

period of incubation, and for several subsequent days or weeks, and may possibly be of advantage even during the premonitory stage of hydrophobia". (*Op. cit.*, p. 507).

My chief aim in bringing this subject to notice is still further to emphasise the radical method of dealing with wounds caused by animals known to be, or strongly suspected of being, rabid. The wound should be previously sucked (it may sometimes be by the patient) by a person whose lips and mouth are free from chaps or excoriation, and a ligature applied whenever practicable close to, and between, the wound and the heart. If now excision be thoroughly executed with the single object of removing all the virus that may have been inserted into the wounds, success in prophylaxis becomes a certainty. The operation should be done under ether, every wound carefully explored, and a substantial margin of tissue removed, so as to ensure the extirpation of all the structures that may have been exposed to infection. If this be performed with patient deliberation, incised may often be substituted for punctured and lacerated wounds, healing promoted by the first intention, and the disfigurement from scarring materially diminished. If, however, there have been much tearing or laceration of parts, it may be well to cauterise the wound or wounds, after excision, with nitrate of silver, nitric acid, or strong carbolic acid to make assurance doubly sure that any poison which may have escaped extraction by the knife may be destroyed or removed in the subsequent slough and discharge. Excision can be executed with far greater precision and completeness in bites from rabid animals than in those inflicted by poisonous snakes, because, in the former, all the poison that has not been absorbed will be found in, or close to, the inner aspect of the wounds, whilst, in the latter, the virus, if injected into the areolar textures, may be squirted in all directions and over a considerable area. Even in cases where a chap, or an open sore, has been licked by a rabid animal, excision is preferable to any other mode of prophylaxis.

Doubtless, excision should, whenever practicable, be performed as soon as possible. But there is reason to believe that, in exceptional cases, it may be successfully practised after cicatrisation of the wounds, or even thirty-one days after the bite, as in the case published by Rust, and cited by Sir William Gull. Seeing the early period at which symptoms may appear, such postponement of the excision should never receive the sanction of the responsible medical adviser. The experience, however, is encouraging, inasmuch as it is calculated to show, as far as a single instance can, that life may be saved by excision long after the wounds have cicatrised. Perhaps the extensive changes that have taken place meanwhile in the cicatrix, skin and subjacent fat to the extent of an inch around the site of the original wound, in the course of a few weeks, as demonstrated by Dr. Coats, would appear to indicate the necessity for a much larger removal of structure, under such circumstances, than would be at all required were it performed immediately after the bite, or before the wound had been healed up.

In conclusion, much hydrophobia may be prevented

by (1) restricting the numbers of stray, pet, and domestic dogs and cats by (a) police regulation and (b) licensing; (2) by muzzling those which are known to be excessively pugnacious, or too ready to assume the offensive, with or without provocation; (3) by careful and kindly attention to the sick and distempered; (4) by the extermination of such as become rabid.

#### TOPOGRAPHICAL REPORT ON THE ANDAMAN ISLANDS AND PORT BLAIR.

By JAMES REID, M. D., Surgeon, Indian Medical Service,  
*Senior Medical Officer, Port Blair.*

The Andamans are a group of islands situated in the south-east corner of the Bay of Bengal, and are included between lat.  $11^{\circ} 30'$  and  $14^{\circ} 20'$  North and long.  $92^{\circ} 10'$  and  $93^{\circ} 30'$  East.

They are composed of three principal islands named, from their position to each other, North, Middle, and South Andaman; and numerous smaller islands.

To the north of North Andaman Island are two islands known as Great Coco and Little Coco. Both these islands are uninhabited. They are remarkable for the large number of cocoanut trees, which grow round the sea-shore. As a rule these trees form a rather narrow belt round the coast, interrupted here and there, and not extending many yards inland. In favourable spots, such as low sandy reaches however, they run often a considerable distance into the land.

Close to the Great Coco Island is a small island (Table Island) on which there is a lighthouse.

To the east of South Andaman about 60 miles, a small solitary island (Barren Island) rises abruptly out of the sea. It is about 800 feet high. In its centre is a circular black cone (600 feet high) whose sides slope uniformly down at an angle of  $45^{\circ}$  to  $50^{\circ}$ .

This is an active volcano, and smoke may often be seen issuing from the cone by the passing ship.

About 80 miles east from North Andaman (long  $94^{\circ} 17' 22''$  east and lat.  $13^{\circ} 28'$  north) is another solitary island, Narkondam, very like Barren Island in many respects. Its central cone is said to be 2150 feet high, and appears to be surrounded by the remains of an old crater. It is probably therefore an extinct volcano.

