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STUDIES IN SANTAL MEDICINE AND CONNECTED  
FOLKLORE.

BY

THE REV. P. O. BODDING.

PART I.

THE SANTALS AND DISEASE.



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THE SANTALS AND DISEASE.

*By* THE REV. P. O. BODDING.

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## INTRODUCTORY.

'Studies in Santal Medicine and connected Folklore' consists mainly of two parts, one treating of the medicines used by the Santals, their administration and application, and one called The Santals and Disease, dealing with the general attitude of the Santals when they have to face disease, their ideas as to the origin and causation of disease, their superstitions and fears, their various attempts to appease and satisfy the malevolent powers supposed to be responsible for disease, the professional medicine-men, especially the *ojha* and his doings, his magic and religious endeavours; it is further told, how they act when disease is thought to have become a matter of public concern. In an appendix is described, how a Santal becomes an *ojha*; a description is given of the annual village-course in *ojha*-science and of various matters connected with this; a number of songs used when this course is finished off are recorded; specimens of the *ojha*'s *mantars* and *jharnis* are also given. The table of contents will show what is found in this paper and its appendices.

There is one matter to which I should like to draw attention here. It has been touched on in the paper itself in several places and is of interest, as it may possibly contribute towards showing, how certain religious ideas may change, especially how people belonging to the stage of development found amongst the Santals may adopt and transform the beliefs and practices of others. My remarks, which shall not be many, concern the attitude of the Santals towards the spirits, *boṅga*, as they are called (the Supreme Being, differently styled and sometimes called the *boṅga* of the *boṅgas*, being here always left out of consideration).

The ordinary Santal attitude is shortly as follows: They believe in the existence of a large number of *boṅgas*, all more or less malevolent, often immoral and downright bad. They worship these *boṅgas*, that is to say, they offer sacrifices to them; they do so, not because they love them or respect them or expect anything good from them, but because they fear them. The sacrifices are a kind of tribute, or payment, to ensure the non-interference of these spirits with the Santals, with their health and their substance.

Any grown-up male Santal may perform a sacrifice, provided he knows the 'ritual,' i.e., the manner of proceeding, the invocation (*bakhēṅ*, as it is called), the kind of sacrificial animal required and the name of the *boṅga*, and provided he dares to act. No *sid* is necessary. To perform sacrifices for the community they have in every village two priests; for the annual hunt, they also have a special priest. No *sid* or initiation is necessary to become such a priest; they are really chosen by the community and appointed. In the case of the hunt-priest (*dihri*), they make sure

that he has the requisite knowledge, and in the case of one of the village priests (the *ato naeke*, the village priest, but not in the case of the *kudam naeke* whose special work is to worship the spirits, supposed to reside on the village borders, and some others) the priest is formally 'chosen' by the *boṅgas* themselves. The village people, in the case of a vacancy, go to the holy grove and call on the *boṅgas*, whereupon a man is 'possessed' (*rum*, see p. 34) by one of the spirits, and in this state goes and embraces one of those present, and in this way selects a priest. It is not called *sid*; the *boṅgas* are in this way supposed to show by whom they will be pleased to be served.

There is no special course of training to be enabled to worship, it is free to everyone who wants, and knows, so far as all private worship is concerned, apart from the public functions referred to.

They do not use any *mantars*, only invocations (*bakhēr*).

With the *ojha* the attitude seems to be considerably different. His work is confined to a particular sphere, and due allowance must be made for this.

He has to go through a course of training, and after having passed a couple of preliminary ceremonies, he has to receive a formal initiation or *sid*.

Whilst the ordinary Santal stands in fear of his *boṅgas*, the *ojha* does not show fear, whatever he may feel. So far as one can see, it would be contrary to his profession and work to fear those whose assistance he engages. His constant 'association' with his *boṅgas* may breed familiarity. The specimens of *ojha*-invocations quoted speak for themselves. There is no reverence in the *ojha*'s way of addressing his *boṅgas*; he tries to use one *boṅga* against another, appealing to the knowledge and grace of his tutelary *boṅgas*, more especially the first and original *ojha-guru*, now a *boṅga*.

On the whole the *ojha* acts as one familiar with the *boṅgas*, and as one able to enlist the use of the power of certain *boṅgas*. This is obviously foreign to the Santal mind.

The *ojha* is in supposed communication with a large number of *boṅgas* and spirits not generally known to the Santal, anyhow not invoked by the ordinary Santal. The nature of his *boṅgas* does not seem to be much different from that of the ordinary Santal ones. Hindu ideas have, however, influenced the *ojha* mind to some extent, especially when the greater Hindu deities are referred to. But it is not the holiness or righteousness of the *boṅgas* that are thought of (even if such qualities should be found); it is the power of the *boṅgas* to which they appeal, and which they try to secure for their purpose. They will appeal to the *boṅga*'s trustworthiness, and threaten or cajole them to be honest in their transaction with the *ojha*.

There are two special matters that should be mentioned, the *mantar* and the *saket*, peculiar to the *ojha*.

It has in the paper all along been taken as a matter of course, that the *ojha* has originally received his 'science' from Hindu sources, and there does not seem to be any reasonable doubt as to this. Now a faultlessly recited *mantra* is supposed to have power over the gods; the one who knows and is able to recite faultlessly a *mantra* is supposed to be able to obtain his object.

Santali *mantar* is the same word as *mantra*, and with the word the thing itself has been borrowed; but I am under the impression that the Santal *ojha's* use of his *mantars* is different from what was stated above. It is naturally necessary, that the *ojha* knows the appropriate *mantar*; but it does not seem necessary that the wording and the recitation of the *mantar* should be faultless or according to some acknowledged formula. What is considered essential seems to be a knowledge of, and the proper use of the names of the appropriate *boṅgas* and some matters connected with the disease in question. Any one knowing the Santals will here recognize a peculiar trait of theirs, their need of having to do with concrete realities.

Further, there does not seem to be any thought of a *boṅga* being compelled to do the bidding of an *ojha* by his uttering a *mantar* alone. It rather seems to be that the *ojha* stands in a particular relation to the *boṅgas* concerned and, by the *mantar* and special means, is able to enlist the assistance of these, provided the inducement is sufficient. It is a remodelling of foreign tenets to suit Santal conceptions.

The *ojha* is generally exhorted to make sure the *saket*. To the Santal, *saket* means a sacrifice vowed to a *boṅga* by an *ojha*, to be performed when the patient recovers. It is also used as an adjective, meaning the particular *boṅga* to whom the *ojha* makes such a vow, and whose assistance the *ojha* is supposed to secure. These *saket boṅgas* are many and different, invoked according to the predilection and faith of the *ojha* (see p. 64). The *saket* consequently is the power behind the scene, known to and engaged by the *ojha*, supposed to be available on certain conditions, the *ojha's* spiritual power. That the appeal is ineffective does not cause any difficulty; it is easy to find a plausible explanation.

*Saket* is not an original Santali word; I do not think one is mistaken in connecting it with Hindi *sakt*, able, powerful, *sakit* (a part. form meaning capable), comparing it with Hindi (Sanskrit) *sakti*, ability, power, etc., also the energy or active power of a deity personified as his wife. Etymologically *saket* can scarcely be the same as *sakti*; there is no reason why this word, except for the sibilant, should not in this case be reproduced in Santali; besides, a *saket boṅga* may be either male or female, so the idea of female energy does not apply. But it is not impossible that the idea mentioned of *sakti* may in some vague and unreflected way have taken hold of *ojha* imagination and transformed itself into what is actually observed. This would be in keeping with the nature of other loans.

If the supposed origin is correct, we consequently have here an example of how Santals adopt a foreign idea, and adapt this to their own system of thought and belief or superstition, so that it ultimately becomes something different from what it was or is in its own sphere.

What is said about the *saket* also applies to the *mantar*. The idea is borrowed, but what has been felt to be impossible to the Santal has been permitted to become non-essential, whilst other points have been made essential, or even added to the original idea, as mentioned above. It would be of considerable interest to know, whether a similar line of development might be found with other peoples than the

Santals, whether aboriginals or people now belonging to the lower strata of the large Hindu system, when they borrow in this way.

To sum up, so far as the 'spiritual' side of the *ojha's* work is concerned, he seems to be dealing in imitations. His attitude towards the *boṅga*-world is influenced by the ideas of those from whom he has originally borrowed.

The *ojha* is a Santal, living in his village in constant intercourse with his compatriots and, apart from his professional work, following the same pursuits as the other villagers; whilst he himself is influenced by his origin and his surroundings, he may also to some extent influence the mental vision of his fellows, on the one hand by lessening the fear of the *boṅgas* and altering the common view of these, on the other hand by assisting in turning the Santal mind away from his old *boṅgas* towards the Hindu pantheon. The influence of the *ojha* in this respect should not be overestimated, his own position or the estimation in which he is held, does not count for much; but his influence works in the direction mentioned, and it falls into line with the process of development that may be observed among the present-day Santals.

MOHULPAHARI, SANTAL PARGANAS.

22nd June, 1925.

## THE PRONUNCIATION OF SANTALI.

### Vowels :

*a* like in father.

*e* like in German *See*, or in English men.

*i* like in police or bit.

*o* like in Norw. stor or sort.

*u* like in moon or put.

*ɛ* is the open vowel, like in Engl. air.

*ɔ* is the open vowel like in Engl. law or not.

*ɑ*, a vowel sound peculiar to Santali, sounds to an English ear somewhat like *u* in hut ; it is, however, a different sound.

All vowels may be nasalized, this is shown by the circumflex (˘) above the vowel.

The consonants are pronounced as follows :

*h* like in house (never mute).

*k*, *kh*, *g*, *gh* like the corresponding gutturals in Hindi.

*ṅ* is the velar nasal, like ng in song.

*c*, *ch*, *j*, *jh* like the corresponding palatals in Hindi (practically).

*ñ* is the palatal nasal, like the Spanish *ñ*.

*v* is always the open medio-palatal fricative, like in Engl. yes.

*ṭ*, *ṭh*, *ḍ*, *ḍh*, *ṛ*, *ṛ* are the so-called cerebral sounds, pronounced very much like the corresponding Hindi ones.

*t*, *th*, *d*, *dh*, *n*, *r*, *l* like the corresponding consonants in Hindi.

*p*, *ph*, *b*, *bh*, *m* like the corresponding labials in Hindi.

*v*, *w* practically like in English.

*s* like in Engl. sink ; Santali *s* is always voiceless.

*ṛ*, *ṝ*, *ḷ*, *ḹ* are sounds peculiar to Santali, checked consonants, without the off-glide. The consonant is formed in the mouth, but checked, just as the off-glide should ordinarily come.



## THE SANTALS AND DISEASE.

By THE REV. P. O. BODDING, *Mohulpahari, Santal Parganas.*

### I.

*The general attitude. Beliefs as to life and death, God and the spirits.*

The Santals look upon illness and disease as something unnatural, and make their own deductions from this proposition.

They have an idea, perhaps never well defined, found out more by deduction than from any direct statement of theirs, that a human being has a natural right to health and life, and that consequently he ought to live to old age. Disease is something foreign and inimical to man. How is it then that all are liable to be attacked by disease and carried off by death at any time? That is the problem, also to the Santals.

On the other hand, they theoretically profess to believe, that just as man is brought into the world and given what is necessary for support by the Creator or Supreme Being, so man is also carried away by His order. God, *Tḥakur*, as He is called by the old *gurus*, "measures out to every one his seer," as they express themselves, at the time of birth (more will be found on this subject later on), and as long as this lasts, no one can take us away. The life of man is, according to this belief, predestinated by God. And man is not immortal, although his soul is believed to be so.

Now, if they acted up to this belief, the logical consequence would be, that death comes according to the will of God, and not according to the will of any other being, specially not the will of evil spirits and witches. If this is so, the next deduction might be that whatever ends in death must also be caused by God. But to this they do not agree.

They reason as follows: God is good; it is ordinarily unnecessary to worship Him, *i.e.*, to make sacrifices to Him. God is thought to be fairly well satisfied with the Santals and will not distress them, except when it may be absolutely necessary. Famine, the result of unseasonable weather (according to Santal belief, God is the giver of rain), is thus deemed to be a sign of the displeasure of the Supreme Being. This implies that man is not always good and may be punished by God. As a matter of fact, also certain diseases are considered to be the direct punishment for certain acts estimated especially sinful.

Besides in a Supreme Being the Santals also believe in a number of spirits, without exception evil and enemies of man. These *boṅgas*, as they are called, are supposed to harrass humanity, to 'eat' people (as the Santals express it), because they are hungry, displeased, hurt or envious, and this 'eating' is the devouring of the

health and substance of the person exposed to the displeasure of the spirits. These spirits may further be used by, or themselves use, the witches who are always women.

It is strange that, except in connection with the evil eye which either sex may have, men are not suspected of exercising an evil, not natural or, in a way, supernatural influence; only women. It is one of the many silent testimonies to their distrust of, but also to their acknowledgement of, the qualities and powers of woman. As is known, the Santals are not alone in this attitude.

In short, it will be understood that the Santals believe in a good power who gives life, provides the necessaries for life and allots the span of life; and in destructive, inimical powers; and that man is exposed to the action of the latter.

## II.

### *General beliefs as to the origin of disease.*

To understand the Santal attitude towards disease it is necessary to bear in mind what has just been stated. They acknowledge natural causes of illness; they cannot avoid seeing effect and immediate cause; as a rule they can also see the material nature of a disease. But there is always a suspicion that the natural cause is not the original one, but that evil influences are at work in the first instance.

If any illness or disease is of a commonly known nature and runs its course, and a person is well again within a reasonable time (*i.e.*, within a few days), they will naturally let the matter rest there and not trouble themselves further. Even if they have had suspicions, it would serve no purpose to give heed to such, and it would entail unnecessary expense, to mention only one thing, if they would move in the matter.

But if there is a recrudescence, if the disease won't cease, if it commenced suddenly and is of an unusual character, not known, or anyhow, not understood, and above all, if death ensues, the always latent suspicion will assert itself. Nature should run its course; any disturbance must be due to extraneous malevolent influence. The origin cannot be found with man, nor, except as mentioned above, with the Supreme Being (in this case not malevolent, but acknowledged as just retribution).

Even when there is an evident immediate cause, as with accidents, who knows?—there may be something behind. To take an example: it is not by one's own will that one falls down from a tree; it is legitimate to climb a tree; if one climbs a tree and tumbles down, breaking his neck, have they not seen over and over again, that such a tree has dried up and died within a year of the accident?—A sure sign that the tree has been cursed. And why? I have heard this kind of reasoning over and over again; it apparently does not enter their minds, that part of the happenings might be explained by the fact that the tree was in a decaying condition, even if there were no external signs of this.



If, to take another example, a boy accidentally kills another boy by shooting him with an arrow, there is no doubt that the arrow is the immediate cause of death; but as the one boy had no intention of hitting the other one, and as a matter of fact was aiming at something else, is there not a possibility that some inimical power had something to do with the fatal direction of the arrow? The natural cause is there, undoubtedly; but there is, according to their mind, room for something more.

In cases like those described action against anybody is excluded, except that they will take up for investigation whether the shooting boy intended to do harm or not.

Left to themselves the Santals will let a matter of this kind rest with a secret suspicion.

If their suspicion in case of disease becomes directed towards a concrete object, or if their natural affections are specially touched (as when children or grandchildren die), they will as often as not take action, and the *ojhas* will egg them on, as we shall hear further down.

### III.

*The supernatural influence. The qualities of the bongas. Medicines against all ills provided by the Creator.*

How the supernatural influence is brought into action, on this they do not much reflect. They are satisfied with the supposed fact.

As this supernatural influence is always inimical and evil, and according to their ideas, there is no possibility of the malevolent influence being turned to a benevolent or good one, the only practical question for them is, how to stop it, and, in the case of witches, how to stop and punish it.

It is believed and freely acknowledged by the Santals that the *bongas* can work only evil, and that they have no power to make good again what they have committed of evil. The only thing they can do, and the only thing that can be expected of them is, that they may be induced to cease doing mischief. It will be seen from the specimens of invocation given further on, that there is no thought of asking for positive help from these spirits.

Santals may be heard to express themselves like this: "It is not sufficient to 'make *bonga*' (*i.e.* to worship the spirits called *bonga* with animal sacrifices) in order to bring about recovery. *Bongas* and witches know how to 'eat'; they do not know how to make well. They only know how to cause distress. It is with them, as it is with us: we are able to fell a tree, but we do not know how to join the tree on to the stump and make it a living tree again. In the same way the spirits know how to fell, but not how to restore."

*Cando* (a name often used by the Santals for the Supreme Being who is confounded with *cando*, the sun), the Creator, is the only one who can give and restore life, and He has created the trees and plants that contain remedies against

all ills. He has 'sown' the seeds of these all over the earth. To bring about recovery from any disease it is necessary to find the medicine which suits or is intended for any particular disease or illness. If, to use a common expression of theirs, "medicine and disease meet one another," a patient will recover.

From their point of view this is not bad reasoning. If we were to follow up their thoughts on the different subjects here mentioned to their logical ends, we would likely be able to point out some contradictions. It will not, however, serve our present purpose to say more on this subject. What has already been said will furnish some explanation of the Santal attitude towards the matters here referred to.

As mentioned above, disease is something foreign and inimical to man. Their language shows their attitude. They will not say, as we do, that somebody catches a cold, or gets measles, etc. It is always the other way: it is the disease which catches, makes a commencement with, attacks or overpowers man.

Now we also frequently make use of similar expressions; people suffer from an attack of fever, gout, lumbago, etc. Whatever our expressions may have originally implied, we do not now combine with them thoughts of malevolent action. We should not, perhaps, put too much meaning into the Santal expressions either. One gets, however, an impression that the Santals attribute to certain diseases a kind of separate existence. One may hear them talk of somebody having gone to some place or other, and there having met with and been caught by some disease or other. How much their ideas amount to, I have not been able to fully ascertain. They do not look upon disease as a kind of spirit with a will of its own, but perhaps as a kind of concrete, localized, specific influence. Their language is to be taken more literally than we can do our own.

Like other people the Santals divide disease into several categories, besides having different names for a great number of ailments (on this subject more is written in another place).

They naturally also have the many different kinds of complaints commonly supposed to be of no consequence. The Santals treat these very much as we do. A very few hypersensitive persons are met with also among them; but the rule is to look upon such things as negligible. They do not reflect on such matters, or think that such complaints have any other than a natural explanation, provided they do not come as the commencement of some serious disease.

#### IV.

##### *Santal philosophy on bodily health.*

As among us we may hear a chill or a cold mentioned as something to be treated with respect, so the Santals think something analogous with regard to what they call *haḍi*. This is with them the name for a swelling of certain muscles of the neck and back. It is very common and is painful, but soon cured when they use their

excellent massage. They have a saying, that *hāḍi* is the *raebari* (lit. marriage broker) of disease; from *hāḍi* many kinds of disease will arise according to their belief.

I have heard a Santal give the following explanation: "Our body," he said, "is like a *kol gāḍi* (lit. a machine carriage, any vehicle propelled by an engine). This moves by the power of the engine. As long as the engine works, we can go and come as we like; because of our machinery we can stretch or bend our arms and legs. Our machinery is made up by *sirs* (by *sir* the Santals understand the muscles and sinews, the nerves, arteries and veins; if not specified, the *sir* may be any of these; generally there is an idea that blood is found in the *sir*). When any part of a machine is out of order, the machinery will not move, but stands still, until it is repaired. In the same way, if any of the *sirs* of our body gets out of order, we first feel out of sorts; we stretch ourselves and say, 'To-day I feel unwell in my body.' Some *sir* or other has been sprained or dislocated or twisted. If you get massage quickly, well and good; if not, some disease or other will commence. People say, that the blood flows along in the *sirs*, and if these are twisted or dislocated or sprained, the blood cannot flow along. And then there you are. It is mostly from the *sirs* of the back that disease arises. In the back such a lot of *sirs* meet together. One goes from the neck above the ear to the forehead; if this gets out of order, you get a headache. From the neck again another *sir* goes forward and down through the opening behind the collar-bone and into the lungs; that gives you a cough. One *sir* goes from the back below the shoulder-blade and inside; that gives *betha* (pain in the breast, pleuresy or pneumonia). Another one goes in between the ribs on the side; that gives rise to certain kinds of convulsions.

"Further, if you lift or carry anything heavy, you may suddenly feel a sharp pain in the middle of the back; you get lumbago. There is also a *sir* below the ribs, just above the hip-bone; if this gets out of order, you get spleen.

