a high tax when coupled with forced services, conscriptions, contributions, and all the nameless ways by which an arbitrary government can reimburse itself for any ostentatious act of generosity.

A capitation-tax was one of the means above alluded to. It fell heaviest on the rich; but householders when assessed, as it sometimes happened, at one-third of a tical monthly, were obliged to sell their services to enable them to pay it. Thus, a large portion of the population were in a condition of demi-slavery. A person paying thirty ticals yearly was exempted from all duties and taxes.

The following will be found a pretty correct estimate of the average revenues of this coast:—

	Rupees.
Amount of the 20 per cent assessment on grain at Mefgui, Tavoy, and Amherst.....	85,000
Ditto, 25 per cent on other landed produce, such as fruits, roots, garden plants, &c. ....	25,000
Gaming, opium, arrack, betel, toddy, and bhang farms <sup>1</sup> .....	90,000
Birds' nests.....	20,000
Fines and fees levied in the judicial department, at 10 per cent..	6,000
Elephants' teeth.....	1,000
Salt, at 25 per cent.....	4,000
Balachong (Caviare) 15 per cent.....	2,000
Dammer torches, 20 per cent.....	400
Items, duties on fishing stakes, fishing villages, &c. ....	600
Capitation, or commuted tax on the Karians.....	3,000
	<hr/>
Rupees.....	237,000

<sup>1</sup> In 1827, the Tavoy farms yielded 5284 rupees monthly.

The probable maximum cannot well be rated higher than two lacs and fifty thousand rupees, and the minimum cannot be less than 230,000 rupees.

The various sources of revenue have, perhaps, been improved and experimented on to the fullest extent of which they are at present, at least, capable, under the able and energetic superintendence of the civil commissioner, Mr. MAINGY. If they can be brought to meet the expenses of governing and protecting them, much will then have been effected. But this will require time and peace.

#### COINS, WEIGHTS, AND MEASURES.

The standard currency of this court, since it came under British protection, has consisted of the various coins used at the Indian presidencies.

The Burman coins are of a very indefinite nature, and always contain various portions of alloy, with the exception of that bearing the Ava government stamp, which is purest.

#### MERGUI.

The Mergui coins are the same as those at Tavoy.

#### TAVOY.

At the conquest, the currency here consisted chiefly of silver ticals which were much debased; and the lower denomination was composed of large tin pieces of different values.

Gold is never converted into money. That of Bengal, in shape of mohurs, was much prized during the war, each mohur selling at a price of one-third, at least, beyond its intrinsic value. They were melted down by the Burmans to form trinkets.

1 Spanish dollar was then, and is probably now,	
equal to .....	84 kabean, or tin pices.
1 Sicca rupee .....	ditto ..... 44 kabean.
1 Madras ditto .....	ditto ..... 40 ditto.
1 Large kabean .....	ditto ..... 12 small ditto.

The natives prefer the Spanish dollar (a predilection in which they are not singular), and Indian rupees to any other coins. They are good judges of the purity of the precious metals; and they are adepts at an adulteration of their own clumsy currency. As far as trade is concerned the latter circumstance is of little consequence, since that is chiefly a bartering one.

## MARTABAN.

The Rangoon currency is here common. It consists of the *tical*, and of small pieces of silver of various shapes and weight, and generally greatly debased. They have no tin coins here, or any coins composed of a metal inferior to silver. The rupees which were in circulation in the native town soon after its capture, were speedily melted down and converted, with the addition of an unknown quantity of alloy, into the shapeless coins alluded to. The *sarráfs*, or money-changers, generally gave in exchange for a rupee about three times its weight of the debased metal. The gold mohur sold often for twenty Madras rupees, and even so high as twenty-five rupees. The women are the principal *sarráfs*. After rain, many persons may be seen washing in platters the rubbish of the streets, or of ruined buildings, in the hope of finding bits of silver. A good deal has been got in this way.

The following may be taken as a general scale for the coast. It may be remarked, that the Burmans prefer selling by weight instead of by measurement :—

- 1 Kyíng-wen equal to . . . . 2½ Penang catties, or 22½ dollars weight.
- 1 Akwetase ditto . . . . . 25 Ditto, or 10 vis.
- 1 Tra, or Ava picul . . . . . 250 Ditto, or 100 vis.

The Ava government sends from the capital sets of standard weights for the use of the provinces. These are of different shapes and denominations according to the reign during which they are cast. The metal is a sort of bronze. The present are termed *To allé*, or Lion weights. In the former reign they were termed *Hangsa allé*, or Humza weights, and represented that famous goose of the Indian mythology

- No. 1. To Allé, equal to . . . . . 20 ticals (a tical is equal to 10 dwts.  
10 grs. 75 dec.)
- No. 2. Ditto, ditto . . . . . 10 ditto, ditto.
- No. 3. Ditto, ditto . . . . . 4 ditto, ditto.
- No. 4. Ditto, ditto . . . . . 2 ditto, ditto.
- No. 5. Ditto, ditto . . . . . 1½ Madras rupees wt.
- No. 6. Ditto, ditto . . . . . ½ Madras rupee, and 3 annas wt.
- 2 Tablé, ditto . . . . . 1 tammú (or 12½ Penang pices wt.)
- 2 Tammoo, ditto . . . . . 1 tamat.
- 4 Tamat, ditto . . . . . 1 tical.
- 100 Ticals, ditto . . . . . 1 tabísa, or 2½ Penang catties.
- 1 Teiya, or Ava picul, ditto . . 100 tabísa, or 250 Penang catties.

## WET AND DRY MEASURES.

1 Tadaum, equal to .....	1 basket (or 8 guntangs of Penang, or 64 lb. weight of grain), about 36 Madras seers.
1 Naseit, ditto .....	$\frac{1}{2}$ basket.
1 Tazeit, ditto .....	$\frac{1}{4}$ ditto.
1 Tabee, ditto .....	$\frac{1}{16}$ th ditto.
1 Tazle, ditto .....	$\frac{1}{32}$ d ditto.
1 Talamé, ditto .....	$\frac{1}{64}$ th ditto.
1 Talamía, or a handful ....	$\frac{1}{128}$ th ditto.
100 Tadaum, ditto .....	1 teiya, or koyan.

The cubit is in general use, but it varies. Cloth, and other goods, are often measured in the bázár by the woman's cubit, being the length from the elbow to the point of the middle finger: but it is evident that a buyer may be a great gainer by such a mode.

## WEIGHTS AND MEASURES.

1 Tadaum, equal to .....	1 cubit of 18 inches, on an average. It is the only cloth measure.
1 Thandaum, ditto .....	$22\frac{1}{3}$ th inches. This measure is, also, termed <i>méndaum</i> , or the royal cubit, because it is used in measuring crown lands, and ground used for public purposes.
7 Thandaum, ditto .....	1 tada.
1 Tathoa, or span, ditto .....	The space betwixt the point of the thumb and that of the middle-finger when extended.
1 Tinyo, ditto .....	The space betwixt the point of the thumb and that of the fore-finger when both are extended.
1 Tamei, ditto .....	6 inches English.
1 Tadein, ditto .....	2 statute miles, and two furlongs English.
10 Tadein .....	1 day's journey, or $22\frac{1}{4}$ miles.

## LABOUR.

The price of labour varies a little at each of the settlements on this coast. Seven ticals may be reckoned the average monthly hire of a labourer for a month. When Tavoy fell, six Madras rupees a month was a common rate when the labourer was not taken to a distance, and seven rupees when he had to leave his family. The men who carried my baggage, and that of my party by land, from Tavoy to Martaban, in 1825—a distance of 245 road miles—were paid

at this rate; and, it will be recollected, that they had to return to Tavoy. The present established rate is about ten rupees a month.

In Martaban, in 1824-25, the rates were nearly as under:—

For a head ship-carpenter, per month, 15 ticals.

Inferior workmen, from 7 to 10 ticals.

Burman chiefs, paid 5 ticals.

Daily hire of a common labourer, one-fifth part of a Spanish dollar.

A woman received one half of a man's hire.

Ironsmiths, 20 ticals.

Silversmiths, 30 per cent on the value of the metal worked up.

These rates, when compared with those in India, may be considered very high, and operate as a bar to many speculations which the capitalist might otherwise be disposed to enter into. The urgency of the demand for labour on the one hand, and the ease with which a subsistence can be had without any great exertion on the part of the labourer, on the other, will account for the fact.

Three rupees a month will amply provide for the mere maintenance of a common Burman. Rice  $1\frac{1}{2}$  rupee; ngapooou, or bala-chong, fish, vegetables, and condiments,  $2\frac{1}{2}$  rupees. But, with a family, say a married couple and two children, six rupees will barely suffice to feed, clothe, and house them.

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## CHAP. VI.

GEOLOGICAL APPEARANCES AND GENERAL FEATURES OF PORTIONS OF THE MALAYAN PENINSULA, AND OF THE COUNTRIES LYING BETWIXT IT AND EIGHTEEN DEGREES NORTH LATITUDE.<sup>1</sup>

It is with extreme diffidence that I venture on this subject, as it is one which cannot be fully elucidated without a much more extensive research than I have had it in my power to make, and a higher degree of geological knowledge than I possess.