The sea immediately surrounding Barren Island and Narkondam close in to the land is very deep.

To the south of the Andamans are the Nicobar Islands. These are inhabited by a race of people possessing affinities in many respects in common with the Malays of the neighbouring continent. They bear no resemblance whatever to the inhabitants of the Andaman Islands.

Immense numbers of cocoanut trees grow on the Nicobar Islands, and constitute the principal part of the wealth of the inhabitants, who barter the nuts to ships in exchange for rum, tobacco, clothes, axes, knives, medicines &c., and feed with them their poultry and pigs, which are almost their only other possessions. Their own food consists of bread-fruit and cocoanuts, supplemented occasionally with pig, fowl or fish.

The Nicobarese had formerly a bad reputation as

wreckers, and were accused of falling upon ships that had got wrecked on their shores, rifling them of anything valuable they contained and murdering their crews.

There is now a small penal station there, an offshoot from Port Blair, on the island of Camorta, with 200 to 300 convicts (or fewer).

Hitherto there has been an enormous amount of sickness, the result of the exceptionally malarious nature of the soil.

#### *General appearance of the Andamans.*

The general appearance of the three larger Andaman Islands as seen from the sea is that of a country of low hills, deep ravines and small narrow valleys, the whole covered, as far as the eye can reach, with the densest of jungle, in which appear many large and lofty trees with straight, smooth white stems. The larger trees have few or no branches usually, except a tuft at the top. Gigantic creepers hang in graceful festoons from the high trees or wind round them in massive coils, whilst orchids can often be seen in the clefts and on the outstretched arms of the trees. In addition, there is in the natural jungle a tremendous undergrowth of canes, thorns creepers and shrubs, &c., which makes it quite impossible to penetrate into it. Where the land dips from some height abruptly down to the sea this jungle is continued close to the water's edge. On low and level spots however, and for miles inland along the margins of creeks, mangrove swamps are found. No coconut trees exist naturally on any part of the coasts of the three larger Andaman Island as is the case in the Cocos to the north, and in the Nicobars to the south; mangrove swamps everywhere replacing them.

The whole of the Andaman Islands are bounded by an outer fringe of coral reefs, and over these the sea waves break in lines of foam. On many parts of the coasts, and especially at certain seasons of the year, the surf waves roll in, in great height and volume, and break with a noise like thunder on reef or beach.

The Andaman Islands are noted in Darwin's map as "rising," but Kurz (Report on Vegetation of Andaman Islands) supposes them to be gradually sinking.

The eastern coasts generally are more hilly than the western coasts. The hills are also higher on the eastern side. The highest points are:—Saddle Peak, 2,500 ft. (North Andaman); Ford Peak, 1,300 ft. (Rutland Island); and Mount Harriett 1,100 ft. (South Andaman). The general direction of the hilly ranges is south-east to north-east. There is very little level country. Such level land as there is occurs in strips along the margins of salt water creeks in the form of mangrove swamps, or as low-lying level patches of mangrove scattered here and there close to the sea along many parts of the coast. The land in the interior, generally seems to consist of hills and dales and steep ravines, but much of it has not been at all accurately explored as yet.

There are no rivers or lakes properly so called. The smallness of the islands, and the fact that the higher hills are near the coast, account for this. A number of small streams are found however. In the rainy season these carry down a large quantity of water, and during

heavy falls of rain they appear as swollen foaming torrents rushing down the hill sides. Towards the close of the dry season the largest of them dwindle down to very slender streams, while the smaller ones dry entirely up for the most part.

In the dry season therefore (at least towards its close) there is a scarcity of water in the islands. Whatever moisture and water are retained in the dry season are due to the immense forests covering the surface of the country, for owing to the conformation of the land with its hills, intersected by numerous ravines and narrow valleys, the natural flow of the rain water to the sea is extremely easy and rapid.

Springs of fresh water are found in a few places through the dry season. They do not yield large quantities of water however, and if the dry season is a more protracted one than usual, they dry up or give only a very scanty supply.

Little comparatively is yet known of Middle and North Andamans. From the impenetrable nature of the jungle exploration is difficult. In addition the aborigines inhabiting them are (or were till very lately) for the most part unfriendly.

South Andaman Island is better known.

Here a Convict Settlement has existed since 1858, and the aborigines, at least those near the Settlement, are friendly.