"When a *sir* gets bad, if you do not get medicine quickly, it will gradually become worse; then some day the *sir* will suddenly stand like a cord, and convulsions will 'get hold of you'; the *sir* will be drawn tight, and then your soul will depart (*i.e.* you will die, death being due to the departure of the soul from the body)."

So far the Santal "authority." It will be seen, that part of his explanations and speculations cannot be of any great antiquity; otherwise his statements fairly well represent the Santal ideas concerning these matters. I suppose, their ideas about *sir* are more or less founded on the observations of those who practise massage.

The Santals are aware that the stomach plays a great rôle with regard to health. The man cited above is responsible also for the following speculations: "People say, we have a body like a railway engine. We eat food; that is the coal. Just as they feed an engine with coal and water, so we also feed our body. We break wind; that is the smoke that gets out. What we eat, they say, first passes into the belly; there the food is diluted. If there is too little water, we feel thirsty and have to drink. Finally it all turns into the substance of rice-water, and this is turned into blood. When we sneeze, they say, this fluid is drawn up through some narrow *sir*, and as it passes through the liver and lungs, it becomes blood. The water is squeezed out

and becomes urine, and what dries uselessly becomes excrement and is expelled. In this way disease may come through the medium of food and drink."

They are aware that errors of diet will produce trouble. The Santals generally live on a vegetable diet, because they cannot afford to eat meat often. When they get meat, they may take too much, or the meat may be bad or not properly prepared, with the unavoidable result. They speak figuratively of this, saying that 'the pig has rooted him up,' 'the ram has battered him,' 'the buffalo has struck him (with his horn),' the meaning being that a person has got a disordered stomach through eating curry prepared from the kind of meat mentioned. It is, however, astonishing to observe what kind of meat and food a Santal can eat with impunity.

They are not, however, very apt at distinguishing between serious and indifferent symptoms. They may become rather exercised in their minds, when their stomachs rumble or 'sound,' as they express themselves, or when their urine becomes 'like that of a goat,' as it generally will during the hot season; but they may go with really serious complaints for a long time without paying much attention to them.

## V.

### *The tejo theory.*

The Santals have some curious ideas about several diseases being due to what they call *tejo*, by which name they ordinarily understand larvæ, worms, etc.; a *tejo* may be fairly large, but may apparently also be so small as to be invisible to the naked eye.

To give some examples: rabies they believe to be caused by some infinitely small *tejo*; they have their medicine against this disease; when giving it they admonish the patient to look at his urine. If something like oil is seen floating on the surface, they are sure the *tejos* have come out; the patient is out of danger.

People are supposed to have two *tejos* at the root of their nose. If these work their way up into the brain in the forehead and commence to butt one another, the person gets an attack of epilepsy.

Caries of the teeth is caused by *tejos* which are 'demonstrated,' when they endeavour to smoke them out. The proceeding is described elsewhere.

Leprosy and cancer of the jaw are caused by some specific *tejos*. Indeed, our whole body is supposed to be full of *tejos* of sorts. If you feel the need of scratching yourself, it is because *tejos* are eating you. There are the *tejos* of scabies, ring-worm, eczema, and so on.

With such ideas one might think that they should be more understanding than they really are as to infection. They are, of course, aware of the contagious nature of some skin diseases, of the venereal diseases, and to a certain extent also of the infectiousness of epidemic diseases; but their views with regard to most other infectious diseases are hazy.

The following description given by a Santal will give some idea of their beliefs in certain cases: "If any one eats oneself full, or eats without measure, cholera is apt to ensue. When a person has overeaten himself, he gets pain in the stomach; the food is not digested; there are eructations, and the stomach rumbles, and he passes stools incessantly; sometimes this will empty him out and finish him. Now his stools will dry up; when this takes place, a kind of vapour arises from the place; if any one goes there and inhales this vapour, the disease will get into his body, and so you have it in the country."

They have also an idea that stools of such and like patients may dry up and lie innocuous anywhere; but when the rains come, the dry stuff becomes fresh again and is carried along by the water; if any one drinks such water or bathes in it, he is sure to get the disease. Cholera may also come, they say, from eating new (fresh) grain.

As already mentioned, the Santals believe that leprosy is caused by a *tejo*; some, however, say that this disease and paralysis (hemiplegia) are the direct punishment by the Creator for some unrighteousness committed before Him, and that they consequently are incurable. Leprosy is, moreover, passed from parents to children for generations. But infection, they say, may be avoided, if one does not eat food touched or left by the leper.

Tuberculosis, they say, runs in the families; they do not, however, understand the nature of this disease, so they do not take any measures that might help to check its spreading.

In connection with many different diseases and infirmities they have theories of a gross superstitious nature. As it would necessitate going into a number of details, we shall not here make any lengthy mention of these.

They have a superstition that witches every year go to a place called *Kundli pukhri*<sup>1</sup>; from this tank they bring back with them the germs of certain diseases, specially epidemic ones, and in accordance with what they bring any year the people will have to suffer.

They further believe that a certain kind of pain in the back (lumbago) is caused by direct witch-action (the same belief must have been common in certain parts of Europe, to judge from the name given to the same complaint, cf. Norwegian 'hexeskud,' lit. witch-shot). They also believe, that witches cut out and eat the liver of people, whereby these get some disease or other, not by any means always, or even generally, in the liver; from such disease no one will recover, if the witch is not forced to make restitution.

Other ideas are, that people mostly get disease through carelessness with their body. If we eat anything in an unclean way, we get into trouble. Mist and fog cause

<sup>1</sup> *Kundli pukhri*, lit. the Ring tank, is in these parts reported to be somewhere to the north-east. The Santa witches do not, like their European 'sisters,' travel riding on broomsticks, which are unknown, but go along sitting on the branches of the pipol tree (*Ficus religiosa*, L.), or, as some tell, in a *mathom* tree (the *mahua*, *Bassia latifolia*, Roxb.); at their behest the tree rises up into the air and flies along with the witches. One tree is supposed to be sufficient for a large number of them.

cough, and bathing in dirty water when the first rain falls, gives rise to ophthalmia, and so on.

On the whole, sense and superstition are curiously mixed up together, with a premium on superstition.

## VI.

*The Stamina of the Santals. Influence of fear and supposed calls from the other world. Optimism and despair.*

Before commencing to describe the attitude of the Santals during illness and disease, there are a few matters that might be conveniently mentioned here.

First as to their physical strength. They are accustomed to a life of exposure and many privations; they are from childhood inured to hardship. So long as they can go about their daily work without serious hindrance, they do not think it necessary to make any fuss. I should say, they act very much as a good many of us would do.

Whilst they are apparently able to bear up for a long time against disease, one is often surprised to see, how little is required to take them off.

A Santal may be seen sitting, right up to the time of death; they make use of the expression 'to sit down to die,' equivalent to what we would call to be lying on one's death bed. I have actually seen a man sitting on his bed *in extremis* a few minutes before death. It might be remarked, that I have never heard such behaviour having anything to do with the superstition found among certain other peoples, that if one lies down, it means that one throws up the sponge.

Some may pull through the most serious diseases; others get a little fever and 'a little headache,' and die in a very short time, according to Santal ideas, without sufficient or reasonable cause.

This apparent lack of stamina may be caused by lack of proper nutrition, something very common with them; but it may perhaps also have something to do with their mind. It is sometimes quite patent that they give up fighting for existence; they make up their mind that they are going to die—and die. The cause may be self-suggestion; they have been frightened; they are sure that they have been exposed to the deadly enmity of witches, or they believe that they have run foul of *boingas*. It is not so astonishing, as it may seem at first sight; their lack of knowledge and a proper estimation of the natural causes of disease will easily lead them to exaggerate or to admit the thought and conviction of evil spirits being at work.

They may sometimes believe, that they have got a call from the other world, and start on the long journey, often at a previously specified time. Any one who has had to do with the Santals will have met with, or heard of, examples of this kind. These phenomena are of considerable psychological interest. One may be tempted to think, that their simple minds are in nearer contact with nature, than ours are.

The Santals may be optimistic with regard to illness, or more or less careless, until they think it is serious. If they do not get the idea that supernatural powers

are at work, it will, as a rule, as already mentioned, take a lot to make them believe that something really serious is the matter with them.

This should not, however, be taken as meaning that they do not care what happens. If their children are ill, they will watch over them constantly, and will often leave everything, even most necessary work, to attend to those who suffer. It is a pitiful sight to see them, when they come and sit round the bed of a relative, in despair and hopelessness, especially when they harbour suspicions that evil spirits or witches are at work. The behaviour of the frightened and hopeless surroundings must affect the patient very seriously.

The carelessness mentioned is probably mostly due to a lack of knowledge of the real nature of the complaint, combined with an idea that there is no hurry. One may find among them any number of neglected cases, often serious and even hopeless, where it might have been easy to help, if they had come in time for proper medical aid.

## VII.

### *First attitude on being faced by disease. The medicine-man and the ojha.*

We shall then proceed to see how a Santal generally acts when faced by illness and disease.

When somebody in a family falls ill,—if it is not something unquestionably of a serious nature which demands immediate assistance by a ‘doctor,’—they will not as a rule call in a medicine-man at once. They prefer to wait and see how it will go. There is the question of expense and bother, although this is not permitted to play any large rôle with them, if any rôle at all, in case of disease. They have also an idea, that they should let the disease ‘become tired,’ as they express themselves, exhaust itself, so to say.

In the meantime the people of the house will apply the household remedies, *sekao*, and *iskir*, and if the nature of the complaint seems to call for such, then *tobak* and *soso*. The nature and the manner of application of these remedies have been described in the Introductory remarks to the paper on Santal Medicine (sect. IX) to which the reader is referred.

As a rule the average Santal ‘knows’ one or more of what they call *rehet van*, lit. ‘root-medicine,’ and the responsible head of the household will, if he thinks it will answer, try to make use of his knowledge, or, may be, some friend or relative may, in a friendly and unprofessional way, be able to assist.

If, however, the disease is of a pronounced nature, or does not give way to the household remedies, or if it does not stop of itself in a few days, they will call in a ‘doctor,’ a medicine-man or an *ojha*, from the village, or the neighbourhood.

Both these are ‘physicians,’ the difference between them being, that the first named gives only medicine, whilst the *ojha* in addition to giving medicine, or rather previous to the administration of it, will try to drive away the disease by magic, incantations, etc., *i.e.* by the assistance of his special *bonngas* whom he knows how to

make to work; the *ojha* professes to know how to find out and deal with the possible supernatural powers at work. The last mentioned abilities are the qualifications on which the *ojha* rests his claims as a 'physician,' just as much as, or perhaps more than, on anything else.

Among the medicine-men there may sometimes be found persons with a natural gift for 'medical' work, and with quite a remarkable amount of knowledge of medicinal plants, etc.

The Santal name for this kind of 'doctor' is *raranic*, one who administers *ran*, their name for medicine, a Santali word. Sometimes, specially in more recent time, one hears them called *kubraj*, the Santal way of pronouncing *kaviraj* or the Bengali কবিরাজ. This is perhaps thought to be much grander.

There are, of course, no 'schools' for them; any one having an inclination for such work must try to acquire wherever possible whatever knowledge he may be able to pick up. Any one wishing to learn will arrange to follow and learn from some known *raranic*. It might be mentioned, that many Santals seem to take an interest in 'medicine.'

The *ojha* requires to be mentioned somewhat more fully.

First as to the name used: *ojha* is a Hindi word (ओझा); in Hindi it is used for 'a diviner, soothsayer, sorcerer, wizard, enchanter, conjurer, exorcist, magician;—one who pretends to cast out evil spirits, to cure snake-bite, etc., by means of charms and incantations' (Platts, Dictionary of Urdu, Classical Hindi and English). The word is derived from the Sanskrit उपाध्याय, a sub-teacher who instructs in a part only of the Veda,—a spiritual teacher, a teacher in general (Monier Williams, Sanskrit Dictionary.) The old idea of deriving the word from Hindi *ojh*, entrails, comparing *ojha* with the Latin *haruspex*, is likely abandoned. There does not seem to be any foundation for such a construction in Indian practice.

As the name is Hindi and undoubtedly adopted by the Santals from Hindi-speaking peoples, and as the work of a Santal *ojha* in nature partly resembles that of the Hindu *ojha*, it is most probable that they have received the 'institution' also from the Hindus. Incidentally it might be mentioned, that the special *bonngas* invoked by the Santal *ojhas* all have names of Hindi origin (in addition to their special *bonngas* they also invoke the common Santal godlings). Although, taking all circumstances into consideration, this cannot be said to be conclusive proof, it goes far towards making the here mentioned supposition probable.

A comparison between the Santal *ojha* and his Hindu confrère, as he lives in his village at the present day, might be interesting, but cannot be given here. Much of the practices of the Santal *ojha* seems to be essentially outside the Hindu fold. On the other hand the *ojha's* special *bonngas* seem to be of a nature somewhat different from that of the ordinary Santal *bonngas*.



## VIII.

*More about the ojha.*

As mentioned in Appendix II, the Santals themselves have a tradition that they have learnt to be *ojhas* from a personage called *Kāmburu* or *Kāmru guru*, probably a Hindu, whether he was a person so named, or, as is possible, a man from Kamrup. There is no cause whatever to doubt the correctness of their statement that they have learnt this 'craft' from an outsider, only as already pointed out, this should not be taken to mean, that Santal *ojhas* and Hindu ditto are, at the present time, or for that matter have ever been, the same.

A Santal *ojha* is supposed to be able to perform certain things that are outside the knowledge and power of ordinary people. These things are mainly six, according to the Santal traditions as told by *Kolean guru*, viz. :

- (1) To consult the oracle, or, divination by leaves and oil (described later on, see Sec. X).
- (2) To 'sow' rice (described Sec. XII, *adwa caole* and *bul māyām*).
- (3) To make disease gather at one point of the body and to get the evil out by biting and sucking (see Appendix I).
- (4) To remove *bongas*, or rather their symbols, by digging (see below Sec. XVI).
- (5) To exorcise *bongas* (described below, Sec. XVI).
- (6) To administer medicine.

To this should be added that the *ojha* is also able to perform sacrifices, when required, and that he knows the necessary *mantars* and *jhārnīs* and how to use these (see below, and Appendix I).

To become an *ojha* it is necessary to become a disciple with such a one, to learn from him the different *mantars*, *jhārnīs* and invocations, formulæ, songs, etc., that have to be used at the different occasions, and also to learn the medicines and their application. When his course is thought completed, the disciple asks the old *ojha* for, and receives, what is called *sid*, the final touch or initiation.

There are at the courses mentioned two classes of disciples, some (and these are by far the majority) who only learn some *mantars* and songs, so as to be able to go the rounds and beg Indian corn in the villages at the time of the *Dasāc porob*, the Santal name for the Durga festival; and a few others who take up *ojha*-work as a serious business. These last ones ask for and receive the *sid*, the others not.

In Appendix I there will be found a description of the Santal *ojha*, how he is taught and initiated, and how he works his magic, a number of things that cannot conveniently find a place in this part of the paper.

With regard to the *ojha* and the medicine-men it may in a general way be said that, so far as medical knowledge and skill are concerned, they are about equal. Among the medicine-men are found perhaps the best; they are generally honest according

to their lights and have a strong belief in their craft. Among the *ojhas* many are rank humbugs; perhaps an even stronger expression might fit them better.

Whenever these *ojhas* are unable to effect a cure, the bad result is not, of course, due to their own lack of ability, or the insufficiency of their remedies. The responsibility is elsewhere, with the powers behind the scenes. The 'eaters' (that is to say the destructive powers, whether they are *bongas* or witches) have gained the upper hand, the *ojha* will say, and he considers himself free from all responsibility.

Sometimes they may very likely believe that they have not been able to appease the malevolent powers; but very often they play on this string to make money and also to get some good food. The spirits are appeased through sacrifices; the *ojha* will perform these or, at least, participate in them, and consequently get his portion of the flesh of the sacrificed animals and of the perquisites. It is thus in a double way to the *ojha's* interest to bring the supernatural in: they are relieved of responsibility, and benefit by the sacrifices.

All honour is due to those who try to do their best according to their lights. An up-to-date physician and surgeon can do very much that a Santal *ojha* would never dream of being able to do; but there is also very much that no modern doctor is able to do, any more than an *ojha*. The criticism of the *ojha* comes rightly in where he acts as a humbug.

## IX.

### *The ojha commences.*

After this description of the professional we shall come to his work. When an *ojha* or medicine-man is called in, he will act more or less as he, according to his lights and the rules of his profession, ought to do. He will start with asking the messenger calling him, and then the head of the household, or the person responsible, about the patient, to get a general idea of the state of matters, and also to get an inkling of the opinion of all concerned as to the nature and cause of the complaint. He will enquire how long the patient has suffered, and also whether other *ojhas* have been called in.

They will tell him what they have done, and say that they have tried to apply what they know themselves; but that they as this had no effect have called him, the professional, in. The *ojha* is careful all along to act, not as one who seeks employment, although he indirectly does all he can to persuade the people concerned to engage one of his craft. He endeavours to make it look, as if he undertakes the task only after much imploring and persuasion.

After these preliminaries the *ojha* will approach the patient, question him, look at his face and tell him to put out his tongue. Thereupon he will sit down on his haunches beside the sufferer snapping the ground several times with his fingers, preparatory to feeling his pulse, first of the right hand, then of the left. Whilst he with one hand (the index finger) feels the pulse at the wrist, he takes loosely hold of

the fingers with his other hand, all along exhibiting an attitude of the most profound attention and thought. While feeling the pulse he must not let himself be distracted, and therefore looks down and away from the patient. It is meant to be impressive and solemn.

The *ojha* can make much more out of the pulse than his European confrère will ever be able to do. He has no watch to count by and has no certain knowledge of the nature of the blood circulation; but this, of course, is no impediment; on the contrary it leaves him a good deal more latitude. I have heard it told that some *ojhas* can distinguish as many as 23 different kinds of pulse in each of the arms, and if the *ojha* is at the top of his profession, he is expected to know from the pulse, what ails the patient, where the seat of his complaint is, and so on.

If, according to their idea, the pulse comes towards the thumb or the index finger, it is a sign, that *boṅgas*, the *oraḱ boṅga* (that is, the house *boṅga*) or some of the other *boṅgas* are at work (are 'hungry,' as it is called). If the pulse comes towards the middle finger, the *abge boṅga* (a kind of tutelary, but rather uncertain and feared *boṅga*) is 'hungry'; if towards the ring or little finger, a spirit of the field or of the village outskirts is at work. The pulse is further supposed to reveal, whether the complaint is due to 'sudden fright', to inflammation, to poison, and so on.

Having felt the pulse, the *ojha* will come away from the patient to be questioned by the people of the house. He will tell them that the complaint will likely take some time to run its course, will urge them to get hold of some *ojha*, and not on any account to delay taking the necessary steps, until the patient becomes so weak that no *ojha* will be able to do anything. Besides, an *ojha* may, by exercising his specific knowledge and powers, be able to drive away the trouble immediately. In any case, to start with a complaint, he tells them, may be nothing more than a local thing or some muscular pain; but, he explains, a small and insignificant thing may become anything and grow into the most formidable disease.

The head of the house, or the person responsible, will, of course, tell the *ojha* that they have called him in to avail themselves of his services; the lady of the house chimes in and implores the *ojha* to do his best. He need have no fear; they will provide him with the necessary fowls and animals for sacrifices, without fail. The *ojha* gets what he wants, an unqualified assertion that he is engaged, and commences to act.

The preliminaries will not always be so many and circumstantial as those just described; often the *ojha* starts work without any further prelude. But according to what the writer has been told, the dignity of the 'profession' should really demand something of the kind described.

The first thing an *ojha*, after the preliminaries mentioned and after having 'diagnosed' the case, will do, is to try to drive away the complaint or disease by uttering a *mantar*, as they call it (a kind of magic formula), or singing a *jharmi* over the patient. These, which differ according to disease, will be found described in Appendix I. Having finished the *mantar* (it is always very short) the *ojha* blows over the patient, commencing at the head and finishing downwards and towards

the back. This blowing comes immediately at the end and as the finishing touch of the *mantar*. A *mantar* followed by blowing is never repeated. If once is of no help, it is useless to try again.