The countries alluded to have not hitherto been geologically described, and as political circumstances preclude British research from a wide portion of those interesting regions, I trust to the results of my personal investigation being received with indulgence.

<sup>1</sup> This paper was printed in a less correct form in the Transactions of the Physical Branch of the Asiatic Society of Calcutta. Several errors occurred in it, owing to my absence having prevented me from correcting the press. A few additions have since been made. This will, perhaps, be considered a sufficient excuse for thus reprinting it.

The grand general features of the Indo-Chinese regions seem to be alternate ranges of hills stretching nearly north and south, and conforming occasionally to the general direction of peninsular tracts, and of valleys of various breadth, through which flow large rivers.

The principal ranges are, that which divides Asam from Ava, then the Siamese and Ava range, next the Siamese and Cambojan, which are from fifty to sixty miles asunder, and, again, the Cambojan and Anam range. The continuity of these appears to be most liable to interruptions as they approach the south; and none of them, as far as my information extends, can be compared in height to the secondary ranges of those lofty Himalayan mountains, from which they are evidently offsets. The broadest valley seems to be that of Ava, and the narrowest the Cambojan one. The general inclination to the south of the whole of the regions lying betwixt Bengal and the sea of Kamscatka, is apparent, from the course of the rivers being in that direction. From regions contiguous to the sources of these rivers, the tide of population which overspread the southern plains appears to have flowed,—a position which might be illustrated by the affinities of languages.

The Indo-Chinese ranges are, in so far as we yet know, covered by deep forests. It is only, therefore, in the ravines formed by torrents, and on the face of an occasional precipice, that their structure can be conjectured; and these facilities are available at but a very few points, owing to the wildness of the countries in which they occur, and of the barbarous hordes which roam over them.

To begin with that part of the Malayan peninsula lying in about four degrees south latitude, and keeping on the west coast. This point is in the Perak country, which is governed by an independent Malayan chief in alliance with the British. From this last circumstance we may hope in time to gain a more perfect acquaintance with its geological peculiarities.

Close to the entrance of the Perak river are the Dinding Islands, hilly, with rocky shores. Granite seems to be here the prevailing rock. The plains of Perak are chiefly alluvial, up to the line where a marked ascent towards the central range is discernible, and which may, perhaps, be averaged at fifteen miles from the sea. The range in question is a portion of the great north and south one, which divides the Malayan peninsula longitudinally. The rivers to the eastward of it consequently disembogue themselves into the Gulf of Siam, while those to the westward enter the Bay of Bengal and the Malacca Straits. This range, generally considered, lies nearer to the west than to the east coast of the Peninsula. Where it bounds Perak

on the east, it is both lofty and, in so far as observed, continuous. Gold has been found in the beds of some of the mountain torrents which join the Perak river. From specimens of ores of gold, found in the hills east of Malacca, it would seem that the matrix is most frequently quartz. That the Malacca peninsula was the golden Chersonese of the ancients, cannot now be proved; but it yields at this day gold in sufficient abundance to render this position probable. The granite formation appears to predominate amongst the Perak hills; and in it are found the veins of tin from which the Dutch formerly derived much profit, and which now yields valuable supplies of that metal.<sup>1</sup> The mines must be very rich, since, even at this period, the native workman seldom digs above ten or twelve feet below the surface, and often contents himself with merely washing the soil taken from the beds of rivulets, and separating the oxide of the metal in the shape of a black sand. The oxide of antimony is also obtained, it is said, and manganese occurs in large quantities amongst the hills; but no information exists of the rocks with which they are associated. Lime is also, according to native information, obtained, but its nature and locality have not been ascertained. From some native accounts also it seems not improbable that coal will be discovered in this track. Perak is a fine country, watered by a river of a very picturesque nature; and it contains a considerable population of Chinese and Malays. From Perak, northward to Penang, the coast is level, with a few detached hills not characterised by any peculiar feature, which might contrast them with those we have been describing. Penang, it is well known, exhibits an almost exclusive granite formation. The granite is, for the most part, gray, and decomposable, generally flaking off by exposure. It protrudes at the summit of the hills, and may be found lining their base. In some spots its debris is found to be mixed with tin ore in the shape of fine grains. Mica occurs occasionally in pretty large masses; and white quartz, regularly crystallised, is found sparingly. On the shores of several of the small islands lying off it on the south-east, conglomerate, tinged with oxide of iron, is found as well as the usual granite.

That part of the great peninsular range in the latitude of Penang is much broken; but many of the hills are of considerable height. The loftiest one, visible from Penang, may, perhaps, be stated at four thousand feet. They are almost all rich in ores of tin; and, were

<sup>1</sup> It is believed that three thousand piculs of tin can be obtained yearly from this country.

European scientific men permitted to explore them, we might expect to derive interesting results from their labours. A table land of considerable elevation, and covered with grass, is reported to lie about north-east of Penang, in the centre of the great range. The jealousy shewn by the Siamese has hitherto prevented Europeans from visiting it. Marble is reported to be found in this direction; but no specimens have been obtained. The Malayan inhabitants are all friendly to the British.

That portion of the Keddah coast facing Penang, has evidently, in many parts, been rescued from the sea. The period when this happened is not traditionally known, although it is conjectured that it is not very remote. Mounds of sea-shells are found about two miles inland. There are detached hills on this part of the coast which contain tin.

The Keddah Peak (termed by the natives *Gúnong Cherai*) is an object of considerable geological, as well as geographical, interest. Its height has not been correctly ascertained. It may, perhaps, be stated at three thousand feet, at least, above the level of the sea, which washes part of its base.

The summit has not been reached, as far as is known, by any European, although perfectly practicable. This has been greatly owing to the jealousy of the Siamese. From specimens of rocks and ores brought from this hill by intelligent natives, who were sent by me to explore it, I am enabled to state with some measure of confidence, that it principally consists of the usual granite of this coast. On the sea face is a cliff washed by a waterfall, where large crystals of white quartz are got. Similar crystals were brought to me from a spot near the peak. The summit is a granite rock, with a flat termination of a few square yards bare of vegetation, and accessible with difficulty. This mountain contains gold; and tin-ore was formerly obtained in large quantities from it. Various ores of iron were brought to me from it; and it is probable that many other valuable minerals may yet be found there. It abounds with all the valuable woods of this coast, amongst which are several kinds of fir. The inclination of the hill is apparently to the east; and there is a very remarkable break (of six or seven hundred feet, judging by the eye and telescope, at the distance of ten miles) in the rock, east of the peak, which may have been caused by an earthquake.

The latter phenomenon, it may be remarked, is not followed by such violent effects on this coast as on the Island of Sumatra, and on Java. The existence, however, of hot springs in various parts of the central range, indicates the prevalence of mineral substances, of which

specimens have not yet been obtained, and which are generally found in volcanic tracts.

Advancing northwards from Gúnong Cherai, and passing the mouth of the Keddah river, which takes its rise in the central range and fertilises an extensive track of rich soil, the first object which attracts the attention, is the elephant rock, a short distance north from Keddah. It is a dark mass of granite, seemingly, and it shoots very abruptly out of the forests to the height, perhaps, of four hundred feet.

The coast continues low to the northwards of this point. Turning to the Lancavy Islands, we find granite still prevailing; but here, in the "bird-nest rocks," we are enabled to note the southern termination in this line of the limestone formation, which has been traced by me up to the northern boundary of the Martaban province. It is believed that detached lime rocks abound in the central range; but they are not connected with this formation in so far as we yet know. The first decided indication of the presence of lime was observed in a perforated rock, lying off the north-east side of Pulo Trotto.

The calcareous rock is here much tinged by oxide of iron, and mixed up with different earthy substances. The strata are inclined to the west, at an angle of about thirty degrees.

Several miles north of this point the Trang rocks begin. The first of these was visited by me; but it merits much narrower inspection than time permitted me to make.

It is a huge mass of heterogeneous rock rising out of the sea to the height of about three hundred feet. Its shape approaches to an oblong square; and it is rendered inaccessible by cliffs. The whole seems inclined at a slight angle to the south.

From the decomposing nature of the surface, it would be no easy task to arrive at a speedy conclusion respecting its whole structure. It appears to rest on a granite base, covered by various admixtures. The superincumbent mass is heterogeneous — limestone in various stages; veins of quartz, and ores of iron are most prominent; calcareous incrustations line the hollows of the cliffs; where also the agaric mineral abounds: and the cliffs are, in some places, curiously marked by broad, vertical, riband-like streaks, varying in colour according to the strata from which the water, containing the colouring matter, has flowed — white, black, dark-bluish, and slate colours, are most frequent. At the south end, about half way up the cliff, there are magnificent natural arches. The grotesque calcareous stalactites, which depend just over the entrances to these, give them, as a whole, the aspect of a decayed Gothic ruin.

A cavern has been formed quite through the north end of the rock by the action of the sea below, and the gradual decay of the structure above. Stalactites abound here.