#### *Geology of South Andaman Island.*

Most of my information on this head, and some of those immediately following, is derived from a "Report on the Vegetation of the Andaman Islands" made to the Government of India by Mr. S. Kurz, late Curator of the Herbarium, Royal Botanical Gardens, Calcutta.

Mr. Kurz says, "The geological formations of the whole of South Andaman and Labyrinth Archipelago, as well as of the southern parts of Middle Andaman, are, as Mr. W. Blanford, Deputy Superintendent of the Geological Survey, Madras, informed me, quite identical with those of the Arracan coast."

These geological formations are classified as follows:—

- |                    |                |
|--------------------|----------------|
| I. Chloritic Rock. | II. Sandstone. |
| III. Serpentine.   | IV. Syenite.   |

I. This is an indurated chloritic rock occupying a broad strip of the interior of South Andaman, and is probably a kind of green stone or trap.

II. The sandstone rocks (tertiary) occupy a great part of South Andaman.

III. Serpentine is found principally on the east coast of South Andaman to the south of Port Blair and on the east of Rutland Island.

It is found however in its purest state between the harbours of Port Blair and Port Mowat, where (near Homfray's Ghât) the sandstone is replaced by a narrow dyke of very pure soft serpentine which appears of a variegated green and black colour, and is no doubt capable of being worked up into ornamental articles of various kinds.

IV. Syenite is found in small quantities in a few places surrounded on all sides by chloritic rock.

*Metals and Ores.*—Red oxide of iron occurs scattered almost everywhere all over the South Andaman. No

other metal has yet been found. Certain early accounts of the Andamans make mention of mercury as being one of their products, and as being found in large quantities. But since our occupation of the islands nothing has been seen or heard regarding its existence.

A kind of limestone is found in South Andaman.

#### *Soils of South Andaman.*

Are classed by Kurz under three heads :—

I. The brick-colored soil, found over decomposed Serpentine rocks.

II. Yellowish-clay soil, found over Sandstone rocks.

III. Greyish or blackish soil, found over Chloritic rock.

The geological formation of Port Blair is almost entirely sandstone, and the soil corresponds, being yellowish clay for the most part. The late Dr. Stoliczka found, on a visit to Port Blair, some few fossils amongst the sandstones. Small quantities of coal have also been found at various times, but only in isolated lumps in pockets amongst the sandstone; never in any workable seam. Sandstone has proved a very valuable rock to the Settlement. It has furnished large quantities of good building stone, and the barrack for European troops on Ross Island is built of it entirely.

It forms also clay beds from which bricks are made in immense quantities.

The oxide of iron is not utilized in any way. The limestone rock referred to has been found too impure to make good lime. A specimen of it, which I roughly analysed for one of the settlement officers, contained besides lime, a small quantity of iron and a good quantity of clay and sand. Coral is used therefore for preparing all our lime.

#### *Vegetation of South Andaman.*

Except where clearings have been made at Port Blair Settlement, the whole of South Andaman is one dense forest—mangrove all along the coast, and the low coast lands as high as the sea-water reaches and miles inland along the margins of tidal creeks; while in the interior are lofty trees, huge creepers, and the thickest and most luxuriant undergrowth of shrubs and canes. The Andamanese seem to find their way easily enough about in these thick jungles, though Europeans find it difficult and laborious work, and usually require to have a road cut for them as they go.

Some of the jungle creepers are of enormous size. Nowhere else in the world I suppose are larger creepers probably found.

Most of the larger trees furnish valuable timber, of these the most important are—

1. Kuppalee (*Mimusops Indica*).
2. Padouk, (*Pterocarpus Dalbergioides*).
3. Pemah, (*Lagerstromia*).
4. Ganggo, (*Mesna Ferrea*).
5. Kokkoh, (*Albizzia Lebbek*).

"Kuppalee, padouk" &c., are the Burmese names of these timbers I believe. Ebony is also found, but is much commoner at the Nicobars.

A peculiar kind of wood. (marble-wood or black wood) is also found. I am ignorant however of its scientific name.

The above-mentioned 5 timber trees are all found in Burmah as well as the Andamans, but are comparatively neglected in Burmah on account of the immense teak forests which it possesses.

No teak trees grow naturally on the Andamans. A number of seedlings have been put down at Port Blair, but it is too early yet to say whether they are likely to prove a success or not. Wood-oil trees (*Gurjon-oil*, *Dipterocarpus laevis*) grow in large numbers close to Port Blair. They are tall, fine looking trees, but quite useless as timber. As far as I know, they and the *Strychnos Nux Vomica* are the only indigenous medicine-yielding plants in the Andamans.