In certain cases (principally when the case is due to poison, as in cases of snake-bite, or when a person has been bitten or touched by some snake, lizard, frog, etc., supposed to be poisonous, further when the patient suffers from convulsions, giddiness, has swooned off, in cases of pneumonia and some other complaints) in addition to, or instead of, uttering a *mantar*, they practise what is called *jhay*. The patient is kept lying down, ornaments, as e.g. earrings, necklaces, armlets, anklets, etc., are taken off, the *dora*, a string always worn round the waist by men, is cut off, the hair-top of a woman (or of a man, if he wears one) is loosened, everything is removed that is artificial or foreign to nature and might act as a hindrance; in cases of snake-bite the person is put on his back on the ground naked, so that there is nothing between him and the earth, and with only just enough cloth to cover the middle part of the body in front.

The *ojha* now takes in his left hand a feather of the adjutant bird, a peacock feather or a straw or two of a broom (in these cases the broom must have been made of *sirom*, *Andropogon muricatus*, Retz., or *saparom*, *Nyctanthus arbor-tristis*, L.), and moving this just above or just touching the body of the patient from the head downwards towards the fingers or extremities, he sings a kind of *mantar*. It may be the same words as the spoken *mantar*; generally the words are different. This 'song' is called *jhayni*. The *jhayni* itself is not sung more than once, but the *jhay* with the melody whistled is sometimes repeated.

The general contents of both the *mantar* and the *jhayni* are apparently an attempt at pacifying, or commanding the disease (or whatever may be supposed to be behind) to cease or to come out of the patient. The whole is a rigmarole, enumerating supposed possible causes, etc., with few exceptions ending in a reference to *Kamru guru* or some other *guru* or godling, by whose authority and with whose power the *ojha* is supposed to act. Whatever may be their personal convictions the *ojhas* act, as if they have an implicit belief in the magical power of the *mantar* and the *jhayni*, the words of which they often do not understand, perhaps one reason for belief in their efficacy. It does not trouble them, that they are never effective; the cause of this is, as mentioned, found with the powers behind.

*Mantar*, *jhay* and *jhayni* are Hindi words; the *mantar* is generally in some corrupt Bihari or Bengali, sometimes with some Santali interspersed; the *jhayni* is sometimes in a kind of Santali. As already mentioned, the Santal *ojha* generally has only a very limited understanding of the contents, and on account of his lack of knowledge of the language in question, the language of the *mantar* or *jhayni* used is often very far from correct. One might, taking all into consideration, think oneself justified in supposing that the whole method has been originally borrowed from the Hindus.<sup>1</sup>

<sup>1</sup> The writer has sometimes been wondering, whether the practice of *jhay* might possibly originally have had some thing to do with hypnotism, that is to say, whether the present practitioners might, through any number of intermediary

It was forgotten to mention above that the *jhay* is also concluded by blowing over the patient treated. The idea seems to be that the personality, or the life principle, of the *ojha*, as represented by blowing, or of those he represents through his invocations, etc., is thought strong enough to drive the foreign influence away, or something similar. In this connection cf. the supposed vitiating influence of one's breath, kept back during the application of certain medicines. In this case the natural breath of a person will interfere with the effect of the 'medicine'; it is obviously different with the *ojha* whose personality is not supposed to be antagonistic. Cf. also the common practice of blowing into the ears, etc., of persons fainting or believed dying.

After this digression we return to the doings of the *ojha*.

When the *mantar*, or *jhay*, or both, have no effect, as they naturally never have in cases of disease, the next thing the *ojha* will do is to call for some *sal* leaves and a little oil, to perform what is called *sunum boṅga* or *khayī* (or *khayī maṭi*). He is by this means to verify the correctness of his diagnosis, arrived at by feeling the pulse, or otherwise, and more especially to ascertain the ultimate cause and origin of the disease, if at all necessary. This process will be found described in detail below.

When this is done he will give what he considers the necessary instructions with regard to food and treatment, and himself bring or order to be brought the ingredients wanted for the medicines he is going to give, and will then administer these according to his custom and knowledge. This part of an *ojha*'s or medicine-man's work is treated of in detail in the part of the present work called 'Santal Medicine,' to which the reader is referred for information on this point.

It is perhaps unnecessary to mention that the *ojha* is careful not to let other people know all the secrets of his profession, for instance, not all the ingredients of his medicines.

The *ojha* is optimistic; to be so is one of his tenets. He knows how important it is that a doctor should be cheerful. Except in obviously hopeless cases he will announce that there is no need of anxiety or fear; he will cure the patient in the course of a few days.

If this does not come about, it must not be acknowledged that the remedies of the *ojha* are at fault. He guards himself against being judged incompetent by always presupposing the possibilities of inimical and malevolent powers behind the scene. The blame rests anywhere else than with the *ojha*.

As elsewhere remarked, the Santals expect a speedy cure. If the case develops favourably, it is all right; if not, it will not be long before they will find it necessary

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links, have received something, the nature and proper practice of which they have never known or understood, but which originally was some kind of hypnotic passes or the like. I do not know, but I should not wonder to learn that some form of hypnotism has been known in old India. If this should be so, one might possibly think that persons having knowledge of hypnotism may have attempted to use their knowledge to counteract the collapse so frequently supervening, e.g., in cases of real or supposed snake-bite, and often due to sheer fear. There are examples of persons having died in the course of a couple of hours after having been bitten or touched by absolutely harmless lizards from a collapse due to fright. It is possibly a wild idea; but it is difficult to get any satisfactory explanation of how anything like *jhay* should have come to the Santals, or be practised by them.

to call in some other *ojha*. On the whole, the people will take a generous view of the *ojha*. They may doubt his ability, and whether through his means 'medicine and disease have met.' But it is probably more his ability to appease the *boṅgas* that they will doubt.

Whilst the *ojha* acts as stated, the medicine-man will take a similar course, that is to say, he will feel the pulse and do all he knows to diagnose the case, he will give instructions as to treatment and prescribe or himself prepare medicines, very much like the *ojha*; but being only a medicine-man and not an exorcist of spirits he confines himself to the remedies of nature, omitting all dealings with the supernatural.

The ideas in vogue among the people being what they are, it is not strange that the people themselves generally want an *ojha*; they want to make sure against all possibilities. They will think it wise, perhaps a necessary precaution, to have sacrifices performed to appease the supernatural powers, and to have the powerful assistance of the *ojha*'s special *boṅgas*.

I have heard of otherwise really sensible medicine-men who had a fair knowledge of Santal medicine and used their knowledge according to their best ability, and did not care to mix themselves up in performing sacrifices and so on, but who were forced by the superstitions of their clientèle to add *boṅga*-worship to their medical practice, partly not to lose this, partly to keep their patients at ease. It is quite an interesting phenomenon to observe, how the parties in question influence one another.

One gets the impression that the *ravanko*, *i.e.*, the medicine-men, are honest according to their lights and abilities, and really know more than the *ojha* whose work may be more or less spoiled by his double activities.

## X.

### *Divination by leaves described.*

Before proceeding further we shall hear how the divination by leaves is performed. It plays a rather important rôle with the Santals when they wish to find out the final cause or origin of disease and death. As already mentioned, the Santals call this process *sunum boṅga* (lit. oil offering), or *khari* or *khari maṭi* (lit. chalk earth).

To perform this the *ojha* needs some leaves, the leaves nearly always used being those of the *sal* tree (*Shorea robusta*, Gärtn.); but also the leaves of *Bauhinia Vahlii*, W. and A., are thus used. Besides he needs a little (mustard) oil and a little water. The ingredients are always brought by the person who engages the services of the *ojha*.

Having received the leaves and the oil (in a leaf-cup) and the water the *ojha* sits down on his haunches, facing any direction, a little away from those who have asked him to 'divine,' not further, however, than so that his every act may be observed.

He first jerks his head a couple of times upwards to the right side. Thereupon he dips his right-hand index-finger in the oil, and filliping sprinkles a few drops about, more specially in the direction of the sun. Then he puts a mark of oil on the ground with the same finger, this last being for *Dharti mac* (lit. earth mother, a goddess not otherwise much recognized by the Santals and not worshipped by others than *ojhas*, a sign that the here described proceedings are not of unmixed Santal origin. *Dharti mac* or only *mac* seems to be mixed up with *Kali* sometimes).

The *ojha* now takes the *sal* leaves and looks first at the one, then at the other with an intense look, keeping them high up. The rib of the leaves may be torn off, and the two leaves are often folded and creased, so as to make marks across the surface. This assists in localizing, as will be seen.

On one of the leaves he now commences to put oil-marks. A *sal* leaf has a number of strong ribs or veins, dividing the surface into a number of 'compartments.' In separate places the *ojha* with his right-hand index- or middle-finger puts a drop of oil, saying at the same time, what each oil-mark is to stand for, *viz.*, the supposed possible cause or origin of the patient's disease or trouble.

The possibilities are supposed to be found among four classes: natural causes, human beings, *boingas*, and the Ancestors.

The natural causes are mostly counted into two headings, natural disease and *disom duk*, *i.e.*, an epidemic with high mortality; *disom duk* is mentioned elsewhere in the Introductory Remarks to the Santal Medicine to which the reader is referred; *disom duk* is somewhat doubtful as to its natural or other origin, hence it is kept separate for possible later investigation.

The human beings who cause disease are the witches, and as every woman is considered a potential witch, separate marks are put down for the women of the household of the patient, of the wife's father's household, and of the wife's mother's original household. Individual beings are not sought for at this stage, only the household in which a possible witch may be found. A mark, or several, may also be put down for the village households.

The *boingas* are several; the most commonly suspected are the family *boinga* of the patient, or of his wife's father (if the patient is a grown-up and married person), the *sima boinga* (the spirit of the village boundary), the *boingas* supposed to reside outside the village, those invoked in the rice-fields and on the threshing-floor; on the whole *boingas* who have a reputation for being particular, exacting, easily hurt, and for being specially malevolent.

The fourth class consists of the forefathers, *hapramko*. They might be classified as *boingas*; there is, however, a decided difference, to mention one thing, sacrifices to *boingas* are performed by beheading the sacrificial animal, whilst to the *hapramko* it is always done by a stroke of an axe-head on the neck. The Ancestors are seldom brought in, perhaps mostly when the *ojha* has a suspicion that some recently dead person in the family may have a grudge of some kind.

The *ojha* in this way puts marks here and there on the leaf, at the same time muttering to himself, that this is for such and that for such, and a third for something

else, and so on, whereupon he commences to rub each mark in with his finger. This should be particularly noted, because here the *ojha* has an opportunity of using his 'art' and discretion. It is not wholly accidental when this or that cause is finally shown up.

Whilst rubbing in the oil as described, the *ojha* mutters the following *mantar* or incantation: *Tel tel, rac tel, man tel, kusum tel, kocrak tel, arṇḍik tel, bherṇḍak tel, rac rui tel, i tel porhaete ki utho? aṇ utho, bhut utho, jugin utho, bis utho: ke porhez guru porhe; guru giā, mac porhe, porhasre kahri giā, Kāmru guru dohaere dohae porhe.*

The meaning of this rigmarole is about as follows: 'Oil oil, mustard oil, *man* oil (oil from some kind of mustard seed), *kusum* oil (from the seeds of *Schleichera trijuga*, L.; the Santali name of the tree is *baru*), *kocrak* oil (from the seeds of the *mohua* tree, *Bassia latifolia*, Roxb.; the name of the tree is in Santali *matkom*, of the fruit *kūṇḍi*, hence also of the oil in Santali *kūṇḍi* oil), castor oil (the name of the tree, *Ricinus communis*, L. used by the Santals is *eraḍom*), *bherṇḍak* oil (oil of *Jatropha curcas*, L., in Santali generally called *bherṇḍa*), *rac rui* oil (meaning uncertain, *rac* is mustard, *rui* is the cotton of the *Bombax malabaricum*, D.C.; the expression is possibly meant to give a general name for oils expressed by the Hindu *tili* caste, an explanation offered by Santals), this oil reading over (or, to read), what will appear? a witch may appear, a *jugin* (female demon, sorceress or witch) may appear, an imp may appear (*bhut* in Santali is supposed to be the spirit of a child, dead before getting a name, or before birth; it may be something a little different here), poison may appear; who reads? the *guru* reads, the *guru's* knowledge (*giā* is possibly a corruption of *gyan*, a form, in Santali pronounced *gan*, that is also sometimes heard; another explanation heard is that *giā* is the same as *agya*, command, order), *mac* (see above, perhaps a name for *Kali*) reads, do read (or, reads, as the word is also heard pronounced *porhe siri*), by *Kahri's* knowledge; by *Kāmru guru's* grace, grace he reads.'<sup>1</sup>

The *mantar* is finished off by the *ojha* blowing on the leaf. Having muttered the *mantar* the *ojha* takes the other leaf and places this on the top of the one marked with oil, nips off the tips and presses the two leaves together and rubs them against one another. He salutes the leaves and mutters a fresh *mantar*, of which the follow-

<sup>1</sup> The translation of this and other *mantars* reproduced is as literal as possible, but always in accordance with the ideas the Santals themselves combine with the words; the text is, however, often obscure. I might mention that I have not succeeded in finding any Santal, *ojha* or others, able to explain certain words and phrases in these formulæ. They simply state that they are repeating what they have learnt from their *gurus*. That the text is corrupted from what it may have originally been, is only what may be expected. On the one hand these *mantars* are in a language foreign to, and not always understood by a Santal; on the other hand the method of teaching is far from perfect. The writer has heard several *ojhas* reeling off these *mantars*, and it has been very difficult to make out exactly what was said. The words come tumbling on the top of one another, reeled off in a great hurry, spoken, not freely, but with head bent, muttered into the clothes, indistinctly. If the *mantars* are pronounced in a similar way, when the *ojha* disciples learn, it will not be strange, if they do not catch all that is spoken; it must be difficult for them to get the words correctly. It must also be difficult for the *ojha guru* to hear whether the disciples repeat his wording correctly. The experience of the writer has been, that the *ojhas* have difficulty in remembering the words of a *mantar* or *ṣaṇṇi*, if they are to be pronounced fairly slowly; in such cases they are liable to leave out several words and are often unable to say how it should be; they have to start the rigmarole again from the beginning and reel it off at top speed to get all properly out. This is, of course, a phenomenon not unknown with people who cram without understanding or reflecting on the meaning. It is naturally not the sense of it that interests, but its supposed inherent magic. The meaning of *Kahri* is obscure. See below, Appendix I, p. 48, footnote 2.



ing is a sample : *Pat pat, sal pat, cihūr pat, bhelar pat, ki ki uthe ? dan uthe, jugin uthe, dhargay uthe, debta uthe ; ke dekhe ? guru dekhe, dekhase uthas.*

Translated it runs something like this : 'Leaf leaf, *sal* leaf, *cihūr* leaf (here is meant the leaf of *Bauhinia Vahlia*, I am informed, and not of what the Santals call *cihūr*, *Spatholobus Roxburghii*, Benth.), *bhela* leaf (leaf of what the Santals call *soso*, *Semecarpus anacardium*, L.) : what, what appears ? A witch may appear, a female demon may appear, some demon may appear, some godling may appear ; who sees ? the *guru* sees ; let yourself be seen, come out.'

Making a fresh obeisance to the leaves he puts them for a short while on the ground ; he just presses them down and leaves them there ; if there is any wind, he puts a small clod of earth or a small stone on top to prevent the leaves being blown away. Then again saluting the leaves he picks them up and keeps them like a shield for a moment up against the sun or sky, whereupon he removes the covering leaf and proceeds to investigate the result, which is judged according to the way in which the oil spots are found in the different parts of the leaf marked off as mentioned above. In one place the oil may look like a ring, in another there is a streak, and so on.

Above is a description of the practice followed by most *ojhas*. There are, as might be expected, variations in detail. The *mantars* may differ a little, and the whole may be a little more or a little less circumstantial.

Some *ojhas* are in the habit of offering a short invocation (*bakhēr*), before the leaves are taken up for inspection, this to secure the benevolence of those invoked. This *bakhēr* (nearly all of it in Santali) runs somewhat like this : *Johar tobē, am Siū bongā ar Dharti mac, eṇḍekhan nui hoj cel lekate nārā pīrīn nam akal, niage acarke, bicarkeape, dud ke dud, paṇi ke paṇi, Gosāe bapu Thakur tū do.*'

Translated this means : 'Hail then, thou *Siū bongā* (lit. day-spirit, i.e., the sun, often confounded with the Supreme Being) and *Dharti mac* (see above) : now then, how this person has acquired this troubling matter may you (it might be noted that the plural is used, and not the dual, as might be expected) judge and settle, milk for milk, water for water, *Gosāe bapu Thakur tū do.*'<sup>1</sup>

Another form of the invocation may be translated as follows : 'Hail then, thou *Siū bongā*, I am offering oil in the name of so and so. If it is to be true, let the true show up. Do not let anything false show up.'

This last to some extent reminds one of certain oaths taken by the Santals, when the Supreme Being is invoked to be a witness to the truth.

As already remarked, these invocations are not always, or even frequently used.

Before leaving this matter it might be mentioned that the *mantar* '*Tel, tel, etc.*'

<sup>1</sup> The last words, sometimes omitting *gosāe*, are a stereotype ending of nearly every Santal *bakhēr* or invocation, addressed to the *bongas*. It is an address. *Gosāe* is the Hindi word and is borrowed from the Hindus ; the Santals have a female deity, worshipped in their 'holy' groves, called *Gosāe cā*, *Gosāe's* wife. *Bapu* is rustic Bengali for 'father' ; *Thakur* is a word met with in late Sanskrit, likely of Sanskrit origin, used by the Santals, specially by their *gurus*, as their name for God. *Tū* means 'mine', *do* is a particle not generally translatable. The whole might thus be rendered : 'Lord, Father, my God.'

or something like it, sometimes is 'read' over oil in a leaf-cup, when the oil is to be used as an embrocation. This is called *sunum payhao*, to 'read' oil.

When in the *mantars* so many different names of oils and leaves, etc., are used, it may be explained by a wish to have any possibly used kind of oil mentioned. Only one kind is used at the time, but there is no objection to any kind of oil. If the particular kind used should not be mentioned in the *mantar*, the magic would be spoilt.

In addition to the above described *sunum boŋga* the *ojha* will sometimes make use of the following means to ascertain the nature of the disease and the name of the *boŋga* who is making mischief.

Sitting down he makes, with a twig or the handle end of a *srom* broom, three long lines on the ground, drawing a number of short lines across the three long ones, consequently getting a figure with a number of squares. When the figure is ready he fixes the twig in the ground inside one of the squares (or if he uses a broom, he keeps this in a vertical position, handle down, for a little while); he then takes the twig (or broom) and raises it to his forehead, as if he were saluting it, whereupon he destroys the figure. He repeats this operation a couple of times, every time destroying the figure drawn. When saluting the twig, a disease is mentioned; if the hand trembles, it is the disease then just named.

This is called *tarik*, this word being in Santali used in the meaning, not only of a date, but also of ascertaining, finding out; here one might call it diagnosing by divination. The *tarik* operation is, as will be understood, to find out what kind of disease it is.

Next he takes a broom (of *srom*, *Andropogon muricatus*, Retz., straw). With the handle end of this he draws a circle on the ground. The *ojha* sits on his haunches facing the east. Having drawn the circle he puts the handle end of the broom down in the centre. Taking the broom up to his forehead he salutes it; naming the name of a *boŋga* he puts the handle end down again in the middle of the circle and keeps the broom there in a vertical position for a few moments. He keeps on saluting, mentioning a *boŋga*'s name and putting down the broom again, until his hand holding the broom commences to tremble, of course, involuntarily. Then he knows, it is the *boŋga* just named that is making the mischief.

It is strange to meet with practices of this kind among people like the Santal *ojhas*.

The marks made on the ground are in all cases obliterated by spitting on them and then rubbing them out with the heel of the left foot. They are never left for others to see.'

<sup>1</sup> Divination is not something peculiar to the *ojha*'s mental attitude: it is resorted to even by Santal boys at an early age, as the following examples will show, also called *khari*.

Santal boys are from infancy, one might say, accustomed to use the bow and arrow. A small bow is one of the earliest playthings a Santal father will give his son; the small boys often spend their time shooting at whatever may suit. If—as sometimes happens—an arrow cannot be found, in spite of all search, the boys sit down, and one of them, takes a bow, string tight and bent, and puts one end down on the ground, keeping the bow upright with one hand on its upper end he makes the bow spin round and round, whilst he pronounces the following *bakhir*: *Tape uru*

## XI.

*The result of the divination. Alleged causes of disease.*

Whether the *ojha* believes in the possibility of any revelation by the above described supposed supernatural means, it is difficult to say. It is scarcely likely, and many have confessed to the whole being done to keep people satisfied, for show. There may possibly be found some *ojhas* who have a belief. It is in any case to the *ojha's* interest to keep this thing going; it is also part of his profession.