Our boat carried us into the centre of this cave : it is gloomy ; but the roof is, perhaps, fifty feet high, and dome-shaped though rugged. Here were observed flimsy ladders of flexible cane stretched betwixt projections of the rock ; and, on emerging from the cavern, similar ladders were observed to have been arranged up the face of the cliff, in a zig-zag manner — here, fastened to a jutting point of rock, there, reeved through a perforated angle. These had been thus placed by adventurous Malays, in quest of the edible birds' nests. Their trade is more dangerous than that of the samphire gatherer, or the Hebridian birder ; but it is more profitable than either. Several of the birds' nest islands, in this line, have been so tortuously hollowed out by the slow operation of ages, that, previous to going in, the nester fastens to the entrance the end of the clew he takes with him, that he may not lose his way. On these occasions they use dammer torches. The eye of the swallow which builds these nests, must be peculiarly formed to enable it to work and nestle in such a labyrinth, where almost total darkness prevails.

A pocket-compass was placed close to that part of the cliff which seemed most strongly impregnated with iron, but it was not affected.

Near, and to the north of this rock, is a very rocky island, termed Ká Pesa by the Siamese, because, in their legends, it is related, that an undutiful son having denied assistance to his parents out of the profits of a successful voyage, the gods sent a storm which drove his vessel to sea, where it was transformed into this rock.

The general structure nearly corresponds with that of the rock just noticed ; but it has a most singular aspect, from a series of peaks which rise from it—bleak and striated, and which, on a near approach, resemble the chimneys of glass manufactories. The geological features of this island may be best seen at the north end, where large masses have fallen from the cliffs. Here granular magnetic iron ore, imbedded in a calcareous and micaceous gangue, was found in considerable quantity. A nearly similar sort of iron ore abounds on the high ground on the main land, at the entrance of the Trang river.

These rocky islands are adorned by numerous beautifully flowering shrubs and trees, and are frequented by the white sea pigeon<sup>1</sup> (*Columba littoralis*), and by birds of passage. A coarse coral bottom

<sup>1</sup> This pigeon lives on fruits, particularly that called marian, or *kyan keo*, and various kinds of the wild Indian fig.

prevails around each ; but the depth suddenly increases at the distance of two or three hundred feet from the shore. Oysters are abundant. At the north side of the narrow entrance to Trang harbour, in north latitude  $7^{\circ} 20'$ , is a remarkable calcareous rock, with several caverns in it. The carbonate of lime, in conglomerated masses, or in stalactites, is here much purer than that found amongst the islands just described. Several of the stalactitic masses are bell or fungus-shaped, the apex upwards, and when struck are found to be remarkably sonorous. These are all tinged with iron.

Pulo Tilibon, which forms the northern side, exhibits granite and iron-stone, with veins of quartz in it. It should seem that the lime formation becomes more compact and pure, as it is followed in a northern direction.

The rock in question contains a detached portion, having a stratified appearance, and inclining to the south-east at an angle of about thirty-five degrees. In one of its caves were observed twelve human skulls laid out in a row. They were those, the Siamese said, of Burmans, who were slain in those wars when they attacked and destroyed Tilibon. Part of the stockade, which surrounded the town, was yet standing when I visited the spot in 1824, about fourteen years after its destruction. The thick planks, or beams, were quite sound, and very hard. The tree from which these durable walls had been obtained, is the *Mai-ke-um* of the Siamese, and the *Kayú gittah* of the Malays.

The Trang river is broad, with a high ridge running at right angles to it, on the west side of the entrance. Granite rocks here protrude through the soil, which is red and ferruginous. The shore is overspread with lumps of micaceous iron glance, very fusible. The iron is in small rounded particles, black, but yielding a reddish streak, and when reduced to powder, adhering to the magnet. The matrix is a brown ochre, which soils the fingers. The quartz, which is found imbedded in the granite of this coast, is generally very lamellar, and the plates transparent. There are several hills discernible from this place ; but little information was obtained regarding the great range. The young Rájá of Ligor informed me, that the pass betwixt the hills is difficult ; but, as he rode his elephant the whole way on several occasions, his account, no doubt, is exaggerated.

Most of the small islands, lying betwixt Trang and Junk-Ceylon, seem, for the greatest part, composed of granite. It prevails in the latter island ; and here again tin appears in proximity to, or interspersed in it, and its débris.

A range of hills, the highest of which will not, perhaps, be found

to exceed one thousand feet, stretches longitudinally through the island, with one large break in the middle. The island was probably once joined to the main land, since the *Papra Strait*, which separates the two, is narrow and rocky. The island, when I visited the interior in 1824, had a population of six thousand souls (Siamese).

The tin formation seems to run in a continuous line, from the southern extremity of the Peninsula up to about fifteen degrees north latitude. Beyond this point neither Burmans nor Siamese have discovered any mines; but, as the countries lying on both sides of the great belt of mountains are, perhaps to a distance of twenty miles, respectively, from the skirts of the latter, inhabited by wild tribes of Karians, uninterested in the search for metals, it is probable that tin does exist in these latitudes. It shews itself again in Thaumpé, one of the provinces of the Shán, as the Burmans term the inhabitants, and lying, if dependence may be placed on the distances given to me by natives of the country, in about twenty degrees north latitude, and longitude ninety-nine degrees. The natives call themselves Plau.

There the tin-ore occurs in beds of streams mixed with sand. The natives do not dig mines to get at it, owing, perhaps, to its being of little value at such a distance from the coast. They have, however, by their own accounts, valuable lead-ores, which they reach by deep shafts.

In Captain FORREST'S time, when Junk-Ceylon was visited by numerous native traders, the mines yielded an average annual quantity of five hundred tons of tin. But, as the population has been reduced to about six thousand souls, and as the Siamese have mines closer to their capital, a very small supply only is now taken from the island. Perhaps, it may be rated at one hundred bahars of 446 lbs. averaged each. A Chinese smelter informed me, that he could afford to produce tin at a cost of one-half at the utmost of the market rate. The miners dig pits of from twelve to twenty feet deep; but seldom venture a lateral shaft. The ore is generally in round or oblong masses, with well-defined crystals, and in a matrix of quartz, or bedded in masses resembling half decomposed granite, yet of considerable hardness.

The furnace in which the pounded ore is smelted, is made of a compact of clays and earths, is oblong in shape, and about three feet high. Alternate layers of ore and charcoal are put into it, and the usual horizontal tube-bellows of the Chinese is kept incessantly at work during four complete days (of twenty-four hours) and one night, when the furnace is cleansed. After some hours labour the tin makes

its appearance, and is run into moulds ; and the furnace is fed with more ore and fuel.

The Bay of Phúnga, which stretches north-east from Junk-Ceylon, is remarkable for the magnificent rocks with which it is studded. At the distance of ten miles, they appear like huge artificial pyramids ; but, on a near approach, their outlines change to columnar, or massive. The principal rocks occupy a line of about ten miles, in a north and south direction. The northern extremity lies behind the town and valley of Phúnga ; the southern rests in the sea, about four miles from the mouth of the Phúnga river. Their direction, therefore, is nearly that of the Trang rocks. The part of the range lying in the sea, consists of numerous detached rocks of different elevations, and mostly inaccessible. The height does not in any instance, I should state, exceed five hundred feet, and seldom falls short of two hundred. One of them has a very columnar aspect, which might lead a distant spectator to suppose it was basaltic. They are all, however, composed of, I suppose, primary limestone ; for, like the rocks which have been already described, they exhibit no traces of organic remains. Some of the specimens of stalactite, which were presented to the Asiatic Society of Calcutta, were taken from one of a series of grottoes in and near the base of one of the Phúnga rocks. These caverns are about six feet above high water mark. The roofs are low, and seldom exceed ten feet in height ; and they look as if supported by the natural pillars of spar, which have been gradually formed by filtration from the top. Several of the stalactites have barely reached the floor ; others touch it ; and a double formation is going on. The sides of the grottoes are lined with the same calcareous spar.

There is an insulated rock near this spot, which is perforated by a grand natural tunnel. To the top of the arch, the height is about twenty feet ; and grotesque-shaped stalactites depend from above the entrances from the roof. A boat can get within the arch.

The valley of Phúnga is about three miles long by one, on an average, in breadth, being oval-shaped, and widest near the sea. It is hemmed in, to the east and west, by rocks and hills. Those on the west are least abrupt, and seem mostly granitic ; those on the east have a very picturesque appearance ; and, where the river washes their base, present perpendicular cliffs of four and five hundred feet. They are even more purely calcareous than the rocks at sea ; for many look, at a short distance, as if formed of chalk. This they owe to the agaric mineral. Tin abounds in the granitic hills in the vicinity of this valley. The great hill range of the Peninsula was not observed from this point, owing to the intervening rocks. But the Siamese

chief informed me, that it must be crossed in the route thence to the opposite coast of the Peninsula. No information could be expected from him as to the rocks associated there. The population here is about eight thousand souls, including six hundred Chinese, and about one hundred Siamese priests of all ages.

Passing to the northward of Junk-Ceylon, the coast is bold for the distance of a degree; and lying about thirty miles off this line, are numerous calcareous perforated rocks, frequented by the edible birds' nest gatherers.

From all accounts obtained from native travellers—from personal observation when sailing up the coast, and with reference to the narrowness of this part of the Peninsula—it has appeared to me, that the great central range is here of less width than at any other point. That this circumstance, as some have imagined, should give any colour to the supposition, that any internal navigation is, or could be, rendered practicable betwixt the Bay of Bengal and the Gulf of Siam, ought not hastily to be admitted. Before me are native plans, in which the hills are laid down as continuous. At any rate, the inclination of the countries towards the Gulf of Siam on the one side, and the Bay of Bengal on the other, is so great as to prevent the rivers which flow over them from being navigable to good-sized boats, beyond, perhaps, ten or twelve miles from their mouths.