Large forests of bamboos are found in South Andaman. They are all one kind of species—"Bambusa Andamanica," (Kurz.)

They are used largely in the Settlement for huts and houses and many useful purposes

Two or three varieties of palm-tree (including the "Screw-pine") are found. Orchids also in large numbers and ferns; the orchids poor however compared with those of Burmah. Regarding the vegetation of the Andamans generally Mr. Kurz says :—"The character of the Andamanese Flora is a Burmese one altered by some unfavourable agencies, principally the scarcity of running waters: and favoured at the same time by its insular position and narrowness. A number of Malayan types grow here which are not yet recorded from the opposite continent." "The peculiarities of the Flora do not consist in the presence of many new and rare species but rather in the absence of well known, and in the surrounding countries, exceedingly common forms."

#### *Animal life.*

The sea all round the Andamans swarms with fishes of every variety—of all shapes and colours; edible fish such as mullet (silver mullet), mackerel of kinds, rock cod, sole, whiting and numbers more of whose names I am ignorant. Sharks, hammer-headed and common, in every stage of existence, from the infant of one or two feet long to the patriarch of 15 or 16 feet.

Turtle, hawkbill and edible, abound all round the coasts.

Oysters are plentiful, and prawns.

Of forest animals—a small black pig is found wild in the jungles (*Sus andamanensis*), and a kind of wild cat (*Paradoxurus andamanensis*).

No monkeys are found, though there are some at the Nicobars.

*Birds.*—Of birds there are a fairly numerous variety, but I have little acquaintance with them. There are parrots, small green pigeons, large purple-colored (imperial) pigeons. Snipe visit the Settlement in September for a few months.

A kind of "teal" is also found during some months of the year.

Large caves exist in rocks and cliffs on many parts of the coasts. These are frequented by the edible birds-nest swallow. The nests are collected (or used to be) by a Chinaman who rents his right to do so from Government.

*Snakes.*—I am indebted to Mr. E. H. Man, the present officer in charge of the Andamanese, for the following memo. of snakes said to be found in the Andamans :—

*Memo. of snakes identified by Andamanese as known to them on seeing Plates representing the same in Fayrer's book.*

1. *Naja Tripudians* (Plates 1, 2, 3)"
2. *Ophiophagus Elaps* (Plates 7, 8)
3. *Bungarus Fasciatus.*
4. " *Ceruleus.*
5. *Daboia Russellii.*
6. *Echis carinata.*
7. *Trimeresurus Carinatus.*
8. " *Erythrurus.*
9. " *Anamallensis.*
10. *Pelamis Bicolor* (α)
11. *Enhydrina Bengalensis* (α)
12. *Platurus Fischeri*
13. *Hydrophis Jerdoni*
14. " *Robusta*
15. " *Curta* (α)
16. " *Nigrocincta* (α)
17. " *Nigra* (α)"
18. " *Strichcollis.*

Mr. Man mentions in addition the Andamanese names of 8 other varieties of snakes known to the Andamanese, but which are not figured in Fayrer's book.

Those marked (α) Mr. Man ascertained are eaten by the Andamanese.

With such a formidable list of poisonous snakes it certainly appears wonderful that so few deaths should have occurred from snake-bite amongst the convicts at Port Blair, as have actually been recorded. As a matter of fact I believe only one authenticated fatal case of snake-bite is on record in the Settlement annals, and this case occurred at Viper Island early in 1872. I am indebted to Mr. Man for this note of it, as it happened before I came to Port Blair.

During a residence extending now over 6 years I have seen numerous cases of snake-bite, but never a single death from snake-bite. The only poisonous snakes I have myself seen are :—(1) a small, black (spectacle-marked) cobra about 1½ to 2 feet long; (2) one of the *Trimeresurus*, the particular variety I do not remember; (3) one of the "*Hydrophis*," a small yellow and black banded snake—a foot or a foot and a half in length—seen one day in the sea close in shore while collecting shells.

Centipedes are found in great numbers everywhere, and are a frightful pest. Bites from them are frequent, and if the centipede is large and lively such bites often give rise to much more pain and swelling, and local irritation generally, than most snake bites I have seen.

Scorpions are found, but are very small. I have never heard of a bite from one of them. Probably the neighbourhood of the sea is unfavorable to their development, for in Burmah they are found inland of large size.