As to the result of this 'divination': the *ojha* will, without great difficulty, be able to get an inkling of the mind of those whom he is called in to serve. There are also some points which it is always safe and profitable to bring out. The desired result is, as suggested above, obtained by more or less rubbing when applying the oil. And even if all should not be exactly as expected, this might be taken as a special 'revelation.' Except when invited by the *ojha*, no one will look at the leaves; he is at liberty to declare what he sees, and very few would think of challenging his 'vision'; this might involve disrespect of the supernatural and taking responsibility on oneself.

According to circumstances the *ojha* finds out that the origin of the trouble is a natural one, or is to be sought with witches, or some *boŋga* or other, and so on. Frequently a mixed cause is 'found.'

It is a general belief among the Santals that the several *boŋgas* supposed to reside on the outskirts of the village are more than ordinarily malevolent and very difficult to propitiate. It is not within the competence of everybody to perform the necessary here; but the *ojha* knows.

As previously mentioned, the *boŋgas* are all looked upon as evil and malevolent. If they are in any way 'hurt' (e.g., if a sacrifice has not been offered; or, offered, but not with a faultless liturgy, and so on), or they are 'hungry' (for a sacrifice), they may cause disease: how, is not reflected on.

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*buŋdiŋ kaŋra, namok khaŋ dŋ namok ma, bai khaŋ hoŋnure lai dal gŋra*, that is, Tailless uric (a small bird, supposed to give omen), lizard without a tail, if it is to be found, may it be found; otherwise we two (inclusive dual, as commonly used in threatening language) shall strike thy young one dead.

The boy then suddenly takes his hand off, the bow turns round a few times and falls down. The direction in which the bow falls indicates where they are to look for the arrow.

Another proceeding of a similar kind is the following. When boys are playing together it will happen that some one breaks wind. The matter is taken up, and the offender is asked to confess. All deny any knowledge, but the offender must be found. The boys sit down in a circle; one boy takes a small twig and breaks it to the requisite length; standing in the middle of the circle he spits in his left hand, and putting one end of the small bit of the twig in the spittle he presses it down, so it will stand upright for a moment, when he takes his right hand off. When the twig falls, the one towards whom it points is the culprit. He is at once charged with the offence, and if he does not confess, they all of them commence to slap him, so he has to confess! If he does not confess, the others will not let him play with them. The oracle cannot fail!

Some time ago I read about a famous assyriologist who had been digging in vain to find something he thought must surely be somewhere there. Then he closed his eyes, turned himself round several times, and having lost all sense of direction he threw a potsherd or something, whereupon he gave orders to dig where this was found, and right enough, that was the place!! Nihil sub sole novi.

Having performed the divination, the *ojha* will tell those who have employed him what is needed. He will say something like this: 'Such and such a *boṅga* (mentioning a tribal or family *boṅga*) comes out on the oil leaf. Somehow he has been offended or hurt. Please satisfy him and make him friendly again. Libate water to him (this is done, coupled with a promise of a sacrifice on recovery). Do something yourselves; do not trust in the *ojha* alone. However, there are also signs, that some spirit of the outskirts is at work. I myself shall take care of him. You look after your own. And if you have any doubt, please seek corroboration elsewhere. It will sometimes happen, that the divination points in a wrong direction. It is satisfactory to get corroboration from elsewhere; then all doubt vanishes.'

It is felt necessary to take this last reservation. The *ojhas* have plenty of evidence that their divinations have pointed the wrong way. The cause is, of course, not that the whole is humbug, but (what is always suspected) that witches have been at work. These are supposed to have power to prevent the divination of an *ojha* from exposing them (the witches), and to throw the blame on others. But to tell the Santal beliefs on this point belongs to elsewhere.

## XII.

*The ojha propitiates the spirits of the outskirts of the village.* Bul m̄yām  
performance. Kombro sim. Bulaṅ.

The *ojha* will next call for some *adwa caole* (i.e., rice husked without having been previously boiled in the husk; only *adwa* rice is used for sacrificial purposes, and the husking is, for this purpose, done by grinding the *adwa* grain in a winnowing fan with a *gurḡu*, a cylindrical stone used ordinarily for grinding spices, etc.), and for a little *sindur*, the red lead or vermilion stuff, which he packs in a leaf and first takes to the patient, instructing him to touch this with his left hand. This *sindur* is taken along if they intend to perform a sacrifice.

Having got these things the *ojha* and the head of the house go out a little way off. Here the *ojha* with a thorn pricks himself on his thigh and on his stomach, so that blood comes out (by pressure). If the patient is very ill, he will do the same on his breast (the nipple), the tongue and the scrotum. He has up to thirty-three (some say a hundred) places on his body where he may prick himself. The blood extracted is smeared on the rice and all well mixed; whereupon he scatters this rice on the ground (without first making any *kōṅṅ* or magic circle) as an offering to the *boṅgas*, one portion for each *boṅga*, as they are mentioned. The first to be mentioned at this occasion is the *bahre boṅga* (the spirit of the outskirts); then *Marañ buru* (lit. the great mountain, the principal national Santal godling), and so on.

This offering of blood is called to administer *bul m̄yām*; *m̄yām* is the Santali word for blood, *bul* is a word otherwise used for a drunken, unconscious state; the word seems also to mean 'impregnated with, infused with' in a few expressions. As

this does not seem to give any good meaning, it might be suggested to compare the word with the Hindi *bali* which may mean an oblation, offering. In support of this *baḷ kaṭi* might be mentioned; the *ojha*'s fee for this special work is called so.<sup>1</sup>

In explanation of this act of the *ojha* it might be suggested that it is meant to be vicarious, or possibly to induce the *boṅga* to believe that the patient is dead. Anyhow, the object is to make the *boṅga* satisfied.

Blood is given to satisfy a malevolent spirit. As they express themselves: Seeing or tasting blood the *boṅgas* are very pleased and are quickly ready to listen. It will be told further on, how they try to deceive certain deities by having a funeral *in effigie*. It might possibly be that something of the same kind is intended here also, and that the expression is meant to convey the idea, that it is blood of a person *in extremis*. This is, however, only a conjecture.

When strewing the blood-soaked rice, the *ojha* will at the same time invoke the *boṅga*. The following is a specimen of such an invocation: "Now then, thou so and so (name of *boṅga*); for some reason or other thou hast been filled with covetousness and desire and hast run foul of and set thyself against this house: or, who knows, perhaps somebody has engaged thee and egged thee on, and thou hast therefore caused illness and transgression to commence and be started in this house.

"To-day we two (*i. e.*, thou and I) have caught thee, have clutched thee like a fish, like a crab; wherever thy place, thy abode may be, thither thou wilt go, thou wilt start. From to-day may the pain, the suffering cease and give way. From to-day mayest thou leave alone, keep clear of the house of this so and so (name of householder); also may a thief commit adultery with thy mother.

"Now then, if I see thy trustworthiness, in some days I shall give thee, hand to thee thy dues, thy sacrifices and thy offerings. May a thief commit adultery with thy mother.

"Now then, look here, you of the holy grove, you Five-Six, thou Lady of the grove, *Gosāe* lady, Great mountain, Pargana, *Mañjhi haṅam* (the different national godlings or *boṅgas* who are ordinarily worshipped in the villages), do not assist, do not support this (name) *boṅga*. Wherever his place, wherever his abode, thither you will lead him and follow him. From to-day may he leave alone, keep clear of this one's house. You also, may you warn him, may you rebuke him.

"Now then, look here, within the surrounding boundaries of this (name) village as many as ye are found, big big ones on hills and hillocks, in roots and stumps, in pits and holes, to all of you I give and hand this offered blood, this soaked blood (*baḷ māyām siṅka māyām*). May ye warn, may ye rebuke this (name) *boṅga*.

<sup>1</sup> I have not succeeded in getting a satisfactory explanation from any Santal as to what they really understand by the expression, except, of course, that it is their name for this specific sacrificial performance. In the *bakhēṛ* (invocation), cited below, they use as a kind of synonym the word *siṅka* (*baḷ māyām, siṅka māyām*): now these *bakhēṛ* have nearly always doublets to express their meaning: the doublets are really about the same, but may each lay stress on a different side of the same idea or action. *Siṅka* is their name for fever (in females) combined with strong thirst, specially also for puerperal fever. I may mention that I have heard a Santal *ojha* give the following explanation of this last mentioned: *siṅka māyām* is the blood of menstruation; witches soak rice in this and give it to *boṅgas* and in this way seduce them. How this should fit the *ojha*, the man could not explain.

" Now then, look here, ye Bhuyas, Nayas, Doms, Hadis, Jolhas, Dhunyas (these castes and races, all of a low order and living in the country, here stand for their respective godlings), ye naked males, ye naked females, have a care, to all of you I give and hand this *bul māvām siṭṭa māvām*. This one (name) is ill; may he get well, may he recover.

" Now then, ye who draw near, come near; ye who do not come near, from a distance give witness to it, give splendour to it with your presence.

" Now then, *Patcira* (lit. torn leaf, name of a *boṅga*), be greeted. Look here, to thee also I am giving, I am handing this here. If any widow, or woman of ill omen, has selected this one for destruction, has put a stop like a dried leaf, a rolled up leaf, drive her away like the dust of the road; like a whirlwind may she be carried off."

Truly a very comprehensive invocation. Here is another specimen, addressed to only one *boṅga*, the name of which is supposed to have been found out by repeated divination by leaves. Some of the expressions have been considerably toned down in the translation, because they would be impossible of literal rendering.

" Now then, look out, *Kal Cāṇḍi* (name of a female *boṅga*, as the name shows, borrowed from other races), thou hast set thyself against, hast run foul of (some one) in the house of such and such a Santal. Some widow, some ill-omened woman whoever it may be, has hired thee, invited thee. Therefore thou hast become fixed, become nailed down in so and so's house. Now look here, like a fish, like a crab I have caught thee, have clutched thee. From countryside to countryside, everywhere it was made evident, it was proved that it is thou (*i.e.* *sunum boṅga* has been performed in many places, and this *boṅga* has been shown up).

" Now look here, on that account, with buffaloes, with rams I give thee, I hand to thee *bul māvām, siṭṭa māvām*, broken grain, rice grain. From to-day mayest thou hiss at, mayest thou drive away (ill) in the house of so and so. Wherever thy place, wherever thy abode, thither thou wilt start, wilt go. From to-day if any widow, any one who has lost her husband, destines for perdition, shuts up any one on a torn leaf, a folded leaf (hints at the procedure followed in performing *sunum boṅga*, see above), then thou wilt rub, wilt scour the principal stool, the principal sitting board. If from to-day thou wilt not listen to this, thou and I shall dishonour thy mother, thou and I shall buy twelve *gurus* and pierce thee with twelve thorns; root and branch thou shalt be eradicated, be left without descendants. Like salt thou shalt melt away; like ashes thou shalt be blown away. If thou art living with, committing incest with thy father, with thy brother, thou wilt not in any way listen to this, certainly not; but if thou livest innocent in righteousness, thou wilt listen to this."

An invocation like the above reveals a good deal, both as regards the *oḥa* and as regards the conception he, and the others, have of the nature of the *boṅgas*.

As the *oḥa* mutters his invocation, he strews the rice soaked with blood on the ground; having finished this he goes to where there is water, to wash the parts where he has pricked himself. He also sprinkles a little water on his head. Those who are with him (there will naturally always be some besides the person who has engaged him) also sprinkle water on their heads, whereupon the *oḥa* expresses himself

to the effect, that now he has done this thing and his part, and exhorts the person responsible to do his part; then they will see that all will be well.

Before, or after, the *bul māyām* performance the *ojha* may take some other precautions. He calls for a *kombō sim*, a thieving fowl. They bring him a speckled fowl or a *risa* fowl (*risa sim* is their name for a fowl with the feathers standing the wrong way; these are considered to be of special merit for certain purposes; it must not, however, be white, if intended for a sacrifice to a *boṅga* other than *Marañ buru*).

The proceedings are as follows: The *ojha* gets some charcoal and some earth or burnt clay (called *eṭko hasa*), scraped from the inside of a fireplace; these two stuffs he grinds to powder and puts temporarily aside wrapped up in two leaves (they are not mixed).

He has brought with him a leaf of the *sal* tree on which he has performed *sunum boṅga* (see above Sec. X; it might be remarked that whilst *boṅga*, when used as a verb, generally means to sacrifice, and also figuratively is used for beheading, it is here used for rubbing oil on a leaf, whilst invoking spirits); the covering leaf is there, it has not been thrown away.

As a rule, the *ojha* performs what is here mentioned inside the house, where the patient is, not far from the door; some say it must be done here; apparently it may also, if thought more satisfactory, be performed at some place away from the houses.

Sitting on his haunches the *ojha* first with a small bit of wood, a twig or the like makes a circle on the floor, some ten to twelve inches in diameter. Thereupon he takes the two *sal* leaves mentioned in his left hand, removes the covering leaf, and keeps the other up in the air, looking intently at the 'figures' or marks seen on it. Inside the circle drawn on the floor he now with the twig makes a number of marks, so far as possible resembling those on the leaf; thereupon he spits on the marks made on the floor and puts his left heel heavily down on the circle, and finally with the same left heel rubs out the marks he has drawn.

This performance is repeated several times from beginning to end; it is called *āk rapul* (to break the figure, *i.e.* the marks supposed to be caused by a witch). The *ojha* does not say anything during the operation. The object is to undo the deception of a possible witch.

When ready with this he gets a leaf-plate (of the same kind as those used to eat from). Putting this down on the ground he makes a circle on it by dropping down on it the above mentioned *eṭko hasa* (burnt clay from a fireplace). He takes a little between his fingers and lets it gradually fall down, as he moves his hand in a circle; thereupon he makes cross marks inside the circle in the same way, only that he for these makes use of the powdered charcoal. The cross lines (diameters) may be two or four, dividing the circle into four or eight sections or sectors. These cross-lines are called *ḍhera dag*, *ḍhera* mark; *ḍhera* is their name for the wooden cross-pieces of a hand-spindle.

He next turns over the leaf-plate, and so most of the figures made are destroyed

by the powdered stuff falling down (it is all dry). He repeats the process two or three times; then he puts his left heel down in the centre of the figure on the leaf-plate, and ultimately bites the plate with his teeth and in this way turns it over.

Thereupon he makes a last figure on the leaf-plate, just like what has been described. They give the *ojha* some *adwa* rice; he takes a little with his fingers and lets it fall in a couple of the sectors of the figure, also making some *sindur* marks in the middle of the plate.

Now the above-mentioned fowl is given into his hand, and the *ojha* applies *sindur* to its head. He then calls for the patient who is brought and sits down in front of the *ojha*. The *ojha* is facing towards the east, the patient consequently more or less towards the west. The *ojha* has the fowl in his left hand; at his command the patient touches the fowl, also with his left hand, whereupon the *ojha* makes the fowl feed on the rice put on the leaf-plate.

After this the *ojha* performs what is called *bulau* with the patient. He takes the fowl and moves it thrice round the patient (to do this the *ojha* must stand up), making a circle alternately from right to left, and alternately thrice the opposite way passing the fowl on its way between his legs from behind and forwards; the fowl is first taken in the right hand round the patient, passed between the *ojha's* legs from behind underneath the right thigh; here the *ojha* takes hold of the fowl with his left hand and passes the fowl round the sitting patient and beneath his left thigh, when he again changes hands.<sup>1</sup>

The fowl is made to feed on the rice three or five times, and the *bulau* is performed as many times.

Hereupon the *ojha* takes some cowdung and with this obliterates the traces of the circle he at first made on the floor with the twig. With his left-hand little-finger he makes a small circle or square at the spot; from this he pinches off a little earth; this he mixes with the remnants of the cowdung used and rolls it all into a ball. This ball he puts into a cup with water, at the same time dipping his fingers well so as to clean them a little. A leaf-cup with water is also brought; in this he throws some ashes (some say, also some salt, sometimes one cup is made to suffice for all).

The *ojha* then takes the leaf-wrappers (in which the charcoal and *etko* were), and wrapping these and whatever else he has used, up in the leaf-plate used for making figures on, he walks out (or if outside, away from the place) with the fowl in his hand. He must not look back. When he passes out, all people belonging to the house enter and go well inside (people not belonging to the household may be staying in the court-yard, it does not matter). The people inside the house now take the cup with the cowdung-mixed water and throw the water after the *ojha*; the same is done with the leaf-cup with ashes and water, only in this case the cup it-

<sup>1</sup> It is of no consequence; but as the proceedings have been described a little differently by the late Dr. Campbell in his Santali dictionary, specially remarking that the fowl is taken by the right hand underneath the left thigh, which is only possible if the fowl is passed between the legs from the front side, I may remark that the *ojhas* in these parts expressly deny that so is done. There are also other differences.



self is also thrown out. Hereupon they take a broom and sweep any water that may have been spilt on the floor or on the threshold, out and away, and quickly close the door. They remain inside shut up in this way for a few minutes, long enough to let the *ojha* get away from the house. The *ojha* apparently takes the 'difficulty' along with him.

Followed by some of the village men the *ojha* goes straight off to the forest or to some other place away from people. Here he sacrifices the fowl in the name of some *bōnga* of the outskirts (the name has been ascertained by *khari* previously), offering a *bakh̄r̄* (invocation) similar to those cited above.

Some decapitate the fowl and eat it forthwith (*i.e.*, the *ojha* and those who have followed him). Others perform the sacrifice by wringing the fowl's neck; in this case they do not eat the fowl; it is left at the spot with some stones thrown over it. This last procedure is likely the most common.

The *ojha* after having done all this returns to the house of the patient, where he 'brings down oil and *sindur*' (*ārgo*), as it is called. He makes in the court-yard some marks with *sindur*, at the same time making vows of offering sacrifices to some special *bōnga* of his, when the patient recovers (this is the *saket*).

Now the *ojha* is ready to commence administering medicines.

It might be remarked, that the performances just described are generally only gone through when the state of the patient is considered grave or difficult.

### XIII.

#### *Behaviour awaiting results. Saket. Proceedings on recovery of patient.*

The *ojha* has now done what is required of his profession, and the man responsible will invite him to come home along with him. Here he is well fed, treated with great consideration and flattered; he is told, that they now look to him for help. He is particularly asked to bring medicinal roots and prepare the necessary medicine. "It is not enough," they repeat, "to make *bōnga* (*i.e.*, to worship the spirits with sacrifices) in order to bring about recovery," and so on (*vide supra*).

To this the *ojha* answers that "this is the truth, and according to this I shall bring the proper medicine. But as the saying is: it is God who makes well, so even if I do my utmost, it may happen, that the patient does not recover." "However, I shall exert myself to the extent of my knowledge of medicine. But I am no God, that I should be able to make the patient well and sound at once. We must try by medicine as far as we can; whatever *Bidhi Bidhanta* have written on our foreheads that happens. There is also something written about life and death; and when we reach that we die."<sup>1</sup>

<sup>1</sup> The belief here referred to is, as the two names at once show, not of Santal origin, but has some time or other, perhaps in a not very remote antiquity, been adopted from the Hindus, and thereupon adapted to suit Santal ideas. The Santals have a hazy kind of belief that life and life's happenings are predestined. This belief does not play any great

After this or some similar harangue the *ojha* goes home ; but for the next three days or so he will exert himself, all he can, in administering medicine.

The people who have called in the *ojha* will, if they have not already done so, now say to him : " Please make sure the *saket* and then administer medicine." The *saket* is the sacrifice to be offered to the special tutelary *bonga* of the *ojha* (referred to in the previous chapter) ; the meaning of the above is that the *ojha* shall give a formal vow to sacrifice to his *bonga* when the patient recovers. The object is double, to make the *ojha* exert himself and to secure the co-operation of the *bonga*.

The *saket bonga* varies ; the different *ojhas* often have different *bongas*.

The *ojha* will then make a vow of sacrificing a goat or a ram, or pigeons, or a pig ; and so administer medicine.

With the beliefs a Santal has, it is possible to understand the " remedies " resorted to.