The sources of two rivers may, indeed, lie within a few miles of each other, on opposite sides of a hill or a range; yet the spot where they respectively lose the name of mountain torrents, and become navigable, may be very widely asunder. It is true, that by running up the Kra, or any other stream, in a boat, a traveller may get within two or three days' march of the place of embarkation on a river on the opposite coast: and this is all that can, with our present information, be admitted. All the rivers on this coast are deep at their mouths; but, with the exception of the Tennasserim and Tavoy rivers, which incline to the northward, and avoid the hills, they suddenly contract and grow shallow. Tin abounds betwixt Junk-Ceylon and Mergui.

The coast of Tennasserim, from  $10^{\circ}$  to  $12^{\circ} 30'$  north, is shut out from the ocean by high and generally rocky islands.

Those which form the west side of Forrest's Straits, up to the north point of Domel, in  $11^{\circ} 3'$  north (instead of  $11^{\circ} 21'$  as he gave it), are well wooded, and are chiefly composed of granite. Domel is a fine island, twenty miles in length, by twelve, or thereabouts, in breadth, with a rocky coast. On sailing past a spot described and sketched in FORREST'S work, and at which he mentions having taken in marble

ballast, I could only find a great quantity of large, smooth boulders of quartz, which had been associated with slate; for, upon inspection of the coast, thick strata of soft, black slate, with veins of quartz, were discovered. The slate had, in some places, an admixture of iron-ore.

In coasting Domel, the hills on the main land are distinctly perceivable. The highest point was conjectured to be about three thousand feet high. These hills, in all probability, belong to the great range. The highest peak of St. Matthew's Island may be nearly as high.

All the islands in this chain examined shew bold coasts towards the sea.

There is a considerable opening north of Domel, where a distinct archipelago of bleak and rocky islands begins, and stretches north and south. The belt is formed of four or five parallel rows of islands, and may be twenty miles in breadth. They are not laid down in the charts. Our vessel passed amongst them in coasting; and as the numerous dangerous rocks with which this hitherto unexplored track abounds, rendered it necessary to anchor frequently, opportunities offered for visiting many of the islands. The channels are, for the most part, deep, and a vessel of two or three hundred tons can scarcely find anchorage near many of the islands when within half a cable's length of them.

Their formation is primitive. The granite is occasionally associated with black shistous strata, or sandy slate. The specimen sent, among others, to the Asiatic Society of Calcutta, was taken from a vertical stratum, of exceedingly indurated shist, tinged by oxide of iron. Lime-rock was not observed to prevail; but several of the islands seem heterogeneously composed. Occasionally quartz, white and tabular, was seen to pervade in broad veins the granitic rocks.

Several "birds' nest" rocks are scattered amongst this group, and it may be inferred that they are calcareous. Pearl oysters are occasionally picked up. The pearls got from them are seldom of much value. If pearl beds of any desirable extent do exist, the practice of diving for them, as at Ceylon, might be applied with advantage. The whole of the islands noticed are destitute of any fixed population; but there is a tribe, termed Chalome and Pase, the families of which rove about collecting the birds' nest, the dammer, the beche-de-mer, conch slugs, wax, scented woods, tortoise-shells, and other products of the islands. They live in covered boats, and appear inoffensive; readily bartering the above articles for such merchandise as the Burmans bring to them.

Leaving this coast for a space, and crossing the Peninsula, it will be my endeavour to give as brief an account of such geological and mineralogical notices as have been obtained respecting Siam.

The sea which washes the shores of the Peninsula on the east side is studded with numerous islands, bold, and, for the most part, rocky. The edible birds' nests being here procurable from the caves, it is probable that lime abounds in the rocks. Along the shores of the Chûmp'hán and Chaiya districts, ferruginous strata are prevalent, and loadstone is said to be procured from them.

At Ban taphan nae, nearly in the latitude of Old Tennasserim, are the only gold mines now worked in Siam. The gold is either in the shape of dust, or found in a reddish earthy matrix. To get this last kind of ore, pits of no great depth are dug. The ore is merely submitted to the agency of fire. It is not believed that these mines yield annually more gold than would be valued at perhaps about 15,000 rupees. But, as the miners (about from two to three hundred, it is understood) only mine during three months in the year, and as they go very clumsily and unskillfully to work, the real value of these mines remains unknown. Mr. CRAWFURD observes, that "the Bang tapan gold is said to be nineteen carats fine."—*Embassy to Siam*.

A diligent author,<sup>1</sup> who visited Siam, observes of the Siamese, that "neither their mines of tin, nor those of copper, lead, or gold, have experienced the benefits of the industry and intelligence of the Chinese."

Previous to opening a mine, the Siamese propitiate the spirits of the ground and of the stream, by the sacrifice of cattle and poultry, and by offering up these and fruits on temporary altars. This custom is equally observed by Chinese and Malayan miners, on opening gold or tin mines. With respect to the Siamese, the practice is a direct breach of the primary ordinance of their faith, "not to kill that which has life;" and points to a period when they worshipped *Genii Locì*, and other imaginary *Dewtas*. Cornelians are found, it is said, on this coast.

Proceeding northward, till within about a day's coasting of the Siam river, a hill, termed K'hau Deng, or "the red hill," appears on a point of land. The coast is covered with ferruginous earths and strata; but of these no specimens have been obtained. Close to this place, and stretching for the distance of ten or twelve miles northward of it, is a very remarkable range of pyramidal hills and rocks, termed by the Siamese, Sam ráe yát, or "the three hundred peaks." They

<sup>1</sup> Mr. CRAWFURD.

vary in height from an hundred to, perhaps, twelve hundred feet; some rise from the sea, others are scattered on the main land.

This account I give from native information, although European navigators have incidentally alluded to them. They take from hence a kind of *hone* (perhaps an iron ore), varying in colour from black to white. The valley of Siam is chiefly alluvial, within the scope of the annual inundations of its river. The first rocky formation of any consequence northward of Bangkok, the capital, is at Prabát, three days, by water, north-east of the old capital, and where there is a famous impression of a foot of Buddha. The Siamese priests have long imposed this sculpture on their followers, who never doubt their assertion, that the legislator alluded to stamped the impression with his own foot.

This Prabát has been made on the solid rock (a granite, if my information is correct), which protrudes at top, and a stair has been cut out of the rock to ascend by. A copper-ore is said to be found on the flat grounds near this place. About fifteen or sixteen miles above Prabát, there is a low hill called Phra Chaiya, where granite, according to my information, prevails, and where the natives fancy they can trace on the face of a rock, the lineaments of Buddha. Iron-ores are found here. At Napphabúrí, on the south of the road to Laos, large quantities of a very white argillaceous earth are obtained; and red ores of sulphur are said to be brought from this quarter. At Khorát they use, it is said, a plum-pudding stone, or breccia, for building; and at Napphabúrí, in this quarter, they find yellow, red, and white ores of arsenic (*Realgar*?) a metal which enters largely into the Siamese pharmacopœia. The range of hills, stretching north-east from a point in about north latitude sixteen degrees on the east bank of the river of Siam, yields ore of iron in great abundance; and the Chinese have, therefore, established a manufactory of iron at T'hasúng, a town lying on a branch of the river. They manufacture various coarse articles of cutlery, which are rejected by the Siamese themselves in favour of foreign importations of that metal. Iron mines exist also at Sokko-thai, higher up the river, at Khánsawan Phítsílók, and in the provinces of Prahéng and Tak, as also observed by Mr. CRAWFURD. The range of hills dividing Siam from South Laos, is continuous, according to every account I have received from native travellers, who invariably go most of the journey by land. They affirm, that there is no water communication across the country; so that the river Anam, laid down by some geographers,<sup>1</sup> appears to have no existence.

<sup>1</sup> PINKERTON and others.

The Me Nam, or great river of Siam, has been traced by me, in native maps obtained from people of Laos, up to about twenty-one degrees north latitude, where are high hills abounding in hot springs. Phokhau Lo-ang Prabang, a hill many days to the northward of Lanchang, in South Laos, yields, it is said, gold and precious stones, silver, copper, tin, and cinnabar. LOUBERE observes, in his *Historical Account of Siam*, that the copper-ore of this country hardly yields one ounce of metal out of five cwt. of it. It may be the Mohang Leng of DU HALDE, where, he observes, were to be found "gold, silver, copper, tin, and red sulphur." At Chantabún, on the east coast of the Gulf of Siam, granite is believed to be the prevailing rock, and quartz-crystals, Ceylon diamond, and coarse rubies, cat's eyes, and other precious stones, are collected, it is reported, in the vicinity. Steatite is found in Ligor.

Mr. CRAUFURD, in his *Embassy to Siam*, assigns the following localities to several rocks and minerals in Siam, and on its coasts.

GRANITE, SMALL GRAINED AND GRAY, AT PULO UBI-I, OR THE  
KO TAM BUNG OF THE COCHIN-CHINESE.

Granite and quartz, at Hwi-su-I, in latitude  $12^{\circ} 38'$  north; longitude  $101^{\circ} 30'$  east.

Primitive granite and quartz, at the Ká Si Chang Islands.