Collections of butterflies, moths and beetles can be made in the rains. A number of new varieties of beetles have already been found.

Land shells are few in variety comparatively; but they

have not been extensively collected. Marine shells are found in great abundance and variety.

#### *The Andamanese.*

I come now to the inhabitants of the Andamans—the Andamanese or Aborigines. And at the outset I may state generally that I am indebted to Mr. E. H. Man, the officer now in charge of the Andamanese, for all the information I possess regarding the language, the legends, the customs, the rites and ceremonies of this hitherto little known people. To Mr. Man we owe all the *reliable* information we possess regarding them, though on many points it has probably not been found possible, even yet, to ensure perfect accuracy. Our continued friendly relations with the nearer Andamanese tribes, and the gradual extension of the same, during the last few years, to the remoter tribes of Middle and North Andaman, are also due in no inconsiderable degree to Mr. Man I believe.

The earlier accounts of the Andamanese describe them in very dark colors—as savages and barbarians of the lowest type of humanity, dreaded by mariners whose ill fate it was to be shipwrecked on their hostile shores.

The ships they plundered, the crew they killed and were supposed to eat.

At the present day the Andamanese are certainly not man eaters.

And as amongst the bones and shells, and other food remains piled up for generations, and forming the kitchen-middings close to what must have been favourite camping grounds, no *human* bones have ever been discovered, there is every reason to suppose that they never were man eaters.

Possibly the custom that the Andamanese women have of making necklaces and other ornamental (?) articles of the bones of their deceased husbands and friends, and wearing the same, had something to do in giving rise to the idea that the Andamanese were cannibals.

That they were wreckers, however, there is no doubt; and crews of ships wrecked upon their shores were in all likelihood murdered, as they were never heard of again in such cases.

And indeed in this respect there is not much of change even at the present time to note, in the *remoter tribes* and *islands*, for, as late as December 1874 when Port Cornwallis (North Andaman) was visited by the Government steamer *Enterprise*, no landing was found possible on account of the hostile attitude of the Andamanese on shore, who manifested every sign of determination to oppose any approach to them, and even discharged a flight of arrows at a boat as it came near them.

And about the same time the crew of a native craft, which had landed at "Little Andaman Island" to procure water, were brutally murdered by the inhabitants.

That the "Little Andaman" is unchanged in this respect to this day there is no reason to doubt. We have never succeeded in forming any friendly relations with them.

At Port Cornwallis however the natives were found, at a visit in November 1876, to be so far friendly as to accept presents of coloured cloths, necklaces, looking-glasses, bottles, old iron, &c., though none of them could

be induced to go on board; and within the last year or two, three or four North Andaman men have come on a visit of some months to the Viper Andaman Home.

One of these men while at the Home got a large belly just as if he had dropsy. As it was a matter of great importance to send all of them back to their own country sound and well, (as the North Andamanese might have supposed that *we* had killed and eaten their missing man), he came under my care for a few weeks. It turned out that he had simply a very large spleen (the result of previous jungle fever no doubt). He did very well under treatment, and appeared much surprised and pleased to see his belly gradually return to its proper size.

Various reasons have been given to account for the savage hostility invariably shown by the Andamanese towards strangers, and it has been said that the Andamanese were originally a mild and inoffensive people, but that Malay vessels from the neighbouring continent having made a trade of seizing and carrying them off as slaves, their now well known hostility to all strangers gradually became developed.

Our first successful efforts at friendly relations with the Andamanese date from 1833, and were mainly due I believe to one of the Settlement Officers, Mr. J. N. Homfray. Since that time much progress in this direction has been made; and while the South Andaman tribes are notably friendly, and a colony of them live on Viper Island, many of the more remote tribes in Middle, and even North, Andaman are gradually being brought within the same friendly influences.

Those near the Settlement have taken very kindly to many ways of civilized life. They are very fond of tobacco and rum, of rice and plantains (bananas) and of looking-glasses and knives. Match-boxes are in great demand, and dogs of every kind and breed to help them to hunt down the wild pig. Clothes they rather objected to at first, and even the children (of both sexes) brought up in the Orphanage on Ross Island, as soon as they grew up and were allowed to return to the jungle, were found in a few days to have discarded their clothes entirely and returned to the regular jungle life. Even in this respect however I believe they are now showing signs of a desire to copy their more civilized neighbours, this trait being more especially observable in the women, who are said now to fly to their clothes whenever visitors are announced at Viper from the outer world.