Provided the patient recovers, there is nothing more to do than what has been described, except that they have to fulfil their vows and pay the *ojha*. They will wait a couple of months after recovery, and when they feel sure that there will be no relapse, they approach the *ojha* and say that they will give him the *saket* sacrifice, whatever he may have promised to give to his special *bonga*. When the *ojha* has told what animals will be required, they procure these, if they have no suitable ones in the house ; they also brew some beer. When they have all ready, they tell the *ojha* that at such and such a time he must not go anywhere ; they want to settle and get finally rid of the ' difficulty of some time ago.' A day is then appointed on which the *ojha* is fetched. The headman and the deputy headman of the village are also invited.

rôle in the ordinary life of a Santal, but may be brought out as a kind of solace or explanation at times of death or calamities. There is with many a belief in fate, accepted as a matter of course, but not reflected on.

The following is told by Santal *gurus* :—

*Ṭhaḡur*, the Supreme Being, previous to the creation of man, created two beings, *Bidhi* and *Bidhanta*, and appointed them to be his *muhrit* (the Santali form of the Hindi word *moharrir*), *i.e.*, writers. When a human being is born these two beings have to attend at once, immediately after birth, to write on the forehead of the newborn babe what is to be his or her fate. At the same time they measure out the seer to the newborn (see above, p. 1).

It is further told that at the birth of every human being all diseases appear, elbowing each other to reach the babe first. It is just like what is to be seen when a crowd of people attempt to get a sight of anything strange ; all try to push their way to the front. Whichever disease is able to come first gets a kind of proprietary right in the child from the *Bidhi* and *Bidhanta*. When your seer is finished or eaten, *i.e.*, when your time for dying is come, this disease will catch hold of you and carry you off. Do whatever you like, there is no rescue.

To modify this, so far as possible, the following is done :—When labour has commenced with a woman, some one of the household, such as the husband (it must be a man, not a woman) lights a fire in the court-yard just outside the door. As soon as the child is born, some one comes hurriedly out of the house (this time a woman, as men do not attend at labour) and strikes the roof of the house heavily with a stick. The cause of these actions is said to be the following : A human being will in any case have to ' go away ' by fire, *i.e.*, his dead body will be cremated. So let the fire, here called *Borma Ṭhaḡur*, be the first to attend. The beating of the roof is meant to frighten the different diseases away.

It might, however, be noted, that the commonly given explanation of the roof-beating is that it is done to prevent the newborn child from becoming timid. If it is omitted, the child will, they say, be frightened and startled even at the least sound.

A variant of the preceding is as follows :—Immediately after birth all kinds of animals, specially tigers and snakes, urther trees, water, fire, in short all beings and natural objects that may kill or be the cause of death, appear before *Ṭhaḡur* and put in their claim to getting possession of the child. The one succeeding in coming first will take the life some day. The fire is lighted to ensure that the person when dead shall be burned, *i.e.*, that death shall not take place when the body cannot be recovered. The last variant sounds like an attempted improvement.

They commence their 'business' with rice-beer. Then the *ojha* goes to bathe (bathing is always necessary before performing a sacrifice); after returning he prepares a *kōṇḍ*, a small place levelled and 'cleaned' with cowdung, puts a few handfuls of *adwa* rice in the *kōṇḍ* and makes some marks (always an uneven number) with mustard oil and *sindur*.

The sacrificial animals are then brought to the *ojha* who sprinkles some water on their front-heads and paints their front-heads and shoulders with *sindur*, whereupon he lets them feed on the rice in the *kōṇḍ*. He then invokes the *bōṅga* to whom he made his vow somewhat like this :

"Now observe, thou so and so (name of *bōṅga*), when so and so (person is named) was ill, I called on thee and made a vow to thee. Now here to-day I am giving thee, handing to thee twice thrice of what I promised. Don't ask questions; don't make difficulties; mayest thou stand it, like it. Some day in the future I may again call on thee, invoke thee in a like way. Then also be quick to stand up."

Having invoked the *bōṅga* in this way he performs the sacrifice by cutting off the heads (as is invariably the custom, see remarks above). The sacrificed animals are then prepared for eating. They do not flay the animal, but put the decapitated body on a smouldering fire and singe off all the hair, whereupon it is cut open; the stomach is taken out, all the intestines are 'milked' empty and the flesh is cut into small pieces (it should be remembered that as the fingers only are used when eating, everything has to be of such a size that no cutting is necessary). The head is put aside (the head of a sacrificed animal can never be eaten by others than males, often only by the sacrificer alone). The liver and lungs are cut into bits and cooked in rice together with the head (a process called *sure*, the result being something like a meat and rice hash). This last mentioned stuff is on this occasion eaten by four men, *viz.*, the *ojha*, the village headman and his deputy (the *manjhi* and the *paranik*) and the head of the household. All the rest is divided into three equal parts, of which the *ojha* gets one and the head of the house one. The third part is given to the village people who happen to be present. The meat falling to the head of the house is made into *ulu* (*i.e.* curry); rice is also prepared, and the whole is eaten by the people assembled.

After having eaten they start afresh drinking rice-beer. Whilst this is going on the head of the house gives the *ojha* Re. 1-4-0, called *dādni* (fee). Of this the *ojha* gives the village headman four annas; the rest he keeps for himself. In this way all concerned get their dues and more, and there is great jollification, no one thinking of anything else than the happy cure.

When one year has passed without relapse, the *ojha* often gets a final fee of five rupees and a loin cloth.

## XIV.

*Proceedings in case of continued disease. More ojhas. Mock funeral. Jib dan.*

Now this was all under the supposition that the patient gets better and is cured. If this does not happen within a few days, if the patient continues the same or gets worse, the *ojha* will profess to be astonished and give pretty broad hints that all is not as it should be. A common Santal belief, referred to above, is that the witches, when having set into action their evil influence, are able to prevent their activities being shown up in the oil-leaf divination. This, of course, leaves the gate open to suspicion; something has been seen; but there is the possibility that something wrong, something else than the truth, has been shown on the leaf through the influence of a witch who is the real culprit.

If no betterment comes, the *ojha* will offer to withdraw and will advise the calling in of others, not so much people who might know a little more medicine than he himself (has not *he* cured any number with the same symptoms?), as some one who might perhaps know a little more about reducing *bongas* to sense. "It will not come to anything through me," he will say.

In some cases the relatives of the patient may have some doubts as regards the *ojha*, both as regards his medicinal knowledge and as regards his ability to accurately recognize the nature of the disease. Consequently it may be advisable to call in another man; but they will generally ask the first man also to remain.

The new *ojha* will start work on the same lines as the first one. According to circumstances he may either praise the work of the first man or act so as to show that they, in his opinion, were foolish to engage the services of a person like the first one. Whereupon they have the whole over again. And so they may go on, until the patient dies, or until they have called in all the *ojhas* they know or have heard of, have spent in medicines and sacrifices all their worldly possessions, and have on the top of this got inextricably involved with the money-lenders. So long as the fight against the disease and the malevolent spirits go on, there is, with the Santals, generally very little thought of the after-effects of borrowing. Such extreme cases may be comparatively rare, although they are to be met with; but it is not rare to come across people who have suffered seriously in a pecuniary way, in the manner described.

Before proceeding further, mention shall be made of a curious, in parts revolting, attempt to bring about recovery. It is of rare occurrence.

After having performed *suum bongga* (as described above) they make a tiny model bedstead. The legs of this bed are made of the leaf stalk of the *Ricinus*-tree, cut to a length corresponding to the length of the two outer joints of one's little finger; the two end pieces of the bed-frame are 'the length of the index finger,' and the two long pieces are the 'length of the index finger and down to the root of the thumb.' The bed-bottom is woven with thread.

A figure is then made from the stalk of a banana, cotton or Ricinus leaf, the length of the figure being as that of the middle finger.

A leaf is found with three or five ribs (*i.e.* a palmate leaf); on this the spaces between the ribs are painted alternatively red (with *sindur*) and black (with soot).

Now they draw magic marks on the floor (as previously described), and catch a fowl which is made to feed on the *adwa* rice put down in the magic spot (*kōṇḍ*) after having let the patient touch it.

Thereupon they draw a bedsted on the floor with a *tirsur* (trident) at the head. They now again let the fowl feed on the rice in the *kōṇḍ*, first making it face towards the East; whilst doing this they break its left leg. Then they make it face towards the West and break its right leg, and whilst making it face towards the North and South they break its wings. The fowl is made to feed in the name of the *Ḷomraj* (*i.e.* the king of death).

They also catch two grasshoppers (of a large kind, resembling locusts) which are made to 'feed' on rice put on the leaf painted red and black, these two in the name of *Dharti mac*. The rice and *sindur* for the grasshoppers are kept separate. Before they let the grasshoppers 'feed,' they 'exorcise' the patient by blowing upon him, whereupon they cover him up.

The magic marks are destroyed in the way previously described; ashes and salt are also put in water and poured out.

Thereupon they go out some distance away from the houses and build a tiny funeral pyre. The fowl mentioned is sacrificed, but the two grasshoppers are buried in a small hole dug for the purpose.

The above-mentioned 'bedsted' with the figure on it is put on the pyre; the *ojha* takes off his *bhagwa* (*i.e.* the piece of cloth worn between the legs and fastened in the *dora* or loin-string at front and back) and, naked, sets fire to the pyre. As soon as the smoke rises, he says: "Now *Ḷomraj*, having seen this smoke, depart."

Hereupon they return to the house and the *ojha* gives the patient what is called *jib dan* (*jib dan* is a Hindi or Bengali word meaning gift of health or life). This is done as follows: They catch a black chicken (other colours are believed to be of no use), cut it open and take out the liver from the living fowl. The cut is sown up again and they let the chicken go, only, of course, to die immediately. The liver thus procured is mixed with a little blood, a bit of the nest of white ants and a new shoot of *dhubi ghās* (*Cynodon dactylon*, Pers.), all ground together. With part of this the *ojha* rubs the patient on the breast; some of it he gives him to eat.

Some say there is no invocation combined with this revolting procedure, and they will call it medicine. Others say that this fowl is sacrificed to *Kali mac*. The whole horrible performance, combined with the name given to it, makes it reasonable to suppose that the *jib dan* is meant partly as a vicarious act. The liver is a vital part; it is also the part of the body which the witches are reputed to 'eat.'

Both performances, the mock funeral and the *jib dan*, are resorted to when nothing seems to avail.

## XV.

*Inimical influence of malevolent spiritual powers suspected (witches). Public called upon to assist. Village takes action.*

If the patient does not recover, and the medicines and exertions of the *ojha* do not avail, the suspicions always latent gain strength. The relatives of the patient feel that the case has become so serious, that they ought not any longer to try to tackle the disease alone; they need the help of the community; moreover the case has possibly become one of public interest; it may, of course, be that the cause of it all is witchcraft in their midst, a public danger that must be put down.

The responsible relative of the patient will therefore go to the village officials, the headman and his deputy, and request them to take action, as nothing they themselves have been able to do has had any effect. It might be noted, that the whole village is always more or less interested in cases of illness in their midst; every family will make constant enquiries how the patient is progressing.

The headman orders the *godet* (village headman's messenger) to call together the village people (naturally only the men) at the house of the patient, whereupon he (the headman) makes some remarks to the assembled men that 'they' (*i.e.* somebody or other) have made so and so very ill.

The village people reply that they must all of them help and get the proper *ojha* for whom they promise to be surety that he gets his dues, etc. At the same time they exhort the relative of the patient to 'follow the case up.' The responsible relative implores the headman to do so for him. This is really the point for which he has applied to the village people.

Hereupon the headman arranges to send people out to seek 'enlightenment.' The people thus sent take *sal* leaves and a little oil with them, and go in pairs (never only one alone) to a number of known *ojhas* in the vicinity, to make these consult the oracle (divine by leaves) and find out the cause of the disease.

When they find the *ojha*, they give him the leaves and the oil, asking him to perform *sunum bongga*. The *ojha* asks, in whose name he is to do this, and thereupon does what is required, in the way previously described, tells the messengers what he has seen in the leaves, and gives advice and warning.

In the evening when all the messengers have returned, the village people (that is, the men) again come together in the house of the patient to hear the results. The messengers are called on to report, and do so one after the other. As a rule they all have very much the same to tell; there may be a few differences in the minor details, but the essentials are the same. That this should be so is not strange. The *ojhas* follow the system of the fraternity; there are only a few classes of causes to choose between (see above, Sec. X); there are certain causes of disease, according to the beliefs of the people, which are safe to be mentioned. And naturally in the course of their talk with the *ojha* the messengers will let out the general idea of the

village people as to what is at the bottom of the matter, specially whether they suspect anybody of having practised witchcraft. The *ojha* will listen for any utterance, however small, which may give him a clue to follow.

The result, as a rule, is that when the messengers come back they tell that the *ojhas* have found the cause of the disease to be that some *boṅgas* are at work, being hurt or hungry, the family-*boṅgas* a little, those of the outskirts very much. Or, they have ceased to worship a peculiar *boṅga* which their father or grandfather specially worshipped; or they may have neglected one of the Ancestors, and so on. The message generally ends with a more or less strong admonition to take the necessary and proper precautions at once. They must engage a first class *ojha*.

The assembled men then speak to the person responsible, saying that he now can see the result of their help; he must himself look after the family-*boṅgas*, and not trust in the *ojha* alone. To the already engaged *ojha* they will address some words, instructing him to make sure of his *saket* (the godling who gives him, or is, his power), and assuring him that they shall be responsible for his getting the necessaries for his work. "They will not let his legs be broken," as they express themselves.

The *ojha* acts at once. They bring him water in a *loṭa* and a little cowdung. Having washed his hands and feet he 'cleans' a small bit of the ground with cowdung. He first stands up in front of this facing the East with the *loṭa* in his hand. Then he takes a piece of cloth, twisted like a rope, round his neck, the two ends being twisted together in front (an ancient custom, signifying submission), puts three marks of *sindur* on the spot plastered with cowdung, and standing with his hands 'folded' together over the *loṭa* he offers an invocation to *Siñ boṅga*, promising a sacrifice as soon as the patient is well. He then obliterates the plastered and *sindur*-marked place, feels the pulse of the patient (as previously described) and proceeds to bring and prepare medicine. And the whole goes on as previously described, with sacrifices by the head of the household and the *ojha*, only that now the case has become a public affair with the village officials, as representing the community, in co-operation.

## XVI.

*Propitiating the ṅaiḥar boṅga. Sending away the kisār boṅga. Buried boṅgas.*

If all continues to be in vain the various *ojhas* engaged will take counsel together and find out that since nothing avails, specific treatment of the *boṅga* in question must be resorted to.

There are two or three kinds of *boṅgas* that can be treated in this way. One is the so-called *ṅaiḥar boṅga*, the spirit of the father-in-law's household, which is believed sometimes to follow the bride to her new home. The *ṅaiḥar boṅga* is a difficult and much-feared personage, really belonging to another subsept and accustomed to some treatment different from what is customary where he has come. He has followed the girl, because there was something or other to which he was attached and would not

be parted from, or for any other reason. As soon as a Santal is convinced, that the *naihar bönga* has come along, he will either make yearly sacrifices to him, or, as there is some risk connected with that, as one does not know the requirements of this 'foreign' *bönga*, he will make arrangements to send him back at once. Of himself he will not return. If either is not done the consequences are disease and death in the house.

If in cases of disease divination by leaves shows this *bönga* up, imminent danger is proved, and the only remedy is to make him return to his old place. To bring this about it is necessary first to send back everything that the bride has brought with her from her father's house, and then to take two animals to the *naihar*, there to be sacrificed to this *bönga*.

Another *bönga* that must be exorcised, if leaf-divination shows him to be responsible, is the so-called *kisār bönga*, a spirit somewhat akin to the hobgoblin, or the *nisse* of Scandinavian folklore. The *kisār bönga* is of a rather uncertain character. A man who has got such a one into his house, will be made wealthy through the *bönga* who steals from others and carries all to the house of his 'master,' but if he is offended, there is no end to the mischief he will make. If on his account disease is brought into a family, the whole of it will be eradicated, if the *kisār bönga* is not effectually sent away from the house.

How this has to be done, is told by the old *Kolcan guru*, as follows: They first collect all the necessaries: a silk cloth, a small box of red lead, a tassel, a long plait of horse or cow's hair, an iron hairpin, a small box of eye-paint, a winnowing fan, a wide flat basket, an iron stick, five chains, five iron nails, a pair of wooden clogs, a wooden stool, a miniature cart, a straw bundle containing a little of each of all the crops cultivated by the Santals, five rupees, two cows, a pig, a goat, a ram and five fowls. They tie a bell to the ram. When they have completed collecting all the above, they fetch the *ojha* who knows the proceedings.

Thereupon the *ojha* summons the *kisār bönga* spirit, that is, he causes a man there present to be possessed by the spirit. The *ojha* puts an old and worn winnowing fan in front of the man to be possessed (generally one who has been through an *ojha's* course)<sup>1</sup>; putting a handful of sun-dried (*adwa*) rice in the winnowing fan he says: "Come, my lord (*Gosāc*), come thou, such and such a spirit, to the house of so and so. I am calling upon thee; I am crying unto thee, come running, hurry up, the disciple, the pupil is sitting, is waiting" (*i.e.*, the one to be possessed).

<sup>1</sup> The Santals believe that *bongas* may possess people. The external sign of this possession is a many times repeated, violent turning of the head from one side to another. The hair must be loosened (it is not so very long ago, that the Santal men also were in the habit of keeping their hair long, tied up in a knot). It seems strange that a person can sit quietly down performing this operation; they must have found a method of twisting their head and neck that does not give too much giddiness. To be possessed in this way is called *rum*. When a man is 'possessed,' he loses his own identity and is for the time of 'possession' supposed to be the possessing spirit, is addressed as such and speaks and acts as such. The Santals believe that *rum* in olden times was genuine. Now-a-days they apparently believe in its possibility, but have doubts as to any special occasion. The custom is, however, kept up. Many 'rascals' act being *rum* to make people give them beer and the like; such persons have, *e.g.*, observed that all was not absolutely according to ritual at a festival (with sacrifices); shortly afterwards they go to the place, sit down and become *rum*, telling the people that they are such and such a *bönga* who has come being offended at their doings; the people thereupon give them drink etc., to make them satisfied. See further on the subject of *rum* in Appendix I, p. 57 and p. 59.



The man soon becomes possessed, when they ask him: "Well, my lord, now thy master has come to an end with serving and worshipping; well then, he will not keep thee any longer, what hast thou to say?" The *boṅga* thereupon gives a grunt and says: "If he won't keep me, I shall take myself off; let him give me all that is mine."

They thereupon bring all the necessary things out to him and say: "Here are thy belongings, art thou pleased or not?" He says: "Pleased," whereupon he enters the cowshed to choose cows for himself. He slaps two on the back and comes out again, whereupon the others ask him: "Well, hast thou got everything?" "Yes, I have," he replies. The sliding bars at the entrance to the cowshed are then let down, and the two cows selected by the *boṅga* come out of their own accord, it is told; the two cows are tied together with a rope. Hereupon the people take all the requisite things and say to the *boṅga*: "Come along, lead us to where thy dwelling place, thy abode is." At this stage the *boṅga* leaves the man possessed.

The two cows lead the way of their own accord, the people following behind. The *ojha* takes the winnowing fan along, carrying it under his arm. Wherever the two cows come to a stand and lie down, there the sacrificial animals are beheaded. The ram's head is strung on the chains and nailed to a tree. The flesh of the sacrificed animals is cooked with rice and eaten there on the spot by the people assembled. All the things brought are left behind at this place. No one will touch them; should any one do so, the *kisār boṅga* will follow his goods home to such people. The man from whom the *boṅga* has been driven away will be impoverished before the expiry of a year; his cattle and buffaloes will all die, his paddy and rice will somehow or other disappear; in fact, the family will become paupers.

So far old Kolean who adds: "This has been actually seen. Wealth unrighteously acquired will not remain."

Even now-a-days such proceedings take place; but according to what is told, the *ojha* is not afraid of taking possession of the things left.

Sometimes the *ojha* tells that he has seen in the divination leaf that a '*boṅga*' is buried in their house, and that this is the cause of the disease they have.

The patient's relatives then send people round to other *ojhas* to get this vision verified. It is serious, because witches are supposed to be at the bottom of this. It is also, by its nature, a public affair (see below, Sec. XVII, where the witches are mentioned); the person affected therefore seeks the assistance of the village community.

A day is fixed for doing the necessary, that is, for removing the buried (*thaṭṭna*) *boṅga*, as it is called. An *ojha* who is reputed to understand this, is brought; he comes accompanied by one or two assistants, generally his *paṭ celu* (a disciple of the *ojha*'s, who is fairly advanced in *ojha* science and has passed the preliminary degrees; see below in Appendix I, p. 51 and p. 59), anyhow somebody who may be used. The village people also come together to assist.