Seinite granite at Condore-I, latitude  $8^{\circ} 40'$  north; longitude  $106^{\circ} 42'$  east.

SANDSTONE AND CONGLOMERATE.

At the chain of islands, next to Ká Doot Island east; and at Pulo Panjang, on the west coast of the gulf.

LIME.

Granular; also, dolomite, at Ká Si Chang Islands, on the east coast of the gulf.

GOLD.

Bang Tapan, in latitude  $12^{\circ}$  north.

COPPER.

In the upper parts of Siam, Pitsiluk, Lakonsawan, Raheng, and Metak; and at Lonvo and Nukburi, in latitude  $15^{\circ}$  north.

LEAD.

At these places; also at Pak nek, in the country of the Lawa, on the north frontier, where 2000 piculs are procured, it is stated, annually.

## ZINC AND ANTIMONY.

At Pitsilok Lakonsawan, Raheng, and Metak, and at Rapri, east of Me Nam.

## TIN.

At Champoon.

## IRON ORE.

At Pulo Panjang, east coast, also, jasper; and at the four places above stated.

## PRECIOUS STONES.

Sapphires, oriental rubies, and the topaz, at Chantabun, in an alluvial soil.

We now return to Tennasserim. The high islands fronting Mergui are, apparently, of primitive granite; and King's Island, with most of the lesser islands in its neighbourhood, present bold granite cliffs to the sea.

The hill, on which the town stands, consists of granite, decomposed at the surface, with much quartz interspersed in veins. The ochrey appearance of the soil, in some places, indicates the presence of iron; and tin ore is found in the streams at the base of the hill. Lead ore is reported to exist in the upper parts of this province. The rocks on the island forming the west side of the harbour are strongly impregnated with oxide of iron. In the vicinity of the town, argillaceous petrifications are found. The clay contains some lime; but no marks are discernible near Mergui of lime rocks. Some petrified crabs were obtained. The province of Mergui, or Tannau, abounds with tin ore, especially to the southward; but as water is either scarce or brackish at many of the mines, workmen object to visit them.

The sea, northward of Tavoy, is pretty free of islands. Gray granite is the prevailing primitive rock throughout the province of Tavoy.

There is a low range of hills, which stretches north and south, close along shore, and shuts from the sea a great portion of the province. Nearly opposite to the town of Tavai, on the west bank of the river at Kamau, is an elevated ridge of several miles in length, which is almost wholly composed of iron stone of different degrees of compactness. On the surface, the soil and gravel are reddish; but on a high part of the ridge is a rock very hard and fine-grained, but not striated, and of a blackish colour. It is strongly impregnated with iron, and so magnetic, that a piece newly detached, and of a pound in weight, held a piece of iron, nine grains in weight, in suspension. It was with much difficulty that a few specimens could be broken off

with an iron crow. This rock might, from its black appearance, be supposed of meteoric origin. But it is evidently connected with the ferruginous strata beneath, and seems not to contain any nickel.

Tavoy is a very hilly province. The first range connected with the great centre belt, lies about ten miles east from the town. Hence, to the main range there is a succession of north and south ranges, gradually increasing in height, and having very narrow valleys betwixt them. Through these valleys flow rapid streams, which, after pursuing the direction of the valleys to various distances, find outlets, and, then turning westward, flow through level tracks until they reach the sea. The route by the Nayé Daung Pass into Siam, lies about north-east from Tavoy. I performed the journey to the summit of the pass in 1825, and on foot, as the road is impassable either to elephants or horses. Indeed, the only paths, in some places, are the beds of mountain torrents. A dense jungle covers the face of the country, precluding the probability of satisfactorily pursuing geological pursuits. The tin mines, lying three miles off the route, were visited by me. They do not here deserve that title, as the Tavoyers merely wash the sand of the streams, and collect the fine black particles of ore. A large quantity of tin might, however, be obtained. The ore often contains a very small proportion of gold. The temperature of the air is found to be about sixty-four or sixty-five degrees until eight or nine o'clock A.M., and that of the water sixty-eight degrees (Fahrenheit's thermometer), so that the workmen never begin their labour until that hour. As the population does not extend beyond the first range of hills, and the mines are buried in the forest far beyond these, the men are exposed to the attacks of elephants and other wild beasts which here abound.<sup>1</sup>

Other mines of tin lie at Papú and Pallo, on the southern coast below Tavoy, and a meagre, black, and slightly sparkling ore, believed at first to be of antimony, but apparently only manganese, has been obtained from the province; but of its locality I am not aware.

Frequent vertical or inclining strata of hard slate, and sandy slate, are found at intervals to lie across the path; but wherever a bold cliff appears, scarcely any thing except granite is visible.

At Laukyén, fifteen miles north-east from Tavoy (a halting place, or circular cleared space of the forest), and lying a few hundred yards on the east of the route, my guides shewed me a hot spring in the almost dry bed of an occasional torrent.

<sup>1</sup> Three dollars and one sicca rupee's weight of ore yielded three dollars and a half rupee's weight of tin.

The adjacent strata were, after many hours' labour, laid bare, and specimens were taken from the spot where the water bubbled up. The rock appears to be a transition slate, passing into limestone (for it effervesces slightly with an acid), and having thin films of pyrites betwixt the cubical portions which compose it. The water raised the thermometer to one hundred and forty-four degrees. The gas which escaped was not inflammable. The pebbles around were incrustated with a calcareous salt. The water has no peculiar taste. There is a mound on the eastward of the spring; but no volcanic indications were perceived in any direction. Another hot-spring lies betwixt Peinbyú and Taung Chín, to the southward of Tavoy Town, and is reported to be sulphureous.

The great Tennasserim river was crossed in this route in a track where either perpendicular cliffs of granite or wooded hills hem it in on both sides. Its bed is strewn with large blocks of the same primitive rock. By leaping and stepping from one to the other of these, we crossed to the east bank. The breadth of the channel was found to be one hundred and fifty feet, fifty of which only were, on the 16th of February, 1825, covered with water. It is quite impassable in the rainy season. From the appearance of the stream here, I should be inclined to fix its source somewhere about sixteen degrees north. The road distance to the top of the Nayé Daung Pass is about sixty miles: in a direct line, it is about fifty miles. It was found impossible to march early in the morning, owing to heavy dews and mist; and the whole day was often employed in getting over ten or twelve miles,—so difficult was the march rendered by the necessity of crossing (often twenty times in a day) mountain torrents, and the streams they feed, and of ascending rugged beds of streams and ravines, where the guides were not unfrequently at fault. A considerable tract of table-land was passed over during the route. The average temperature of Fahrenheit's thermometer<sup>1</sup> was at sunrise sixty-four, and at mid-day seventy-four degrees; but it was once sixty-two at the former period, and occasionally seventy degrees at the latter.

The rocks at the pass could not be well examined, owing to the thick jungle; but the surface is evidently a decomposing granite. From this elevation, which ought not, perhaps, to be rated higher than three thousand feet, four very distinct and higher ranges of hills were seen within the Siamese frontier on the east, while the lesser ranges on the Tavoy side could be easily traced.

<sup>1</sup> The month was one of the hot and dry ones.

From the view here obtained, perhaps we may allow forty miles at the least for the breadth of the whole space, in this latitude, occupied by hills. The ranges are as nearly as may be parallel to each other.

In my overland route to Yé, the surface was rarely found to exhibit any other than the granite formation : quartz was occasionally abundant.

At En bien, near Kalíng Aung, on the left of the road, and in the middle of a circular level spot in the jungle, is a curious hot well, or pool. It was found to be quite marshy all around, although it was visited in the hottest period of the year. It was not without difficulty that it could be reached near enough for examination, both from the heat under foot and the treacherous nature of the soil.

The pool is about forty feet in diameter. By throwing a bottle attached to a rope, allowing it to fill and grow heated, and pulling it suddenly back, the temperature was found to be one hundred and four degrees of Fahrenheit ; but four degrees more may be allowed for accidents. Not a rock or pebble could be seen near the well. A bleak, and on the surface, sharp, disintegrated, and scraggy, granitic rock lies a short distance to the northward of it.

The water has not been examined by tests. From this hot fountain, down to the stockaded town of Yé, in the small province of that name, the country falls rapidly (to the south). A few detached hills are perceived at intervals ; and on the east of the route, a low granite range stretches northward, resting on the south at Tavoy Point, and to the north, in Martaban province.

The low hill, on which the stockaded town of Yé stands, exhibits no peculiar features to attract a geologist — granite decomposed at the surface, is most prevalent, I believe.

On the route from Yé to Martaban were perceived, in the dry beds of rivers, massive strata of striated clay-slate of a fawn colour. These strata are either vertical, or dip at a considerable angle : Martaban, and the adjoining countries, would well reward the labours of a geologist. As the Burman war was being carried on when the former was visited by me, it was not without the imminent risk of being cut off, or of being made a prisoner by the enemy, then encamped on the north side of the river, that I was enabled to explore the country up to about north latitude  $18^{\circ} 20'$ .

A geographical sketch of this province has been already offered ; for, without some idea of the localities of a country, the future geological traveller may find his plans prove abortive.

The numerous detached and insulated rocky hills which are scat-

tered over the plains, and the many islands which stud the expanded San-lún, together with the dark and towering Siamese hills in the back-ground, produce scenery of a very impressive kind.