The Andamanese are of use to the Settlement in many ways. They capture runaway convicts, and hawk about turtles, tortoiseshell, pawn leaves, honey, shells and oysters for sale.

To any settled work, such as agriculture, they have never really taken I believe, though many attempts have been made and inducements held out to them to engage in such work.

Government grants a sum of Rs. 200 monthly to provide them with food, looking-glasses, &c. &c.

The Andamanese have not escaped some of the evils which often accompany civilization when first introduced amongst a primitive people. In 1876 syphilis was found to exist amongst them. This was communicated to them, it was conclusively shown, by convict petty officers in charge of them at some of the homes-

This disease has been widening and spreading ever since, and has been extremely severe in its manifestations. Next year, 1877, measles broke out, first in the Ross Orphanage, then in Viper. The official record gives 191 as the number attacked, of whom no less than 53 died.

The Andamanese are short in stature. Many of the men are well made, with fine well-knit muscular limbs. The women are rather ungainly in appearance, and have rather large pendulous bellies. Even in the men and children however there is usually observable a roundness and fulness of belly. This, from repeated examinations I have made, I am satisfied is due to enlargement of the spleen, and of both spleen and liver occasionally, and is due no doubt to intermittent fever, from which they suffer frequently in their jungle homes.

They do not seem to be a long-lived race, as might be supposed from their exposed life and the irregular way they must procure their food, one day gorging in plenty on turtle or pig, the next condemned to a famine diet on such jungle roots and fruits as they can find. Nor are the women very prolific. The race therefore is probably slowly dying out. Mr. Man gives the average height of the male Andamanese as 4 feet 11 inches; of the female as 4 feet 7½ inches. Their skin is black and shiny, that of the men tattooed in a peculiar way; the hair black, woolly and in corkscrew curls, the nose decidedly flat, and broad across the alæ, the lips not thick, the eyes large and prominent. The skull is small, oval or square in shape, not inclined at all to be prognathous like the African Negro's. I managed to procure two of the skulls in 1875, and forwarded them to Dr. Allen Thomson, Professor of Anatomy at Glasgow University, along with some bows, arrows, necklaces of bones, women's girdles and "bustles," nets, spears &c.; along with them I sent a short note of what I knew *then* regarding them.

In the Edinburgh *Scotsman* newspaper of September 14th, 1876, I found the following account of some remarks made before the British Association by Dr. Thomson about them:—

"SECTION D. BIOLOGY."

*Department of Anthropology.*

"Dr. Allen Thomson produced two skulls from the Andaman Islands, and explained their peculiarities. One of the skulls appeared to be that of an adult male, while the other was evidently that of a child of nine or ten years of age. The people in the Andaman Islands were in the habit of preserving portions of their friends, skeletons as memorials, and not unfrequently made use of them as ornaments such as ear-rings and waist-belts. The adult skull he had there had probably been worn by the widow of its owner—the custom being for widows to wear their husbands' skulls, but only till they got a new skull. This might be thought to show bad taste, but considering what we ourselves did in the way of wearing the hair of deceased persons, it perhaps did not become us to say much on the matter. (A laugh). He compared the skulls with Scotch and other skulls, and found that those from the Andaman Islands were considerably smaller than the average Scotch skull. Dr. Thomson also showed a curious collection of necklaces and girdles, and

some interesting arrows. The necklaces were largely made of finger bones, while some seemed to contain bones of a newly-born child, the bones in each case being bound with a grassy substance."

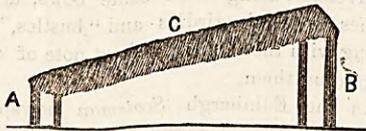
I will refer to the custom of wearing bones amongst the Andamanese when I come to their funeral rites.

I need only observe with reference to Dr. Thomson's remarks that I furnished him with all the information regarding the Andamanese customs that he speaks of, and that he never thought it necessary in any way to acknowledge the receipt of the "skulls," the "curious collections of necklaces," &c., which were destined through him, for the University Museum, or of the letter containing the information regarding them, though I wrote to him on the subject a second time after reading the extract from the *Scotsman* above quoted.

The Andamanese men wear no clothing (except a narrow waist belt). They go about quite naked, occasionally painted over, in whole or in part, with a red paint (mixture of red oxide of iron and pig or turtle fat). The women wear a kind of girdle of a very scanty description round the middle with a bunch or "bustle" hanging down from it behind, while in front one large leaf is arranged to cover their genitals. Otherwise they are quite naked like the men. The women have their heads closely shaved.