First the *ojha* ascertains through divination (*sunum boṅga*) that a *boṅga* is buried in the house. They are supposed to be buried just in front of or inside the *bhitār* (the ancestors' stall), in front of the fire-place, just inside the threshold, or also just

outside, and in the cattle-shed or outside this. The site apparently depends on what or where the suspected enemy works to hit.

The *ojha* now sits down in the court-yard or in the cattle-shed; in front of himself he has a large brass cup with a little oil in it. At his side some of the village people sit down to watch. Looking at the oil he sees that *boṅgas* have been buried in several places; he orders his assistant to go in and show the places (the *ojha* himself remains seated). The assistant points out the places making a circle with a stick or with a sickle, whereupon the people commence to dig with, preferably, a *khonta* (a wooden bar with a flat iron at one end); the earth dug up is taken outside, crushed and sifted, but nothing is found. The *ojha* continues to look at the oil and exclaims, that he sees the *boṅga*; it is moving. The *ojha's* assistant then goes in with his stick; this should be what is called *ṭāṇi theṅga* (see below, Appendix I, p. 69), a bamboo stick with an iron 'crown' as a head; but as these are seldom found, an ordinary bamboo stick will do. Going inside the assistant stamps the ground with the stick (this is called *ṭak ṭaki*), until it suddenly stops by itself, a sure sign that it is above the buried *boṅga*; as it stops, he hawks loudly, and shortly afterwards the *ojha* declares, that now he sees in the oil that the *boṅga* will be found. They consequently again dig, and the *boṅga* is found. This is generally a small bit of stone (quartz or the like), painted with *sindur* and with human hair tied round it. It may also be some other object; see below.

The secret is, that the *ojha* has brought the '*boṅgas*' with him; when the assistant performs the *ṭak ṭaki* he has one of these in his hand with which he holds the stick, and lets it drop where convenient. Inside the house there is no difficulty, because a Santal house is dark; outside it is more difficult; the crowd is, however, ordered to keep away, as they might have an adverse influence on the *ṭak ṭaki* operation. I have been told, that *ojhas* or rather their assistants have been caught in the act when digging for such *boṅgas*. When they are unable to 'plant' the thing, no *thaṇa boṅga* is found, and the *ojha* has to explain this as best he can.

The holes dug are not small, often half a yard deep and as broad.

When the *boṅgas* have been found, the *ojha* takes possession of these, and the whole company goes to the nearest forest or somewhere away in the open field, and the *ojha* here performs the necessary sacrifices of he-goats, rams or pigs; these are eaten in the usual way; nothing is brought back to the house.

The *thaṇa boṅga* digging described concerns one household only, that has been exposed to the enmity of witches who are believed to be at the bottom.

For the sake of completeness it might be mentioned, that it also happens that a whole village is believed to have been exposed to the same kind of evil action. Such is believed to be the case when a previously prosperous village becomes poor, when the cattle die, when the cows cease to give milk, when the crops, for some reason not understood, deteriorate or fail, and so on.

The proceedings are similar to what has been described; the village people, headed by the village chief, seek enlightenment with an *ojha* who performs the leaf divination; when *thaṇa boṅga* is shown, the matter is verified from other *ojhas*,

whereupon the village people collect the money necessary for the expenses (*ojha's* fee and sacrificial animals). An experienced *ojha* is brought; performing *sunum boṅga* he sees in the oiled leaf, that 'boṅgas' have been buried in several places, as, e.g. at the end of the village street (*i.e.* at the entrance to the village), in the middle of the village street, at the *mañjhi than* (where the original village headman has his place of worship), at cross-roads, in the *jaheer* (the holy grove of the village), and so on.

In this case the buried *boṅgas* are considerably more elaborate; they may be the shell of a large snail, a silk cocoon, the horn of a ram, of a goat, or even of a bullock, a hollow bone, or something similar to serve the purpose. This is the receptacle for sundry goods, such as a sample of all cultivated cereals, milk, ghee, or anything that may be the cause of the envy of enemies. It is believed that the burying of such goods as those mentioned (with the self-understood accompanying imprecations and in the names of *boṅgas*) will cause injury to the vicinity and its inhabitants.

It should be mentioned that the shells, etc., also have some *sindur* inside, generally painted on a small bit of stone, and that these shells, etc., may also be buried when used against individual households.

As mentioned the *boṅgas* are located through divination by oil-leaf, here not in a cup of oil; but I have heard it said, that if the diggers do not find the buried *boṅga* quickly, the *ojha* moves excitedly about looking into a small mirror (they are up-to-date, the mirror takes the place of the oil), calling out that he sees it is there and there.

He does not always himself dig, and the man who digs has to do so naked; women are kept away during this operation. When the *boṅgas* have been found, the *ojha* takes them along, and they all go to the forest, or somewhere away, with the animals that are to be sacrificed. The proceedings here are as described above; but the *boṅgas* dug out are here burnt to ashes. Being for the whole village the sacrifice is larger and more costly.

This last described *boṅga* digging is called to 'clean the village' (*ato saphac*).

How the *boṅgas* are 'planted' in this case I am unable to say; it cannot be done as in the first case. There is, of course, the possibility that some *ojha* or some one hired by the *ojha*, has done it some time previously to the here described operation. There is also the possibility that witches have buried the things. In such case the object would be to cause mischief by working on the fears of the superstitious people. They will naturally let it be known. I have heard of such cases, and have had such *boṅgas* brought to me, where it seems to have been proved that women (supposed to be witches, see Sec. XVII) have with evil intent buried *boṅgas*. It is not the place to take this matter up for discussion here; I have heard several circumstantial stories of buried *boṅgas*, and whatever may be thought of the *ojha*, the village people have been very excited and in great fear.

When the name *boṅga* is used for the buried things, it is likely because they believe that the powers of a *boṅga* may be joined to the buried stuff; the buried things are a concrete manifestation of the power of a *boṅga*. When such a thing is

found, it is a sure sign to the ordinary Santal mind, that a witch has prevailed upon a *bônga* to do mischief.

The old *guru* Kolean says, that the sacrifices on such occasions were: one ram, one pig, one goat, five fowls and one pair of pigeons.

The result of these exertions to overcome disease is—to follow the Santal course of thought—always doubtful; sometimes the patient recovers, sometimes he gets worse. If *bôngas* are at the bottom, it is not so easy to make them give up their enmity. They are malevolent and it may be outside the powers or knowledge of man to satisfy them to the full. Then what can man do?

The character of the *ojha* does not come out well here. It is strange that the people with all they have to show them the humbug of the proceedings just described still will practise them.

## XVII.

*The witches. Proceedings against them. Locating the witch. The withering branch oracle. Testing the verdict.*

As has been mentioned several times, there is according to Santal ideas, another possible cause that may be at the bottom of all the trouble. This is witchcraft.

We shall not here enter on the very large subject of witchcraft among the Santals, but tell how the Santals try to combat and overcome this source of disease. Witchcraft is a very real thing to the Santals. Many have tried to pooh-pooh the whole; but more is required to get rid of this nuisance. If we define a witch as a woman who belongs to a secret "society," the members of which meet at certain places and at certain times, have their own secret songs and *mantars* and very likely also their own worship, there is among the Santal villages scarcely one where some such are not to be found. Most of these are likely quite innocuous; but some are bad and downright evil; they know it, believe themselves to be in collusion with evil spirits and try to exert an evil influence. They may possibly also themselves believe that they have magic powers and are able to influence supernatural beings. I have heard them assert this. They are, of course, powerless to do anything, except through suggestion and putting people under the influence of fear, and through giving poison.

There is no genuine Santal who does not believe in witches. This being so, it is not strange that a suspicion is always present that witches may be at work when people fall ill and do not recover. If they have got, to them satisfactory, proof that a woman may be a witch (*e.g.*, by observing any woman out at night where she has no business to be, or a woman who has shown traits of character which ought not to be found in any good woman, and so on), the suspicion materializes and gets an object. Although they are very careful and reticent, this will leak out. I take it that such felt suspicion is the most common cause of *ojhas* 'seeing' witches in the divination leaf.

We have previously heard about the leaf divination. If witchcraft comes out,

it is, of course, very serious, not only for the patient, but for the whole community, and no one would think of tackling a matter of this magnitude on his own responsibility. The village authorities are called in, and the headman takes action. Followed by the village men he walks at evening time (when all are supposed to be at home) through the village street, calling out outside every house in a loud voice, "Beware, *phalna* (lit. so and so, no name is mentioned, or could be mentioned here): so and so is ill; may he recover. We have caught thee; if he does not recover, we shall certainly not call thee good."

As will be observed, it is a threat at random. They have no doubt that a witch is at the bottom of it; but they do not know, or have so far no 'proofs,' whatever their suspicions may be, who may be the actual witch; she may be in any house in the village; it is consequently advisable and politic to warn all; then possibly the guilty one may think better of it and leave off.

If the patient after this should recover, well and good. It is to nobody's interest to go further into the matter. Wife, daughter, sister or mother of any of the men of the village might be 'proved' to be a witch. The headman's wife is more often than not suspected.

If, on the other hand, there is no improvement, the headman sends men out in pairs, as previously described, to get other *ojhas* to divine by leaves, what is the cause of the disease. If the verdicts do not agree, they next day send to other *ojhas*. If the messengers bring the same verdict of witchcraft from three different *ojhas*, all doubts are thrown away.

The next thing is to find out, or rather, to 'prove' by divination, where the witch is. There is likely not one of those concerned who does not suspect a certain person; but suspicion is not enough, and as there is no possibility of direct evidence, they have to rely on divination again. But now it is not the *sunum bonga* that is brought into operation.

Under the leadership of the village headman (it will be remembered, that the community has taken the matter up) they proceed as follows: Going to a place where there is water they plant along the edge of the water a number of fresh-cut small branches. First of all they plant a branch in the middle as a 'witness,' then in succession one for the house-god (*orak bongga*) of the patient's household, then one for the house-god of his father-in-law's household, then one for each of the several fraternal relatives, one for daughter and for sister, one for the unrelated part of the village and one for *disom duk* (epidemic disease). The number of branches will vary according to the number of relatives, and they may sometimes plant one for each house-hold, also unrelated, in the village. As each branch is planted, *sindur* is applied to it.

After having scattered *adwa* rice over the place the following invocation is made: "Greeting then, Day-god of the heavens! Thou art spread out like a mat, thou hast overspread the four corners, the four worlds; here then, as thou seest, we have planted branches to ascertain the delinquent; what is guilty thou wilt pronounce guilty, let that dry up and wither—thou wilt bring out witness,—and if it be other-

wise, thou wilt bud fresh, thou wilt remain unaltered and sound'' (this to the witness branch).

It will be observed that they have planted twigs also for *boṅgas*; even if the leaf-oracle has pronounced the culprit to be a witch, here the appeal is made to the Supreme Deity, and no possibility must, in justice to all, be left unnoticed. Hence these twigs. They also address these *boṅgas*, somewhat in the following strain:

"Take care then, if thou art a *boṅga*, let this one dry up and wither, and if it be not thou, remain unaltered and sound. Thou wilt bring out witness." This formula is repeated over each branch. Having done all this they return home. Some five hours afterwards (when they think that withering may have commenced), or if the 'planting' takes place in the evening, then early next morning, they return to have a look at the branches. Whichever branch is dead, the one in whose name it was planted is understood to be proved responsible. If it is 'proved' to be a witch, the female occupants of as many households as the representative branches of which have died are considered possible witches.

To be adjudged a witch is a serious matter; they do not therefore rest satisfied with doing this twig-planting only once. They repeat it twice or thrice, and each time inside the boundary of another village. It may, of course, happen that the oracle gives a different verdict in the different places; in such cases there is to the Santal mind no doubt that the witches have been at work to hinder them in finding out the truth. However, they continue, until they are satisfied.

It will have been observed that they do not always put more than one branch down for all the houses in the village occupied by other people than blood relations of the patient. In such cases they work on the supposition, that one's enemies are those of one's own house or family. If the one branch planted for the non-related houses should wither, they proceed to repeat this divination by planting branches for every house in the village.

Sometimes they try to test the result by putting a leaf with some *adwa* rice wrapped up in it in a white-ant hill. If the white ants attack the leaf and the rice, the case is clear; if not, there is something wrong. The house is innocent.

Some people will let the matter end here; it is no small responsibility to carry it further. The parties moving in the matter may be sure to expose themselves to the bitter enmity of the 'witches' themselves, and of their husbands and near relatives.

As has been seen, the divination proceeds by eliminating the various possibilities. The whole has by this time been narrowed down to a certain household. The individual has not been singled out as yet, although there is pretty little doubt in their minds.

It should be specially noted, that the operations undertaken by the *ojhas* and the village people, *viz.*, the *sunum boṅga* and the other kinds of divination, do not profess to single out any individual (except, of course, *boṅgas* who are specifically mentioned when they consult the oracle). So far as human beings are concerned, they do not go further than pointing out certain limits within which the culprit is to be sought. They do not attempt the responsibility of naming individuals.

## XVIII.

*Identifying the witch. The jan, or witchfinder.*

To name the individual is the business of the *jan* (the soothsayer, also a word borrowed from Hindi). He is the man who 'knows,' viz., by revelation. 'The *jans*,' says old Kolean from whose description much of the following is gleaned, 'are our High Court in witchcraft matters. Those which the *jans* pronounce to be witches, we deem witches. Whether they really find them out, or the whole is humbug,—we believe that they find them out.'

If the patient or his relatives decide to carry the matter to a *jan*, they always go along in quite a crowd. If the whole village is down with some disease, the headman will go along; if not, he only gives advice as to who ought to go. There are, as a matter of course, a couple of men representing the patient, the husband and male relatives of some woman clearly suspected, and half a dozen or so for the village people as witnesses. They go together and never lose sight of one another to prevent any one from secretly informing the *jan* about their business. The mutual trust is never very great.

They will, as a rule, go to a *jan* living at a distance who cannot be supposed to have personal knowledge of the matter or of the persons concerned. When they reach the *jan's* village, they camp outside and are careful not to tell anybody any particulars as to why they have come or who they are. They go to the village headman and ask him to introduce them to the *guru*, which he does, whereupon the headman tells them to bring out the things necessary for divination, viz., one betel nut, one leaf-cup, some *adwa* rice, mustard oil, *sindur*, resin of the *sal* tree, and some leaves of the bael tree.

The *jan* tells them to come to him at a specified time, and they return to their camping place. If any one asks them any question, they either do not answer, or if they do, they purposely give wrong answers.

At the fixed time they return to the *jan*, who will transact his business with them either in his own house, in the *jaher* (the holy grove of the village), or somewhere outside the village. The clientèle sit quiet and look on. The *jan* puts down small handfuls of the *adwa* rice in a number of places in the name of different *bongas*, puts alongside all these heaps of bael-leaves, and finally, having mixed the oil and *sindur*, puts *sindur* marks in front of the rice. He then throws the resin on burning coals, blows the shell, sounds the *bonga* bell and worships his *bongas*. (It will be noted, that the proceedings are entirely different from the ordinary Santal worship; much is obviously directly adopted from Hindu practice.)

Next he becomes 'possessed' by the spirit of divination and in this state commences to utter incessantly incoherent words. He ultimately first names the part of the country where they come from, then their village, then tells how the village street runs, the name of the headman, of the person at whose behest they have come,

the names of his uncles, brothers, sisters, sons, daughters, and how many they are. All to prove that he has knowledge, outside the ordinary.

It is very impressive, and when the *jan* asks: "Well, gentlemen, have I told you this right or not?" they answer: "Absolutely correct; we are convinced; now let us hear the oracle."

The *jan*, however, first demands his fee, one rupee, and if they have made any vow before starting, then the full amount of this in addition. When he has received all, he tells them who is at the bottom of their troubles, a *boŋga* or a witch, and also reveals the names of these.

To confirm them in their faith the *jan* next asks them, whether they have not planted branches in so and so many places, and whether they did it properly. The answer is, of course, in the affirmative. And the *jan* dismisses them saying: "If you are not satisfied, seek confirmation with seven soothsayers. If any such should tell anything else than what I have told, I shall return you the fees you have paid."

Hereupon the deputation returns home. If the *jan* has mentioned a *boŋga*, the patient will promise sacrifices. If he has declared any woman to be a witch, this woman is harrassed in every possible way, is ill-treated and fined (that is to say, the nearest male relative, father, brother, husband, son, will have to pay), or the 'witch' is driven ignominiously out of the village, and her home, being often treated in a most revolting way.

Sometimes the relatives of the woman pronounced a witch will try their luck with another *jan*: but it is futile, says Kolean; every *jan* will tell the same. However, there are a few witches (according to their belief) who are able to muddle up things even for a *jan* through their magic.

The present-day *jans* are, according to Santal belief, not like the old righteous ones. The *jans* of old were, according to tradition, not possessed by a divination spirit; they got their knowledge through dreams at night or through visions in the day time. The *boŋgas* appeared to the old *jans* and told them what to reveal.

Now-a-days the *jans* are, according to *Kolean guru*, rank humbugs; they have no visions, but keep informers who find out and tell them all particulars, and if they cannot manage to find out all at once, the *jans* will tell that there is a 'hindrance' that must be got rid of, and they instruct them to get the informer to make a sacrifice for this purpose of a fowl, a grasshopper, a pig, a white cat, or the like. This person will, of course, naturally ask for whom he is to perform this sacrifice, and so all comes out. The informer is careful not to go to the *jan*; but when he has found all out, his wife takes the tale to the *jan's* wife.

Sometimes, when a *jan* thinks it possible, he will sit in front of the deputation and look well at their faces whilst he, pretending that he talks 'possessed,' mentions the first syllable of names. A look will betray them, if he has mentioned the first part of the name of their village, etc.

It is strange that the Santals with their lack of belief in the present-day *jans* will keep on going to them. But it requires some strong-mindedness to leave such an old custom, so long as they keep to the beliefs and superstitious which they have.



In many cases what makes them seek the *jan* may possibly be, that they want to get a kind of 'moral' support for doing what they want to do, but for which they otherwise cannot find a proper pretext; it may also possibly be an attempt to free themselves from a responsibility which they would otherwise have.

It may be that the *jans* have during latter years commenced to find it safer to fix the blame on some *bonga* or other in preference to on a witch. They have been, and undoubtedly still are, the cause of much unjust suffering and hardship. They are unmitigated scoundrels who have not even got their own superstition as an excuse.

*Jans* are now-a-days seldom met with; they are also careful, as they may make themselves liable to imprisonment. Many have been sentenced to jail for their doings.

It is not here the place to tell about the fate of women pronounced witches. The wives of influential persons, specially of village headmen, may manage to keep their position or even to turn the tables on their accusers. Others have, as mentioned, suffered horribly. Even now women, both young and old, are found in the country who have been driven away from husband, home and children, because a *jan* has called them a witch.

It should be added, that the prosecution of a supposed witch will be continued after the death of the patient, partly in revenge and as a punishment, partly as a public duty, to save the community from such dangerous individuals. Strangely enough, they do not seem to reflect, that if these women really had such powers, or anyhow, could make use of the powers of the spiritual world, it would seem likely, that they might use these against their oppressors, and 'eat' them.

The story of witchcraft among the Santals has to be told elsewhere. So much has here been recorded, because it is tied up with their superstitious beliefs in connection with the causation of, and remedies against disease.

## XIX.

### *Concluding remarks.*

From what has been told in the preceding chapters it will be seen that the Santals, whilst accepting disease as possibly natural, that is to say, as due to natural causes, are always liable to suspect or believe that the ultimate cause of disease and death may be found with evil spirits and witches, or, very rarely, with dead persons.

These beliefs of theirs naturally influence their attitude. On the one hand, they have to take steps to counteract the inimical influence of the powers behind the scenes, partly to pacify, propitiate, or satisfy these, partly to fight, and punish them (in the case of witches). How this is done has been told in the preceding chapters.

To do what is deemed needed they resort to the *ojhas* and the *jans*, the first ones professionals in combating disease, the last ones in finding out the witches.

They do not, however, let a matter rest with taking only so-to-say 'religious'

precautions. They believe, that the Creator has furnished remedies against all ills, if they can only find them. This belief does not always seem to be compatible with their belief in the doings of the evil spirits; but they exert themselves to cure also by natural means. They make use of symptomatical remedies, such as fomentation, massage and blistering. They administer medicines, made up from a large number of plants and trees and also other natural objects. Many of these are undoubtedly worthless, not to use a stronger expression; many of them are very much of the same class as that found in vogue with other peoples of the same stage of development as that of the present-day Santals. Many of their remedies may likely have little or no value, but it may be that proper pharmacological investigation might show a few to have some real worth.