The ranges of hills in this province betray granite as their chief ingredient; but the detached and very abrupt rocks and hills, of elevations of from two hundred feet to eight hundred feet, which shoot up from the plain, have, in so far as examined by me, been found to be invariably composed of limestone. The limestone is in various stages, from an earthy and gritty kind up to hard marble; and the cliffs on several of them have the same marked features which the Trang and Phúnga rocks display, being streaked with red, brown, and white, and evidently suffering a rapid decomposition. The plains on which these are based, are covered generally by an alluvial soil; but in some places, it is dark and porous, like the cotton ground of India. The sub-stratum in the lower parts is commonly a stiff clay; but towards the Siamese range the soil becomes more friable, tinged with oxide of iron, or mixed with *débris* of rocks, and resting on gravel in large round masses. Here, on the banks and on the low islands, the Kayen tribes cultivate cotton, indigo, tobacco, and pulses. Potter's earth is obtained in abundance near Martaban. Of this, most of the utensils known by the name of Pegu jars, were formerly made.

On the low range of hills on which Martaban stands, granite, perhaps, predominates; but at the town many slaty and sandy strata, having an inclination of about thirty degrees, here tinged with oxide of iron, there intermixed with slightly calcareous and other matters, and quartz, are observable. At Málamein, a breccia is found, which has been used in the construction of the pagoda there. This substance hardens so much by exposure, that it will last for ages, as it has here done. On the high grounds, which occasionally flank the river, the surface is tinged red by iron-ores.

About fifty miles by water up the Attarám river, and within about two miles of its eastern bank, stands Seinle-daung, one of the singular limestone rocks just alluded to. About mid-way betwixt it and the river, and on a swampy plain, slightly inclined to the river, I visited a singular hot fountain (for it is of too peculiar a nature to be merely termed a spring). The Burmans call it, *Ye-bá*, "hot water." The orifice is nearly a circle, the diameter of which is about thirty feet. The rim is of earth, and only raised about a foot above the surface of the water. Not having been prepared for such an interesting object, no line had been provided; but the depth is, no doubt, very considerable. The water was so clear, that the green calcareous rocks

which project from the sides were quite distinct at a depth of twenty feet at least. A strong bubbling appears near the middle. A thermometer, propended from a bamboo, was dropped into the water, and, after a space, quickly withdrawn. An allowance of two degrees being made for loss of heat in the removal, the temperature by Fahrenheit's thermometer was found to be one hundred and thirty-six degrees, which is twelve degrees hotter than the Bath waters.

Had any volcanic indications been observed in the vicinity, the circular formation of this well might have induced a belief that it had once been a crater. A visitor to this place ought to approach it with caution ; since part of the water near the edge is covered with weeds, which so resemble the surface of the bank, that a person might unthinkingly step on them to his inevitable destruction. He would faint instantly from the heat and sink. Although the wells on the plains were all nearly dry at the period when this fountain was visited,<sup>1</sup> yet it discharged twenty gallons, on the least computation, in a minute, and towards the east side. The leaves and branches which had fallen near were incrustated with a calcareous deposit, and the bottom of the rivulet was covered with a flaky calcareous substance. No specimen could be obtained of the rock, as it lies far below the surface ; but from the greenish hue perceived in it, we may suppose it to partake of the nature of the specimens brought from Laúkyén hot-spring, in Tavoy. I drank some of the water, and was not afterwards sensible of any peculiar effect from it. Upon subsequently examining it with the obliging assistance of a medical gentleman<sup>2</sup> at Martaban, it was found to be a chalybeate, and to contain lime in combination with some other earth or earths. The tests are enumerated below.<sup>3</sup> This fountain lies on the route to Siam ; and from many cocoa-nut trees scattered about it, it is evident, that though now a jungle, the plain

<sup>1</sup> I was favoured on this occasion with the company of Lieut. GEORGE, M. N. I., and Mr. ADAMS, of the Marine Service.

<sup>2</sup> Mr. BROWN, A. S., M. N. I.

<sup>3</sup> 1st. Tincture of catechu precipitates a dark brown substance ; hence the presence of iron is inferred.

2d. It does not blacken paper dipped in a solution of lead.

3d. No precipitate is caused by dropping into the water a solution of nitrate of silver.

4th. When mixed with a solution of turmeric (in equal proportions), no sensible change of colour is induced.

5th. When mixed with an equal quantity of lime water, a light, white precipitate, is formed, which does not effervesce with muriatic acid.

6th. The concretion found on the leaves and common pebbles effervesces strongly with muriatic acid, indicating the presence of lime in the water.

once supported a numerous population. Near Yé, on the sea-shore, there is a pond to which the Burmans ascribe marvellous virtues. It is said to grow quite red occasionally. Probably iron-ores are abundant there.

Betwixt this place and Málamein, on the east bank of the same river, stands the very majestic lime rock, P'habaptaung, the base of which is washed by the stream. It has been perforated quite through by a rivulet. The limestone composing it takes a fine polish; and large stalactites depend from the roof of the grand arch overhead. It, like the rest of the rocks examined, shews no traces of organic remains.

In rowing up the San-lún, or main river, the first objects which attracted my attention were the Krúkla-taung rocks, being a continuation of the great lime formation. The river at one spot is hemmed in betwixt two rocks, and, being thus narrowed, rushes through with considerable impetuosity. The rock on the north-west bank overhangs its base, the latter being washed by the river. On a sharp and, one should suppose, almost inaccessible pinnacle, a small pagoda has been built, producing a pleasing effect to the eye of a distant observer.

The cliff I conjectured to be two hundred and fifty feet high. The rock consists of a gray and hard limestone. The cave bears no marks of having been a work of art. The Burman priests, who inhabit a village on the opposite bank, could not afford me any information respecting it. No inscription was discovered on the rock.

Opposite the small Khyen village of Míchan-taung, which lies on an island, is a singular rocky hill, the base of which is washed by the river. It may be six hundred feet high; and it has a black and scorched appearance. It is almost bare of grass, with only a few trees on it. These grow in the hollows and crevices. It might be taken for basalt or granite at a short distance; but, on a close inspection, is found to consist of a black limestone, breaking off into cubical fragments. The ascent is abrupt and difficult, and the tread of the feet is succeeded by a hollow sound, as if the hill was but one vast catacomb. Several pits, having circular orifices, and of about three feet in diameter, were observed in the ascent. They are of considerable depth; for stones thrown into them were heard for about twelve seconds rebounding in their descent to the bottom. On looking down these, large fungus-shaped stalactitic masses were observed hanging from the sides. Near the summit of the hill, the ridges of the rock are so angular and sharp, that scarcely one of my people escaped being badly wounded in their feet.

Leaving the Míchan-taung, and proceeding up the San-lún river, the low rocks, observed on the banks, exhibit coarse black limestone. The high cliffs further removed, shew the more advanced stage of the lime formation. At Ka Kayat stockade, close to the hills, the granite again begins; and here were found, scattered about, smooth quartz and other pebbles of several pounds in weight, which had been used, after their ammunition had failed, by the Burman garrison when defending themselves from the attacks of the Siamese. Baskets, full of these pebbles, were arranged along the palisade inside. Several specimens of regularly crystallised quartz were here picked up.

The geology of Ava is little known, nor has any one of the many who accompanied the troops up the Irawadí favoured the world with a connected sketch of the rocks observed on its banks. That the lime formation will be found to extend up to Asam, there is every reason to believe, both from the accounts received, and because it is known, that carbonate of lime, in shape of the finest marble, and also alabaster, in a pure state, are very common in the country; thus countenancing the position taken up in another part of this paper, that the lime formation gradually becomes more compact and pure, as it bends to the north. Dr. HAMILTON observes, that "at Prin he saw part of the chain of hills which forms the northern boundary of Pegu, and that there sandstone and limestone were observed in flags." In Thaumpe, a Shan district, they have lead, iron, tin, some silver, it is said, and limestone.

From all that has been here stated, it should seem, that granite forms the basis of all the continuous ranges of hills on the coasts just described; that a bold and marked lime formation runs parallel to these ranges, but that this is occasionally interrupted, as far as can be judged of from an examination merely of the surface; that schist is of very frequent occurrence; and that tin, in the shape of an oxide, and invariably associated with the granitic hills, or formed in their vicinity (and supposed to extend up to twenty degrees of north latitude, if not beyond it), and iron, in various states of combination, are the principal metals throughout this wide range.

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## CHAPTER VII.

### RELIGION.

THE inhabitants of this coast, with the exception of the majority of the Karean tribes, are Buddhists; but, so far as my own observation

extended, it does not appear that the Burmans are such pious worshippers as the Peguers and Siamese.

It is not intended here to treat the subject at length, but only to notice some of its most prominent features.

It is believed by the people of Laos, that Buddha was venerated most especially at the pagoda called Nang Rúng, lying north-west of Che-ring Mai, and before his dogmas found their way into Ava and Pegu. This religion may have been brought over-land from India to Laos, and also by sea. A learned Singalese priest of Buddha<sup>1</sup> informed me, that it passed from Pegu to Camboja; but he did not know the precise date.<sup>2</sup> Several *phúngies*, or priests, in Martaban related to me, that in the year 1869 of their era (about A.D. 1325) two priests of Buddha, called AUTHERATHÍ and SANATHÍ, arrived in the Burman territory from Secho (Ceylon). They were succeeded in their spiritual dignities by SHEN BAUDDHA GOTHA, a personage of remarkable sanctity.