*Huts.*—These are of the rudest description—in some cases a few large leaves stitched together and fixed to two or three contiguous trees in such fashion as to form a sloping roof overhead, the sides all round being entirely open. Or if the trees are not adapted for their purpose 4 posts are put into the ground, 2 higher and

2 lower thus:—



- a 2 lower posts not much above the ground.
- b 2 higher posts.
- c leafy sloping roof.

*Boats, Weapons, &c.*—Canoes, bows, arrows, spears, pails and nets made of jungle fibres, may be said to constitute the sum total of the worldly possessions of the Andamanese. Of course they now receive many things from the settlement,—knives, dogs, &c. &c.

*Canoes*—Their canoes are simply long hollow logs of timber closed at the ends, and the bow end prolonged above into a kind of prow. The logs are not hollowed out by burning, but by patient scooping. The Andamanese go long distances in these canoes quite safely.

*Bows and Arrows.*—On their bows and arrows are their main dependence for defence from their enemies. They are very skilled in their use, and shoot, but only at short distances, with wonderful precision. They are trained to their use from their earliest infancy, and so expert do they become that fish they often kill with their arrows, shooting them as they glide through the water. The spear is used principally to kill the wild jungle pig. It is tipped with sharp iron, the iron for this purpose being now procured from Port Blair, but formerly from

wrecked ships probably. Another kind of spear, more of the nature of a harpoon, is used to kill turtle.

As might be expected the Andamanese are, from childhood, at home in the water, and are good swimmers and divers.

#### *Origin of the Andamanese.*

Of the origin of the Andamanese little reliable is known. Whether their ancestors were shipwrecked negroes, or whether they are an aboriginal people, it is impossible to say. In the "Lord's Prayer in the South Andaman language," (E. H. Man and R. C. Temple, published 1877) it is stated that the South Andaman tribes have the following legend as to their own origin:—"The legend concerning Chàna-elêwadi (the first woman, progenitrix of the Andamanese race) is that she came pregnant from the sea, from the north-east and landed at Dûratang, i. e. Kyd Island," (Kyd Island being on the east coast of South Andaman,) "where she gave birth to eight children at once, who in course of time separated in pairs, male and female, and became the progenitors of the present Andamanese tribes."

#### *Religion of South Andaman Tribes.*

They believe in a god, Bûlûga (I quote again from "The Lord's Prayer in South Andaman," Man and Temple) "a spirit who dwells in the sky, the creator of all things and supreme over all" (who) has existed from time immemorial, and cannot die, invisible and the cause of rain, thunder, and natural death."

They believe also in an "Evil spirit of the jungles or land," and an "Evil spirit of the sea"; and in good spirit or angels—"the spirits of the departed of both sexes" (Man, Temple.)

#### *Tribes and Dialects.*

The number of distinct Andamanese tribes is probably (Appendix to "Lord's Prayer in South Andaman language," Man, Temple) "a dozen or more, each with its own peculiar tongue;" and again in the Introduction, "These are not mere dialects of the same tongue, but are distinct languages, and a native of the North Andaman is as utterly unable to make himself understood by a native of the South Andaman, as an English peasant would be by a Russian."

#### *Marriage Ceremonies, &c.*

The account of these, and the funeral rites and a few remarks as to the way in which the Andamanese treat their sick, I give from notes very kindly supplied me by Mr. Man. I give them as nearly as possible in Mr. Man's own words; and as he had the facts directly from the Andamanese, they may be relied on as being thoroughly accurate.

"The bride sits by herself in the spinster's hut, and the Chief or other elder goes up to the bridegroom and taking him by the hand tells him that matrimony is the lot of us all, that the married state is honorable, &c. The bridegroom evinces much modesty, appears reluctant but rises and allows himself to be led by the hand to the spot where his future wife is seated. She also evinces extreme modesty, turning her face in the opposite direction, and often crying. The women then take hold of her legs and straighten them out, on which the bride-

groom is made to sit on one of her thighs. Then all the torches are lit (the marriage ceremony always being performed after dark) so that every one may see the couple thus placed.

After a while the torches are removed and the now married couple are left undisturbed. The next day they receive presents from their friends, such as bows, arrows, a canoe, pail, fishing net; and the bridegroom is ornamented with a kind of white clay by his sister, mother or other female blood relation, and the bride is also similarly ornamented by her female relations. They do *not* go elsewhere to spend their honeymoon after the marriage.