This side of the subject will be found described in detail in the part of this work, called Santal Medicine.

APPENDIX I.

*The Santal ojha (from within).*

I.

In the following pages very many details are found, possibly of no great interest to the ordinary reader. Among the reasons for recording so much, the following may be mentioned:—It has been the writer's wish to give a full description of the functions and customs here reported, with everything that appertains to them. The ideas and beliefs underlying these are of considerable interest from an ethnological and psychological point of view.

A full description will assist in elucidating the origin of these practices. It is not likely that they are originally, all of them, the property of the Santals. The details will to some extent show, how the property of others may, without permission and not properly, have been taken over, and thereupon adapted, transformed and often added to, in accordance with the ideas and understanding of the adopters.

The present-day Santals are religiously, ethnologically and linguistically under the influence of the peoples surrounding them, specially of the Hindus. What is here told, will, as far as it goes, show in part, how this development or change is taking place.

The origin of the name of *ojha* and the probable origin of the institution have been mentioned above, see Sec. VII, and Appendix II, to which the reader is referred. Whatever the origin may be, the institution has been adapted and is kept up by the Santals according to their own ideas, and is propagated among themselves, an *ojha guru* or authority transmitting his 'knowledge' and 'power' to a *cela* or disciple.

Much has already been told about the *ojha* and his doings. Leaving out what has been already stated, I shall here try to give an account of how a Santal becomes an *ojha*, how he is initiated, and also give samples of his *mantars* and *jharnis*, and how an *ojha* makes use of these; a description of the yearly *ojha*-course and its conclusion is also given.

One might say that two classes of *ojhas* are met with among the Santals, amateurs and professionals, those who take the work up in earnest, and those who only play at it, and are never finally initiated; a special object with these last ones being to be able to participate in certain begging ceremonies that will be mentioned below. Apparently it is thought proper for a Santal man to have some knowledge of the *ojha*'s 'science'; and there are in fact a large number of Santals who have been in contact with *ojha*'ism and have got a smattering of this particular 'knowledge'; they soon forget what they may have learnt and are not styled *ojha*, but, as long as the course lasts, *cela*, disciple, or *cela catia*, disciple pupil, and when the course is finished,

then by the village people *Dasæe koru*, that is, *Dasæe* boys. Those who take the matter up as a kind of profession are comparatively few.

The first beginning is generally the same both for the amateur and for the professional, and as this beginning also plays some small rôle in Santal village life, we shall describe it here.

As mentioned, to become an *ojha* one has to become a *cela* with a *guru*, one who already is an *ojha*. It is customary, although in no way compulsory or obligatory, with the Santals that young men (naturally never women) have once yearly a course in *ojha* 'science.' The course lasts ordinarily from one of the last days of May up to the end of September, or the beginning of October, that is, to the day of *belboron*, with the Hindus the fifth day in the *Dasæe porob*, as the Santals call the Durga puja (*Dasæe* is their name for the month of *Aswin*, September to October; *porob* means festival), with the Santal *ojha*, practically always, a couple of days earlier. That day the *guru* may also give his disciples (only those who may want it) the *sid*, that is, the initiation as *ojha*. The same day *ojha* and disciples commence their begging in the villages.

To return to the beginning: Towards the end of the hot season custom reminds the young men, that they should learn this *bidia*, science, as they express themselves. They consult together, and having made up their mind they go to the *ojha* and ask him to teach them, at the same time intimating that they are prepared to meet all expenses and otherwise pay what is customary.

There is an *ojha* in practically every village, so there is no need to go outside, and it is not done, according to what is told. This lack of interaction will naturally to some extent influence the teaching both as to form and as to contents.

The *ojha* agreeing, they commence the course at the time of *ruhni*, the first day of which falls on the 13th day of the month of *Jhet*, as the Santals call Jaishtha, that is, ordinarily one of the last days of May, their first sitting being on a Sunday, or, in some cases, on a Friday.

They go to the *guru* after having had their evening meal in their respective homes; so the first day and all along. They sit in the *guru's* court-yard. Having commenced the course they come daily, till it is finished, as stated above.

The *ojha* has in his court-yard a small *than*, a place for the worship of his *boŋgas*. Sacrifices are also performed here. The *than* itself is a small mound of earth, a foot or so high and half a yard or a little more long and broad, square or rectangular in shape. At the head of this is planted a *tursi* plant (*Ocymum sanctum*, L., the same as the *tulsi*, the holy basil, worshipped by Hindus).

When the rains come the *guru* and *celas* will require some shelter. For this purpose the disciples erect a small shed in the court-yard not far from the *than*; the shed is called *çari*. It is generally built in the *baŋgla* fashion, that is, with a gable-roof, some three yards long and about two broad, just sufficient to seat and shelter 10-12 persons. According to size the shed has six or nine posts, one at each corner, one at each end in the middle, and, if large, one post in the middle of each side and at the centre. The posts are fixed by unmarried *celas*; married ones must not have anything to do with the erection of the shed. The posts are of *sal*; a wood like that of

*wrel* (*Diospyros tomentosa*, Roxb.) is not permissible, because the *boṅgas* are believed to be afraid of this. The shed is thatched with straw of some sort; the whole is open on the sides; it is only meant to be temporary, just to last out the course, somehow. In the middle of the shed a hen's egg and a *chir sakom*, a thin kind of iron wristlet or arm ornament, are kept. This is meant to prevent witches from molesting them.

Some may leave, before the course is finished, others may join the party 'after the work,' that is, when they have finished their work of planting rice, or any time up to the ripening of the Indian corn; these are not, however, considered proper or real *celas*; their object is to learn a number of songs and some kind of dancing and acting, so as to be able to join the others in the fun when they go begging in the villages (the so-called *Dasāe dayan*, the *Dasāe* wandering).

The first act of the *ojha* when they have come together is to do what is called *akhṛa raṛa*, that is, to perform the opening ceremony to ensure that all may go well and without hindrance. *Akhṛa* is a place of performance, also the (single) performance itself, and *raṛa* means to untie, release, set free, open.

It is done in the following way. The *ojha* has certain special *boṅgas* whom he is in the habit of invoking. The first evening the disciples bring along with them some *sindur* which is given to the *guru*. In five different places in the court-yard the *ojha* makes *sindur* marks in the name of five different *boṅgas*, viz., *Kamru guru* (the reputed first teacher of *ojha*-science to the Santals, now considered a *boṅga* and worshipped as such by all *ojhas*), *Serma sin Ṭḥakur* (lit. heaven, or sky, day *Ṭḥakur*; also called *Sin boṅga*, the day god, the sun, representing the Supreme Being), *Kali māi* (the Hindu goddess Kali), *Dibi māi* (the Hindu goddess Durga), and *Gaṅga māi* (the Ganges goddess). In the three last names sometimes the form *māi*, in Santali meaning 'girl' is used, sometimes *mae*, the Hindi pronunciation, meaning 'mother.'

To each of these he offers the following invocation (a kind of *bakhēr*), only changing the name for each *boṅga* :

*Nōkōe, Kamru guru* (or, as the case may be, *Serma sin Ṭḥakur*, etc.), *amin tikaṛam kana; nōkōe cela koṛako duruṣ akana; adō ūnda ūta ko hijuka calakako; tobē baḍi baḍi noko cela alo baḍi lagaoako ma, alo jemon hoc husi, taṭka birki hoyok ma; nac napaē baḍko hijuk calak mako!*

That is, translated: "Here you see, Kamru guru, I am making a mark for thee; here you see, disciples are sitting; they will come and go at night in darkness; then may malevolence and enmity not come in contact with these disciples; may there be no spell of an evil eye, no sudden fright; in perfect safety may they come and go!"

There may with different *ojhas* be small variations in the wording of the invocation, but the meaning is the same. It should be noted that the language of the invocation is Santali, whilst most of the *mantars* and *jḥanis*, etc., are in some corrupt form of Bengali or Bihari, frequently not understood, and scarcely ever fully understood, by the *ojhas* themselves.

It might be noted that the *sindur* is used only this first evening, with consequent invocation of the *boṅgas* mentioned; some say, however, that *sindur* may be applied

also at the time of the Monsa and Jithia festivals. The *boṅgas* are, as will be remarked, mostly of Hindu origin, intermixed with genuine Santal, or aboriginal ones, an interesting fact from which some deductions as to the origin of the craft are possible. Something will be found on this point later on.

After having invoked the *boṅgas* mentioned, the *guru* utters the opening *mantar* which, with variations, runs as follows :<sup>1</sup>

*Akhṛa khollom, makṛa khollo, piṛ khollo, kṛ khollom? Guru khollo, guru giā ; mac khollo, khollom siri Kahri giā, Kamru dohae khollo.*

This may be rendered as follows : " I have opened the place of performance, I have opened the site of performance (*makṛa* is only a jingle to *akhṛa*, a word not otherwise heard) ; I have set free the stools to sit on. Who has set free (or opened) ? The *guru* has set free, by the *guru's* knowledge (or possibly 'command,' see p. 18 ; a Santal understands it, as if a 'by' were spoken) ; the Mother (likely Kali) has set free ; I have opened by the knowledge of Sri Kahri (or, knowing the fortunate wording), by the grace of Kamru I have opened " "

<sup>1</sup> It might, once for all, be remarked that the *mantar*, *gharṇi*, etc., here and elsewhere cited, are invariably written down as muttered by the *oḥas* from whom I have received them, or as written down for me by Santals. It has never been attempted to polish them or in any way to correct the often very faulty, partly unintelligible language. I have attempted to transcribe them exactly as heard. The Santal *oḥa* does not himself know the foreign language properly, if he knows it at all. In pronouncing the *mantar*, etc., he invariably follows the phonetic law 'of his own language, makes free use of what has been called the resultant vowels (not met with in the surrounding Aryan languages), and the open vowel sounds. In writing these I have followed the system of transliteration used by us in writing Santali.

The Santali language does not, in the verb distinguish the persons formally, otherwise than by making use of the personal pronouns. Very likely this peculiarity influences the *oḥa*, so he does not always distinguish the person of the verb he utters. It has been elsewhere mentioned that the form of the third person may be meant to be that of the first. I have as a rule translated the verbal form ending in *-e* or *-ṛ* as being third person. I am, however, inclined to think that the first person is often meant. It is the *oḥa* himself who is operating and speaking. The same may be said about the form *-lo* that is used alternatively with *-lom* (the *o* is pronounced as if it were resultant) ; here the first person is generally meant. See also p. 52.

In the *mantars* verbal forms ending in *-ae* have generally been taken to be a Beng. causative form, although a similar form in Bihari is simple Present.

The language used seems originally to have been a form of Bihari or rustic Bengali, but forms belonging to Hindi are occasionally met with. This mixing may perhaps be partly due to the *oḥa's* personal knowledge of any particular foreign language ; unconsciously this may influence him.

In support of the above suggested interpretation of *e*, the following story may be told. Many years ago now, a large number of Santals emigrated from these parts and settled to the south, in Birbhum. Some of our preachers once on a tour down there came across a Santal whom they had known here ; the man, however, refused to be recognized. They spoke to him in Santali ; he affected not to understand and said : *ami deko boḷe!* (that is, literally, I is a deko), according to what the Santals told me.

To examine these matters properly must be left to others.

I shall only add that the translations given are in accordance with what the Santals believe they understand by the words cited ; in one or two places the misunderstandings have been pointed out ; it has been thought to be of more interest to hear what the persons concerned think they are saying, than to get a possibly correct rendering.

<sup>2</sup> The meaning of *siri kahri* is very uncertain, and not understood by the Santals. *Siri* cannot well be anything else than the same word found in Hindi and also used in Santali ; the question is whether it is to be taken as a noun or as an attribute to *Kahri*. *Kahri* may be a name, in which case *siri* (i.e., *Sri*) belongs to this. The Santals apparently do not know any person or godling having such a name, but those from whom the *oḥa* has originally got this word may 'know' such a person. A Maṛ *oḥa* (a man belonging to the local Paliaria tribe) has told that *Kahri* is the name of a godling residing in Hades, something akin to *Jom raj*, the king of Hades ; it might be added that Santal *oḥas* have learnt also from Paharia confrères. Another possible explanation might be to connect it with Urdu (Arabic) *qahr*, force, power, this, however, seems to be a little too far-fetched. Some Santals try to connect the word with Hindi *kahna*, to

The following is another formula :

*Akhya khole, pir khole, khuti khole, rola khole, bata khole, cal khole, calin khole, mudhaini khole; ke khole? Guru khole, guru gean; mae khole, kholae siri Kahri gean, Kamru guru dohae.*

That is, He sets (or possibly, I set) the place of performance free; he sets free the stools to sit on; he sets free the poles, he sets free the rafters; he sets free the laths, he sets free the roof, he sets free the thatch, he sets free the roof-ridge. Who sets free? The *guru* sets free, by the *guru's* knowledge; the Mother sets free; he causes to be set free by knowing the propitious wording (or as above); by the grace of Kamru *guru*.

When the opening ceremonies have been gone through, as stated, all is ready for the commencement of the teaching.

The teaching of this course comprehends the following :—

(1) *Mantar*, rigmaroles to drive away disease, or the supposed supernatural cause of any disease, the *mantars* being different for the different diseases. See previous paper, Sec. IX, and below.

(2) *Jhagni*, also different for the different cases, and used only in connection with certain complaints; the *jhagni* is sung or chanted to a special melody that differs somewhat according to the words; the disciple has to learn the words, the melody and the manner of application. See previous paper, Sec. IX, and below.

(3) The songs to be used at the *Dasae daran*, the dancing and begging wandering, when the course is finished off at the time mentioned above.

(4) The special dances and play-acting, and how to be possessed (*rum*).

(5) Medicines to be used when *mantar* or *jhagni*, or both, are ineffective.

Details will be given further on.

When the evening's lesson is done (the *guru* sits with his disciples in his court-yard for an hour, more or less, at a time), the *celas* start for their respective homes.

The writer has naturally never been present at any such occasion; but from the experience he has had of *ojhas*, it seems natural to draw the conclusion that it must take a fairly long time to teach anybody a short *mantar*. Cf. footnote, p. 18.

Before the disciples go away, the *guru* 'closes' the business of the evening; he first mutters a special *mantar* or charm, the object of this being to close the *akhya*, so that persons not concerned may not vitiate the proceedings; the court-yard, momentarily 'consecrated' for the purpose, is made an ordinary court-yard again. Thereupon he mutters another *mantar* to ensure the safety of the disciples when

say, tell, etc.; from the same root they have a couple of words *kahni*, a folktale, *kahuk*, a proverb. How the word should have got this form, is outside their thoughts. These people give the word the meaning of 'saying,' 'wording' or 'formula.' In this case the words would mean 'by the fortunate, propitious wording,' i.e. the *mantar* proper. This gives some sense to the *ojha*, one might think. The following renderings may thus be attempted: 'or luck (or, by fortune, luck), by the knowledge (or, command) of Kahri,' or 'by the knowledge of the fortunate (luck-bringing, propitious) wording,' or 'by the knowledge (or command) of *Sri Kahri*.' Whilst 'by knowing the fortunate, lucky, propitious wording' is the meaning attached to the expression by most *ojhas*, the most probable translation is 'by the knowledge of *Sri Kahri*''; *Kahri* is then taken as the name of a now entirely forgotten *guru* who taught the old *ojhas* and in this way made himself remembered.

going home. These *mantars* are called *bandhon mantar*, a *mantar* to tie up by a charm.

The first is as follows:--

*Akhya bandhon, ke bandhe? Guru bandhe; piṛ bandhe, cal bandhon, calin bandhon; ke bandhe? Guru bandhe, guru gean, Kamru guru dohae bandhon.*

Translated it means: To close up the place of performance; who closes up? The *guru* closes up; he closes up the stools to sit on, to close up the roof, to close up the thatch. Who closes up? The *guru* closes up, by the *guru's* knowledge. Close up by the grace of *Kamru guru*.

The charm to protect the disciples runs as follows:—

*Kulhi jaete kulhi bandhon, chaṭka jaete chaṭka bandhon, aṅna jaete aṅna bandhon, duṛ jaete duṛ bandhon, ghor jaete ghor bandhon, khaṭi jaete khaṭi bandhon, paṛ jaete paṛ bandhon, rola bandhon, khṛ bandhon; ke bandhe? Guru bandhe, guru giā; māi bandhe, bandhe siri Kahri giā, Kamru dohae bandhe.*

The meaning is somewhat as follows:

“When going through the village street, the village street to be closed (to evil influence); when entering the door to the court-yard, the door to be closed (to evil influence); when entering the court-yard, the court-yard to be closed (to evil); when entering the door, the door to be closed (to evil); when entering the house, the house to be closed (to evil); when going between the poles of the house, the poles to be closed (to evil); when going under the beams, the beams to be closed (to evil); when going under the rafters, the rafters to be closed (to evil); the thatching grass to be closed (to evil influence). Who closes (to evil influence)? The *guru* closes by the *guru's* knowledge; the Mother closes (to evil influence); closes knowing the fortunate wording (or as above), closes (to evil influence) by the grace of *Kamru*.”

When above-mentioned *bandhon* has been executed, the young men are free to go home, without fear. They return next evening at the same time. The first thing then to be done is to ‘release’ this *bandhon*; it is done in the same way as the first evening, by the *guru* pronouncing the *Akhya khollom*, etc. whereupon they proceed with the *mantar*, etc., as the first day. Before separating they go through the same *bandhon*.

The same routine is gone through every evening, so long as the course lasts.

## 2.

*Parts of the course specially concerned with the Dasāe darān. Final touches.*

Up to about the beginning of the month of Bhador (Aug.-Sept.) they continue learning *mantars* and *jhṛnis* and nothing else. The *guru* makes the *celas* repeat before him what they have learnt and he corrects them. How much of a precaution this may be, may be judged from what has been stated previously. By this time the *guru* will also have gained some insight into the qualities of his disciples, especially will he know whether any of them takes sufficient interest in the real *ojha* work, or whether they have come to his course mostly to be coached for the *Dasāe darān*.



From this time on, the *guru* will pay attention, on the one hand, to make his disciples fit to participate in the *Dasæ dayan* fun, and on the other hand, to give those of his disciples whose interests are of a more serious character, the final touches before he gives them the *sid* or initiation.

'They now pass through what is called *paisari*.' The *guru* collects some five or six fowls or pigeons from his disciples, or money with which to buy these. It is said that not all give, but only the most proficient ones among the disciples, especially the so-called *pañ cela*, who intend to receive *sid* ultimately. The *guru* takes his disciples out somewhere away from the village houses and there sacrifices these fowls or pigeons to the *guru boṅga* and other *boṅgas* of the *oḷha*. One object of these sacrifices is to secure the disciples who are now soon ready to act their part, against the enmity of malevolent powers. They are performed in the afternoon.

The following is a sample of the invocation offered on this occasion:—

*Johar tobe, Kamru guru* (or *Lohbor guru*, or *Buañ guru*, etc.) *cela caṭiañ duruṣṭ akul'koa*; *tobe onko ñutumteñ emape kana, bes bayeko cel idi ma, ar teheñ khonko dakao-pea*: *khusite kusalte hijukpe*; *arke enēca, jāhāe baḍi bairi jinthi paṭhri lagao alo bajao alo hoyok ma. Judi jāhāe menac khan se gun paṭhri emanteak jologo pe sahar gidia, cela taurc alo baye bajaok ma.*

That is, Be greeted then, Kamru guru (or Lohbor guru or Buañ guru etc.). I have made the disciples and pupils sit down (to learn); then on their behalf I am giving you this; may they continue to learn well, and from to-day they will commence to call you: with pleasure, with enjoyment come; they will dance and play: let no spell or evil charm of any enemy or adversary be thrown or hit. If there is any such, or any magic or evil charm, or the like, you will move all such away; may nothing fall on the disciples!

Thereupon the *guru* applies *sindur* to the peacock feathers of the disciples, and also to their cymbals.

When this is done, the disciples commence to learn to dance *Dasæ* fashion; this will be described later on; most of them will know the proper way of *Dasæ* dancing from before, as it is to be seen every year in the villages. They further learn the songs sung at the same occasion; these will be found in a separate section below.