The *phúngies* of this coast are illiterate and ignorant, and have very little useful information to communicate. They have no sacred works (as far as my inquiries went) of any established authenticity in the Mon language; although this cannot be a cause of surprise, when it is known that the Mon priesthood has been superseded by that of the Burmans. No monumental inscriptions, either, could be discovered of sufficient antiquity to assist inquiry. All those examined by me refer to the building of a temple, the casting of a bell, or to pious vows.

It can hardly be doubted that the doctrines of Buddha have had some influence in softening and refining the manners of the Peguers and Burmans. Previous to its introduction, these nations must have been savage in the extreme; for they have left nothing to shew that they cultivated the arts, or were acquainted with letters.

There are several neat pagodas on this coast: that of Martaban is the largest; but none of them can be styled grand, when compared

<sup>1</sup> This man, whose name has escaped my recollection, was formerly a Buddhist priest at Penang. He afterwards travelled over many Indo-Chinese regions, and was even politically employed by the supreme government.

<sup>2</sup> He stated, that about the year 800 of our era, the Buddhist annals were preserved at Satthúm, in Pegu; that the Burmans renewed their acquaintance with these records about the same period; and that a holy Bráhma came there from Pachím Shú Nagam to gain sacred knowledge; hence he went to Lanca, or Ceylon; and from that island found his way to Camboja. The above period is about eighty-nine years previous to the first payment of tribute by the Cambodians to China.—  
RÉMUSAT.

with the Shúi Dagaun at Rangún, or Shúi Modo at Old Pegu. The Mergui pagodas are not higher than the generality of such buildings in Ava and Pegu. Close to the principal one, which is of a chaste outline, is a long brick building, shaped like many Roman Catholic chapels to be seen in various parts of India. It is encircled by upright stones about three feet high, and set in pairs. These front respectively to the cardinal points and their chief subdivisions; and are essential, according to Buddhist ideas, towards constituting it as a fit building in which novitiates are to be ordained for the priesthood.

## TAVOY.

The Tavoy pagodas are numerous, but they are, for the most part, diminutive. The chief ones are Shejen Daweh, lying about twelve miles from the town; Shen Maupthí, south of the town; Shyen Moh, at Tavoy Point; Natchantaun-men, or Majam, on the north-north-west bank of the Tavoy river, and surmounting a small hill; and Mendat P'hria, on the south bank of the Taung-byaup river. The three first are the most ancient: the small one, called Heinze, is also considered of some antiquity. There is a large kyaum, or monastery, a few hundred yards in front of the north gate of the town wall, called Chankyé Kyaum: it is kept very clean. The only object of curiosity here is an impression on stone of one foot of Buddha. The emblems engraved on this slab were found to correspond very closely with those enumerated in the Siamese Bali ritual; and to differ only in being fewer in number than the latter.

As I had the honour of lately transmitting to the Royal Asiatic Society of Great Britain and Ireland a dissertation explanatory of these emblems, they need not be here recapitulated. The original intention seems to have been to embody in one grand symbol all the objects most especially venerated by the votaries of Hindúism. The natives reckon fifty pagodas and temples of every description within the province.

One report assigns to the Arracanese settlers the erection of the Shyen Moh pagoda; but another gives it to DAMAH SÚRYA, that reputed king of Ceylon who raised a sacred edifice there on Adam's Peak. Others affirm, that CHESÚ, seventh king of Pagan Myú built it. Its claim to antiquity is all it has to boast of, as it is a very paltry pyramid. It lies at the Pagoda Point of the maps.

## MARTABAN.

In this province the Malamein P'hra is the most ancient pagoda. It is now in a ruinous state, but, when entire, may have been three hundred feet in height from the lowest platform. The lower stories were covered with brushwood when visited by me in 1825, which facilitated the ascent to the upper swell of the building. It seems to have been partly built of brecchia, and partly of bricks. Although the province affords both granite and marble for architectural purposes, yet they appear never to have been used in constructing religious piles: this, at least, is the only instance where stone of any sort was found by me so employed. The brecchia, it is well known, is at first like a slightly indurated clay, but it soon hardens by exposure. Granite is used for making steps leading up to pagodas and kyaums, for foundations of buildings, and for hand flour-mills.

Few of the pagodas on this coast are gilded; they are carefully white-washed at stated periods in the populous districts. The attachment to *high* places among the Buddhists is here conspicuous; and the sites of many of the pagodas are often, therefore, very beautiful.

The *phúngies* are always too numerous for the duties they have to perform; and yet they shew little inclination to improve this leisure, or that also allowed them by their exemption from the toils of the world, in the cultivation of letters or science. Few of them understand the Pali language, although it is the vehicle of their religious doctrines. They recite, parrot-like, the set lessons of their ritual; and run over their creed in a monotonous tone, and with ludicrous volubility. The women are very attentive to their discourses, which are chiefly Burman versions from the Pali. Processions consisting entirely of women, like those of the western ancients, may often be seen proceeding towards the pagodas or kyaums. The women are gaily dressed, and carry on their heads baskets and lackered ware vessels filled with fruits, flowers, rice, and confections, as offerings for the shrine of Buddha, or as presents to the priests. The latter receive their share without the slightest acknowledgement, since it is they who by acceptance of it confer an obligation. The female votaries kneel before the image of Buddha; raise their folded hands to their heads; and repeat, after the precentor, certain Bali formulæ, the purport of which they do not comprehend further than that it is either supplicatory or deprecatory.

Those men who affect peculiar sanctity allow their naturally scanty beards to grow, and are strict observers of forms. They carry the rosary of one hundred and eight beads, to each of which appertains a

Bali formula. The less sanctimonious abbreviate these lessons, and recite them in a rapid, yet low and drowsy, chime.

There are female devotees, or nuns, who dress in white cotton cloth, and who live close to the courts of the kyaums or pagodas. But they are always past that stage of life at which superstition makes a renunciation of the world seem meritorious, and which might cause their presence to be dangerous to the cold professors of celibacy within the walls.

These monasteries are, however, useful institutions with reference to the state of society on this coast. In return for the liberality of the people, the priests instruct their children in reading, writing, and figures; and if a boy (for girls are not admitted) shews a disposition for study, he may continue at school until he has learned all that his masters can teach him. Girls are often taught at schools superintended by women. Young women are frequently taught to write and read by their mothers or relatives. When a parent takes his child to school, he makes a present to the priests as an initiatory fee.

The elder scholars invariably instruct the younger. The kyaums are spacious buildings, and contain galleries and rooms in sufficient numbers to admit of accommodation apart from the priests for any number of boys. The scholars all read at once, and nearly at the full stretch of their voices; so that the din is equal to that proceeding from a village school in a retired district of the United Kingdom. The days of the full moon and her quarters are holidays.

The ceremony of initiation into the priesthood is attended with some formality and expense; but this last does not fall on the individual entering it if he is poor, as a collection is made from guests and friends to defray it. Captain SYMES has described the mode of initiation with a fidelity which requires no amendment.

The alabaster images which abound in every province of the empire are manufactured in one of the upper provinces. The priests enjoy the revenue of the ground lying within the walls of their respective monasteries. The space so included is sometimes extensive, and is always well stocked with the best descriptions of fruit-trees. When their kyaums or pagodas require repair, the surrounding inhabitants voluntarily assist in the work.

The *phúngies* of Martaban, and, perhaps, those of Tavoy and Mergui, are not generally very rigid observers of the moral precepts of Buddha, when they can transgress with impunity or without detection; nor are they so well informed as the Siamese priests. Those living under British rule have been relieved from many checks on their conduct; and it may be presumed, that their influence will

diminish as their reputation lessens. The support of the state has been withdrawn from, or rather it has ceased to uphold to the letter, the former ecclesiastical discipline ; for no European government could tolerate it to the full extent as an integral part of the law. A lack, on the part of the priesthood, of chastity, is not now punishable with death ; and any breach by them of the moral or religious code, which does not outrage the law as now established, is only cognisable by public opinion, and only punishable by tacit disgrace and neglect.

There are many sceptics amongst the Burmans ; but that the mass of the people, as has been affirmed by persons who had not sufficiently reflected on the subject, are indifferent to religious topics, is a contradiction of daily experience. He who has ever beheld the venerable Shúi Modo rising in dusky majesty over the plains, where once a numerous population bowed to the sceptre of Pegu ; who has viewed the yet more splendid, though less ancient, Shúi Dagaung at Rangoon, casting from its golden surface on the adorers below the rays of the luminary which shines its prototype ; or who has felt how intimate a connexion exists betwixt the ideas, sympathies, character, and social habits of the Burmans and Peguers and their belief,—must acknowledge that these people are bound by religious ties of no slender texture.

Thus it is that so few proselytes have been made to the Christian or Muhammedan faith in Pegu, Ava, and Siam. Perhaps the number of Burman Musalmáns in Rangoon may amount to one thousand, and in Tennasserim to three hundred.