As soon as a boy (or girl) attains an age (say 8 years or so) at which he (or she) is able to provide himself with food, he works for himself and does not depend on his parents. It is the special duty of the daughter to provide the family with firewood and water, but if there is no daughter, the son does this. The son always provides the food (pig, fish, turtle, fruit, &c.) when his parents require his assistance. The females of the establishment provide shell-fish, and such small fish as are caught in hand nets."

Amongst the unmarried of both sexes,—youths, maidens, widowers and widows, "free love" in its widest acceptation is common, and is looked upon as quite right and proper. "As a rule," says Mr. Man, "an Andamanese male never marries a woman whom he has not had sexual intercourse with before marriage."

But *after* marriage, fidelity on the part of both husband and wife is the *rule*, and infidelity on the part of either husband or wife a most rare exception.

Widows are free to marry again.

#### *Funeral Rites.*

"When a man, woman, or child dies, before the body becomes rigid, the limbs are doubled up so as to make the corpse assume much the same shape as a child in its mother's womb. The head is then shaved, a white kind of clay paint and red paint are applied ornamentally to the face and person of deceased before the body is doubled up as above described. The friends and relations of deceased now "breathe" on the face and hands of the corpse (this signifying with them "good-bye"), after which it is covered over with leaves, and cane or rope tied over so that when all is complete no part of the body is visible. If deceased was a man of small consequence, or had no friends, he would probably simply be buried.

In the vast majority of cases, however, the dead are placed on "machans" (*i. e.*, raised platforms) consisting of wooden posts arranged either between branches of trees 8 to 15 feet above ground or on posts to which they (the machans) are tied for support. After placing the corpse on the "machan" (or in the case of burial, in the grave) the mourners, one after another, stoop down and "blow" on the head of the corpse. A fire is lit at the foot of the tree (or on the top of the grave), and water placed in a bamboo in case the spirit of the deceased should require it; a torch is also lit and placed

beside the burning logs. They then get cane leaves and tear them into strips and make wreaths of fringelike appearance which they tie from tree to tree round the spot where the body lies, so that if any one should pass that way, he may receive due warning and not inadvertently incur the displeasure of the departed one's spirit by breaking in on its resting place. About 3 months (more or less) after burial, the nearest male relations or friends of the deceased return to the spot, and remove the bones of deceased which they wash in the nearest water and expose to the sun and air. When clean and sweet these bones are removed to their encampment where they are divided among the principal mourners, the nearest of kin taking the skull and lower jaw.

After some time, according as the wearer wishes, he or she hands over these precious relics of the dear departed to any other who may wish for them. In this way it often happens that the bones of a deceased man of note are handed about to a great number of persons.

These bones are supposed to possess virtuous properties. In cases of sickness necklaces (which are generally made of finger bones, spine bones, &c.) are tied round the part in pain, whether this be the head, neck, chest, belly or limbs. If no benefit results from this, the sick man feels sure that he has done all that he can in the matter. Bleeding (scarifying) is also resorted to in sickness. The leaves of certain trees are also used medicinally by rubbing them between the palms and smearing the person with the pulp thus produced. These leaves are also attached to the sick man's "bôd" (the belt) and placed under and over his body when he is lying ill."

I have only a sentence or two more to add. It has been often stated that the Andamanese live for the most part on the coast.

Mr. Man assures me this is not so. The interiors of the jungle are (especially in Middle Andaman) as populous as the coast. Indeed so much is this so, that Mr. Man tells me they form two pretty distinctly marked classes—the "coast" men and the jungle men; the former versed in all sea work, expert turtle catchers, fishers &c., the latter great at pig hunting and other more purely jungle pursuits.

*(To be continued.)*

## REPORT ON EPIDEMIC FEVER IN BUXAR.

By ASSISTANT-SURGEON ONOCPOOL CHUNDER CHATTERJEE.

The severe epidemic fever which has been raging in the sub-division of Buxar is in no way different from similar epidemic fevers that have become the scourge of Lower Bengal. The only difference lies in the fact of its having appeared in a district previously healthy and situated on a higher level than the districts of Bengal.

The atmosphere gets laden with moisture in the months of autumn; and severe cases of fever having an intermittent or a remittent type that occur at this period, are distinguished by the epithet of autumnal remittents and intermittents. I believe there is no country in the world where this does not take place, and yet no sufficient explanation has been furnished of the fact. In

\* "Breathe."