The Buddhists of the Malayan archipelago may seem exceptions to this remark, since they were, with apparent ease, converted to Islámism. But here the tribes were, for the most part, small and scattered ; and their new instructors were merchants who, while they bore along with them the torch of reformation, not to burn or alarm but to enlighten, opened to the convert new and vivid sources of enjoyment, which he was solicited, not compelled, to use.

The Burman pagodas are certainly deserving of attention and respect, as structures interesting to the philosopher, moralist, and antiquary ; for they stand forth the undisputed copies of a very ancient and now almost neglected style of architecture, and materially tend to confirm the supposition of MAURICE, that the circular temples in England, the remains of which attract attention to this day, particularly that of Stonehenge, were originally dedicated to the Buddhist worship

## CHAPTER VIII.

## LAWS.

The Burman code of laws has, to all appearance, been founded on some version of the reputed code of MENU ; but it may be supposed, that as the latter was framed for a race of men differing in many essential points from the Burmans, it must have undergone several modifications when it was adapted to them : or, at least, whatever may be the actual letter of the Burman code where it follows that of MENU, yet, in practice, deviations from it are frequent.

On this question, however, my information is very limited, as no opportunity has offered for minutely examining the Burman code.<sup>1</sup> The following remarks, therefore, chiefly refer to what was observed by me while on the Tennasserim coast. It is to be hoped that more light will be thrown on the subject by others more favourably circumstanced.

It is notorious, that the utmost venality and perversion of justice prevailed at the *rhúm*, or court of civil and criminal law ; and that the perpetrator of any crime, treason perhaps excepted, might buy himself off, if able.

Murder is punished with death ; and the execution takes place at the *kathé laup*, near the place where the dead are burned. One man seizes the culprit by the hair, which is worn very long, and the executioner severs his head from his body by the stroke of a sword ; or, the offender is made to kneel down, and to incline his neck. His hands are pinioned behind his back ; a man stands behind with a spear in one hand, which is held close to the culprit's back, while with the other hand he holds the rope tied round his (the culprit's) waist. After the head is severed from the body, the man who holds the spear gives the body a kick forward. Reprieved criminals, or those who have been pardoned, are the executioners. They are tattooed on the cheeks in a peculiar circular manner, to denote that they are crown slaves. One of these may escape duty, if he can obtain another to act for him, paying five rupees as his fee. Occasionally, as a refinement on cruelty, the criminal has his breast and bowels cut open ; or a mark is put on his breast, and people are

<sup>1</sup> Translations of parts of this code, or of digests of it, have, I understand, been made by Mr. BLUNDEL, of the Penang Civil Service, and Lieut. SHERMAN, of the Madras Army.

stationed at a distance to shoot at it. A murderer's family become slaves to the state.

If a man kills deliberately any man of rank and authority, it frequently happens that his whole family suffers the penalty of death; the women and female children are knocked on the head with clubs; male children above the age of seven years are beheaded, and if under that age, they suffer in the same manner as the women and children.

The Burmans assign as a reason for this law, that the children shall be deprived of an opportunity of revenging the death of the criminal.

A traitor, or a conspirator against the king or a man of rank, is blown up by gunpowder: near relatives suffer the same fate with him. They are all shut up in a house, called *núi laumdei*, filled with straw and other combustibles and gunpowder. The powder is fired by a fusee.

If one man intentionally hurts or beats another severely, he pays a fine of not less than fifteen ticals, or more according to the rank of the person injured; if very severely, and a limb is broken, forty ticals; and if the complainant's life is endangered, he pays, at most, eighty ticals. If a man in a scuffle with another, both being unarmed, or both having arms, kills him, he must pay, at most, three hundred ticals. For an assault not followed by wounds, thirty ticals, if the assailant should have dragged the complainant by the hair; but if he should not have dragged him by the hair, though blood may have been spilt, he will only have to pay fifteen ticals.

It may here be noticed, that, amongst the races inhabiting the Burman dominions, the greatest insult which can be offered to any one, is to pull the long lock of hair depending from the top of his head. A Chinese is disgraced if his queue is cut off; and, amongst all of the Indo-Chinese nations, nothing gives greater offence than the laying or placing of any one's hands on the head of another. For the same reason, they dislike to have people walking over their heads, or to have two-storied houses.

Many of the women go cropped; but long hair is most fashionable; and they are equally disgraced if their hair be cut off for any offence. Blows given on the face are considered as insulting in the second degree; about twenty ticals are exacted for such.

A person who has kicked another on the breast pays fifteen ticals.

If, in an assault, the ear of the person assaulted be split, the offender pays ten ticals.

This specification has arisen, perhaps, from the custom of the

Burmans, while fighting, of biting an adversary, in which they are as great adepts as any gouging American back-settler can well be. A blow on the back, or on any part, not before stated, is generally compensated for by a fine of seven or eight ticals.

Theft is a very prevalent offence; and is punished by fine or imprisonment, or by stripes; sometimes by the three together.

The punishment is increased, even to death, on a second or third offence. Branding on the breast and forehead is an additional punishment also inflicted on thieves and on deserters from the army. It is done by tatooing with an iron instrument, and applying a red, blue, or black powder to the wounded parts.

Thieves take advantage of a dark night, when the torrents of rain which fall on the leaf-covered houses, prevent their being heard. They likewise begin operations, by planting small stakes in certain directions to deter pursuit. These are of bamboo, hardened by fire, and are so sharp, that they will penetrate the sole of an English shoe; housebreakers are generally armed with a *damyoun*, or small knife.

A person having stolen fruit, must pay back double the quantity to the person from whom he stole it. A person convicted of robbing a house, must pay seven times the value of the articles so stolen, and return the articles. The judge will determine what other punishment he shall undergo. If he shall have stolen the following articles, he will pay five times their value, besides restoring them, if not made away with; viz. gold, silver, precious stones, cloth, ploughs, sugar-cane, horns, fishing-nets, rice, maize, indigo, cotton, brass, iron carts, goats, sesame. If the property of a chief has been stolen, and the thief is caught, he must pay ten times its value. If flowers have been stolen during night, one hundred times their value will be paid to the owner; if onions, ten for one: but if these things were stolen during the day, five for one must be paid.

Flowers, it may be remarked, are here sold in the bazars. They are bought chiefly for offerings at the pagodas. Ten for one will be paid by a thief who steals horse-tails (such as are used for adorning the heads of spears), or spears or hatchets, or gongs, or springs for catching mouse deer; quail springs, thirty for one; a buffalo, fifteen for one; a cow, thirty ticals; a duck or fowl, one hundred for one; pigeons and decoy king-fishers, five ticals for one; for a full grown elephant, two hundred ticals; a half grown one, one hundred and fifty; a young one, fifty. The chief and the owners of the stolen articles share these fines betwixt them.

## ADULTERY.

The Burman law does not appear to recognise any right by which a man may avenge himself on the paramour of his wife. The freedom enjoyed by Burman women certainly contributes to weaken the temptations to which they are exposed, and, on the whole, to render them chaste.

As they share with the men most of the common occupations of life, their loss is felt principally with reference to this circumstance. An injured husband, in general, therefore, believes himself sufficiently satisfied if he can make the offending parties reimburse him for his loss. The offence is frequently commuted for sixty ticals, the common fine; and, if the woman be desirous of returning to her husband, and he be willing to receive her, they may again cohabit. Of this fine, thirty ticals are taken by the party aggrieved, and the Burman governor takes the remaining thirty.

If a poor man shall be convicted of adultery with the wife of a rich man, he is obliged to pay double the fine which would be imposed on the rich man, were he to be convicted of the same offence with a poor man's wife.

The rich, however, may be sentenced to pay according to their means, and at a much higher rate. But, if a man in the lower rank of life is unable to pay, he is liable to be whipped and gonged through the town; women have their faces blackened, and are then gonged through the town in a state of half nudity. A woman, when guilty a second time, is liable to be branded.

If a man takes improper liberties with another's wife, and in his presence, such as pulling her by the arms, or pushing her about, he will be fined fifteen ticals.

Incestuous intercourse is punished by banishment.

Priests who offend against chastity are liable to be punished with death.

If a priest shall have rescued a condemned person on his way to execution, and have conveyed him to the pagoda or monastery, his life may be spared.

## INHERITANCE — TAVOY.

Property is thus distributed on the death of the head of a family.

The widow has the life-rent, but she forfeits her right by a second marriage: she may, while a widow, divide the property, whether consisting of goods and chattels, of money, or of land, amongst the children. The eldest son takes the largest share; the youngest son or daughter the next, or two shares to each; and the rest of the property

is shared according to seniority, amongst the other children. A bachelor may give his property to whom he chooses. If he die intestate, his real property descends to his nearest male relatives, and in the failure of males, to the nearest heirs female.

In Martaban, it depended on the chief what division should be made of the property of a man deceased; one-fourth of the amount only was in many instances given. This went to the widow. If there was no widow, but children, the eldest got one-half of the above share, or that which remained, after expenses and debts had been paid, and the government demand had been satisfied; the second child got one fourth part of this; the third, one-eighth, and so on.

But, in fact, whatever rules or laws were made for the distribution of property, they were seldom very punctually attended to; and, unless the deceased individual was a man of rank, the local chief of any Burman government in Tennasserim used his discretion in apportioning it, taking care to pay himself handsomely for his self-constituted post of executor.

*(To be continued.)*