They are also taught to 'call' the *boṅgas* and to become *rum* (see p. 34, footnote). This, of course, refers to *boṅgas* whose names are not kept strictly secret, anyhow not to the disciples, more specially to the *guru boṅgas* and some others, nameless ones, called, according to the actions of those 'possessed' by these, 'cow' *boṅga*, 'cowherd' *boṅga*, 'tiger' *boṅga*, and so on, as will be presently told.

<sup>1</sup> The word *paisari* is used, so far as I know, in Santali only about what is here mentioned. Some Santals apparently connect the word with Hindi *pai* and say it really means to stand straight on one leg and worship or implore; others have offered the explanation that the word is derived from *paesa* (or *poesa*), pice, because the *guru* collects pice to buy fowls for the purpose here mentioned. The two explanations are mentioned as an example of popular etymology. I suppose one might compare the Hindi *paisar* which means 'access, entrance, admission, ability, power' (Platts' Dictionary). No *oḷha* has been able to give a satisfactory explanation; but I suppose, one will not be much mistaken, if one takes it to mean to be given preliminary admission to the *oḷha* craft, a kind of certificate that one has been through a course, giving them the right to call on certain *boṅgas*.

To call the *boṅga* they clash cymbals and beat brass-cups, and sing the following gibberish :

*Kasa thokḷe kaṣim rāwāe, koṅ koṅ debta yawaere ?*  
*Yawac se ho, Kaṃru guru (Gaṅḍo guru, Lohbor guru, etc.).*  
*Hāyū boṅga (Juḡi boṅga, etc.).*

That is :

They beat the brass, how it is sounding ! Which godlings are coming ?  
 Come then, Kamru guru (Gando guru, Lohbor guru, etc.).  
 Hanuman bongga (Jugi bongga, etc.).

Naturally only one *guru*, or one *boṅga*, is mentioned at the time. During this singing and cymbal beating one after the other of the disciples becomes *rum*, that is, possessed by one or the other of the *boṅgas* mentioned (they are also possessed by the former, now dead *gurus*).

What here follows is a description of 'possession' by the above-mentioned 'nameless' *boṅgas* ; they go through regular rehearsals of the plays they are to act in the villages during the *Dasāc dāyan* (also acted at the *chata* festival). The order in which these *boṅgas* are made to appear may vary ; only some of them have to come in groups. I shall mention the plays in the order in which they are said to be mostly gone through. The different songs are recorded exactly as heard ; some of them are in Santali, generally far from perfect as to form ; others are in a rustic kind of Bengali or Bihari, also far from correct ; on the one hand there is the 'licentia poetica,' on the other, a very curious negligence of the Bengali conjugational forms, the form of the third pers. sing. being, *c.g.*, used for the 1st pers., according to what Santals explain. There are also some 'songs' in a mixture of Santali and Bengali, Bihari or Hindi ; it is very common for them to use Bengali and Hindi nouns with Santali verbal suffixes ; here the opposite is done.

First of all the *hāyū boṅga*, the Hanuman *boṅga*, is mentioned.  
 The *guru* and *cela* sing :

*Kal Bhaero, Masaṅ Kal,*  
*Gaṅga Gaurā, saṃimrē*  
*Huluman bir ya Loṅkae ḍahaokel.*

That is: Kal Bhaero, Masaṅ Kal, Ganga Gaura—the mighty Hanuman is on the roof, he burnt up Lanka.

The first three names are names of *boṅgas* who are addressed.

According to Santal traditions, the ancestors of the present people went along with Rama to Lanka. The song is in Santali.

When this is sung, two or three of the disciples become 'possessed' and act like monkeys, mount to the roof of the house, etc. It is said that this 'possession' is resorted to at the *Dasāc dāyan*, when they see pumpkins on the roof of a house visited, and want to get these. When they have been 'possessed,' the others sing :

*Lut, puṭā, Hāḷuman Loṅka jabe,*  
*Loṅka jabe, puṭā, Pholoṅka jabe.*

That is (according to Santals) : Jump, my boy ; Hanuman is going to Lanka ; he is going to Lanka, my boy ; he is going to Phalanka.

*Lut* is said to be pronounced also *lup*, equal to Beng. *lapha*.

Next they will call for the *jugi boṅga*. In Santali *jugi* means a wandering Hindu ascetic. They sing :

*Jugit gosāe, Siram Parbati,  
Ram Ram Hari bolo he !*

That is, O Jugi Gosāe, say ' Sri Ram Parbati, Ram Ram Hari ' ! (The *t* at the end of *jugi* and *Hari* is ' poetical.')

Generally two are then possessed, and the others sing :

*Jugikin, jugikin, sat jugikin na, naego, koemar jugikin.  
Toka disomem dārāleta ? sat jugikin na, naego, koemar jugikin.  
Turuk disomem dārāleta ? sat jugikin na, naego, koemar jugikin.*

That is :

The two jugis, the two jugis, the trustworthy two jugis, girl (*na*) ; o mother, the two begging jugis.

What country didst thou wander to ? the two trustworthy jugis, girl ; o mother, the two begging jugis.

Didst thou wander to the Mogul (Turk) country ? the two trustworthy jugis, girl ; o mother, the two begging jugis.

(The language of this gibberish is Santali, but not as it is spoken at present in these parts.)

The two ' possessed ' ones sit down on their haunches and say : *ḍirrr bul bul bul bul, roṅga laṭi dao, sili dao, tumbā dao, tilok dao, ḍirrrrr bul bul bul bul, gaṅja dao!* The first words are only meant to draw attention ; next they order (using a Hindi verb, but otherwise mostly Santali names for the things wanted) a knotted stick, a hair rope (twisted of a cow's tail hair, supposed to be effective in driving away the *boṅgas*), a gourd (*tumbā*, the hard shell of *Cucurbita lagenaria*, used by the Santals for water bottles, when out on tour, and as receptacles for small things), a mark on the forehead (the Hindu *tilak*, not otherwise used by the Santals), and finally *ganja*, the Indian hemp. It might be remarked that some of the pice collected (as referred to above) are spent to buy *ganja*, which is only exceptionally used by the Santals. The two *boṅgas* are supplied with all this and play their rôle, until the audience is tired and somebody gives them a thump in the back, whereupon they come to.

Next comes a call for the *gai* (cow) *boṅga*. One is possessed as a cow, another as her calf. They walk on all fours ; the one possessed by the ' cow ' *boṅga* makes a sound like a lowing cow, saying *bāḍḍḍḍ* (the sounds represented as repeated are meant to express only one long sound ; they are otherwise written as pronounced by the Santals).

The others sing :

*Yo goal goalre ! Yo goal kāhāre ?  
Bachure to baghe mare !*

That is:

O goala, goala! where are you, o goala?  
The calf—the tiger is killing!

Or else they sing:

*Bagalre bagal! kãhã roilore?*  
*Sugi gai baghe mar dilore!*  
*Jãnde tãnde bachur bãndhe.*  
*Sugi gai baghe mar dile!*

That is:

O cowherd, cowherd! where are you?  
The tiger has killed the Sugi cow.  
Somewhere the calf is tied up,  
The tiger has killed the Sugi cow!

Immediately another is 'possessed,' this time the *mahra boŋga*, the goala *boŋga*. This one walks upright and says *iaqa iohel iohel!* according to the manner of the goalas, when calling to their cattle. The cow *boŋga* follows after him, and a stick is given into his hand. He pats the calf *boŋga* on the back, and this one answers, emitting a sound like a calf's. The others again sing:

*Lakwalaŋ içak haiq, hoborwalaŋ nule dhaurak!*  
*Gateŋ ho delaŋ calak ran gola do!*  
*Gateŋ ho delaŋ calak muŋge darere saŋga!*

That is,

We two shall pare the *içak*<sup>1</sup> bar, we two shall take the mango branch in our arms;  
Come along, my companion, to go to the medicine store-house<sup>2</sup>;  
Come along, my companion, let us go, there is a beam in the *muŋga* tree.<sup>3</sup>

Now the *baghut* (that is, tiger or leopard) *boŋga* appears a little distance away from the others, moving on all fours and saying *hmmmm* or *ũũũ*, imitating the call of a tiger or a leopard. The *mahra boŋga* naturally has to take action to save the 'cow' and the calf; he attacks the 'tiger' and beats him with his stick. It is, of course, only fun, but they may handle each other rather roughly, so the others try to prevent the 'goala' hitting with his stick, and the *guru* and *cela* blow into the ears of both to hinder them from fighting.

The others also sing:

*Đau ma dau mar mar dau!*  
*Tayamre ma timare tamare,*  
*Sulãre ma limãre lamãre.*

<sup>1</sup> *Içak* is the Santal name for *Woodfordia floribunda*, Salib., a common jungle bush, small bars of which are often used for digging up wild roots in the forest.

<sup>2</sup> *Gola* is the name for round grain granaries; here naturally the forest is meant, where the *oŋha* has his 'stores.'

<sup>3</sup> *Muŋga* is the Santal name for *Moringa pterygosperma*, Gärtn. The tree is commonly planted. The leaves are much used for curry; the flowers and fruit are also eaten. The tree or rather its products are made use of in several ways; the wood is, however, unsuitable for carpentry of any kind. The Santals believe that the odour of the wood will drive snakes away, specially when put in their holes.

That is,

It is flaring up, at it! at it! it is flaring up!  
Walking it is flowing down,  
Joyfully playing it is trailing along.<sup>1</sup>

When all is finished, the 'possessed' ones come to.

Next they sing:

*Sat dhubin kapor kacae, cauda se porilo dhubi to ;*  
*Na bolo volonka tolonka, dhubi to Hori bolo he.*

That is,

Seven *dhubi* (washerman) women are washing dumping cloth; the *dhubi* is down giddy and prostrate;<sup>2</sup>

Don't say ornaments tournaments, the *dhubi* is saying *Hori*.<sup>3</sup>

Immediately one is 'possessed' by the *dhubi* (washerman) *bonga*. He moves in a bent position and calls out *kapor kace, kapor kace*, several times (that is, according to Santal explanation, not *he*, but *I* am dumping cloth; see remark above). He takes his own cloth, if he has any suitable on; otherwise, and preferably, he catches hold of the clothes of somebody present and commences, *dhubi* fashion, to beat the ground with this, at the same time emitting sounds like those emitted by the *dhubi*, when dumping cloth.

Now they sing:

*Jal pkeko, keota guru ho !*  
*Keota guru ka bita ya suru sutu katu, goi ;*  
*Nana sutu jhimri honae de !*

That is,

Cast the net, o fisherman *guru*!

The fisherman *guru*'s daughter is spinning fine thread, hey!

Make a fish-trap of thin thread (slips) and give here!

A man is 'possessed'; he stands or kneels and says *boru mac, boru mac* (big fish, big fish) again and again. The *dhubi bongu* goes up to this one, takes him by the throat, scolds him that he is making muddy the water in which he washes clothes and they have a great quarrel, until the others separate them.

Then they sing:

*Lehgaka hate raja yayela debta ;*  
*Ghura ho ghura, saki,\* ghura ho Lenga ghurai ;*  
*Ghura ho sator bhaja, ghura ho caware dolae !*

<sup>1</sup> The words are in Santali, with some of the additions often used to make the words fit in with the tune. What this and the preceding 'song' have to do with the 'tiger' *bonga*, is difficult to say. They may possibly be something formerly found in some other connection, and then kept on here. It would be a misunderstanding to think that these 'songs' always convey any special sense to the public or the actors.

<sup>2</sup> The word translated 'giddy and prostrate' means 'fourteen,' his head feels like turning round to fourteen sides.

<sup>3</sup> That is, being on the point of dying he calls out to Hari, Krishna.

<sup>4</sup> *Saki* is a female friend, a mendicant dressed as a female; it is the same as Hindi *sakhi*.

That is,

In the hand of the Lenga (*boŋga*),<sup>1</sup> o king, the godling has come ;  
Turn round, o turn round, friends, turn round, o Lenga, cause to turn  
round !

Turn round, o seventy brothers, turn round, o, swinging the hair-wisp !

During this singing a couple of the young men are 'possessed' by the *caꝛ caꝛi* *boŋga*, the scourge *boŋga*.<sup>2</sup>

The 'possessed' ones call out *lele lele, caꝛ caꝛi ho* (bring the scourge!) ; they clap their hands and wheel their right arm round.

The others sing :  
*Kās toꝛe toꝛe, raja ho yayela :*  
*Duio bohīn soŋꝛ kiri taḍ.*

That is,

Brass-cups rows rows, the king has come ;  
Both sisters (have) *taḍ* made of gold.<sup>3</sup>

When they call out *lele lele caꝛ caꝛi*, they put their hands and feet out to be struck ; they do so, at the same time facing towards the east.

Sometimes one is possessed by the *bindi* (spider) *boŋga*. They sing :

*Bindigoꝛ bindi raīmaḥ lendōn,*  
*Taꝛamre ma limāre tamare :*  
*Sulaŋre ma limāre laman.*  
*Saruḳiari noꝛaḳ lañ-*  
*Bindi rayore lañ-*

That is,

Spider's spider, raīmaḥ centipede,  
Walking it is trailling along,  
Joyfully playing it is flowing along.  
Saruḳiari's ' house we two shall—,  
At the spider rock-rapids we two shall—.

The spider *boŋgas* mount the roofs and move on all fours there.

Sometimes they are 'possessed' by the *rackakarbak* (chameleon) *boŋga*. Those 'possessed' move on all fours with the peculiar backward and forward swaying motion of the chameleon, and say *hoōōō*.

<sup>1</sup> I have not heard any Santal understanding the real meaning ; they have learnt it and repeat it, mostly only part of it, leaving out the last line. *Leŋga* is here said to be the name of a *boŋga* ; the word otherwise means 'left.' This *boŋga* is in the hand, it is said.

<sup>2</sup> *Caꝛ caꝛi* is the name of a kind of rope's end, made for the purpose, of *bachom* (Pollinia eriopoda, Hance.), the sabai grass. They take as much as can be held in the grip of one hand and tie this together at the root end. The grass is then divided into three parts ; the first two of these parts are twined together, then the third is wound round the other two, the whole being again tied at the top end. They strike with this first at the wrists and then at the ankles.

<sup>3</sup> The translation is as the words are understood by Santals. The 'king' is the *boŋga*. *Taḍ* is an ornament worn on the upper arm by women : it is large and hollow ; it is not seen now in common use, only very exceptionally. I have heard it said that Santal women at the time of the Santal rebellion (in 1855) carried money hidden inside these ornaments.

<sup>4</sup> The translation is doubtful ; no Santal has been able to explain to me the real meaning, if there is any. *Saruḳiari* is supposed to be the name of a *boŋga*. The text probably refers to the way in which some spiders move.

Some also are possessed by the *hati* (elephant) *boŋga*. They sing :

*Hatigor cari, raigor tandi,*  
*Tayamre ma dhamase dhumus,*  
*Sulatre ma riote royol.*

That is,

The elephant shed, the mustard field ;  
When walking it is heavily,  
When joyfully playing it is high stepping.

The elephant *boŋga* moves slowly and heavily along on all fours ; when he puts one hand down, he puts the other up on his back ; the hand on the back is perhaps meant to show the trunk's motion.

Then there is the *backar boŋga* (*backar* is a juggler or conjurer). One is 'possessed' by this *boŋga*, saying *baji dek, baji dek!* (summersault, look!) and turning summersaults.

The others sing :

*Baji bajilo, backar ?*  
*Kati lobē bajilo, backar ?*

That is,

Did you turn summersault, o juggler ?  
What is your profit turning summersaults, o juggler ?

They also call out singing :

*Dudu dudu bajilom, backar, dudu.*

That is, Drumming, drumming, I turned summersault, o juggler, drumming. (The word *baji* is here taken in the meaning it has in Santali.)

When they have seen enough they give him a thump in the back, and he comes to.

Sometimes the *bir sindiē boŋga* also will take possession of someone. I have not heard any song in connection with this one, nor anything about how he is acting. *Bir sindiē* is a name the Santals have for a kind of monkey ; this monkey is not, however, found in the forests where the Santals now live. I have heard Santals visiting the Calcutta Zoo wondering whether the orang-utan seen there might not be the *bir sindiē*.

We shall now return to the *ojha's* course of instruction. He teaches his disciples, so far as he knows, the songs, etc., mentioned, and also how to act the respective rôles, so far as this might be thought necessary. The acting is otherwise left to the sense and ability of the actors who have personal knowledge of most of the animals or persons they are to represent.

During the *Dasāe daran* the whole string of *boŋgas* are naturally not shown at every place they visit, but some here and some there. As already remarked, some of these 'boŋgas' are always shown in groups, thus the 'cow,' the 'cowherd' and the 'tiger' *boŋgas*, and the 'washerman' and the 'fisherman' *boŋgas* together.

These proceedings throw some light on the real conception of *rumi* among the Santals. Those who are 'possessed' for this play act, to start with, just like one

'possessed' by an ordinary *boṅga*, that is, one of those ordinarily worshipped by the Santals. The *boṅgas* here acting are, however, never otherwise represented as such among the Santals, and, of course, never worshipped. The idea seems to be, that in order to be able to play a rôle properly, one has to be 'possessed' by the spirit of the part acted. The same as with us, only otherwise expressed; something concrete is wanted by the Santals.

As already remarked, possession is brought to an end in every case when the action has been going on sufficiently long, generally by a sharp reminder in the back of the actor.

In connection with the preparation for the *Dasâc daran* there are one or two matters more to be mentioned. The disciples have to learn to use one or the other of two kinds of stringed 'musical' instruments. One is called *kab kubi*. It is a hollow cylinder, generally of wood, but may also occasionally be seen made of a hollow gourd. One end is covered with skin (generally of a goat or a sheep, occasionally also of a kind of large lizard or of a large snake). This skin is pierced and a double string of catgut is run through, a small bit of wood or anything suitable being put in the string loop, to prevent it from slipping through the skin. When playing, the cylinder is kept in the left armpit, the covered end towards the back. The double string, coming through the cylinder, is often (not always) run through a small 'pipe' (mostly the narrow end of the hard shell of a gourd, *Cucurbita lagenaria*) and tied together, a small bit of wood or gourd stalk being used as a kind of handle to keep the strings taut. Keeping the strings in his left hand the player strikes them with a tiny stick; whilst doing this he alternately tightens and slackens the strings. The sound produced is remarkable.

Another instrument is the *buân*. This consists of a bow with two strings of catgut, fixed like the string of an ordinary bow; the bow has a hollow gourd fixed to its middle. When playing the gourd is kept against the player's stomach; he strikes the strings with a small stick, alternatively pressing the gourd hard against his body and loosening it. The sound produced is very much like that of the *kab kubi*. Any one hearing it must needs think that the players must suffer from hunger.

The two instruments mentioned are used only during the *Dasâc daran*, not otherwise; they are, as will be understood, neither elaborate nor expensive. They sometimes last from one year to the next; they will in any case have to be repaired. This and the making of new ones must, as a matter of course, be done during daylight, and does not come into the business of the evening 'sessions.'

The other instruments used during the begging are not peculiar to this occasion and need no special mention here.

What has been described above concerns, as will have been seen, matters specially concerned with the *Dasâc daran*. The *ojha guru* does not, however, neglect his serious disciples. These, of course, also participate in the fun, but they receive instruction in genuine *ojha* practices at this stage. They are thus taught, how to perform *sunum boṅga* (see Sect. X., p. 16, where the proceedings are described) and other matters.



Previous to the last named instruction in play-acting the more proficient *celas* go through certain exercises, the only object of which seems to be to assist them in their future professional work. It belongs to the course, but is not practised outside.

To assist a *cela* to become proficient in being 'possessed' (*rum*) the following is done: The *guru* makes the *cela* sit down on a *gurgu*, the cylindrical stone used in a Santal household for crushing spices; the *cela* sits on his haunches with his feet on this stone; in order not to tumble down he supports himself with his two hands on the ground spread out. He now commences to turn round (apparently always to the right) having the *gurgu* as a pivot. After some turns round he becomes giddy and falls down 'possessed'. If any one has any difficulty in becoming *rum*, the *guru* ties the *cela*'s hair in knots; this is supposed to produce the desired effect; the *cela* is in this way given into the charge of the *boŋga*, and the *boŋga* is egged on. The man is supposed to be literally taken by the hair by the *boŋga*.

By this time the *pat cela*, the principal disciple (there may, of course, be more than one) asks the *guru* to be made *kaḷ khura*.<sup>1</sup>

He wants to go through a ceremony that makes him a recognized candidate for receiving the final *sid*. The *oŋha* does not object, but orders the *cela* to bring the required *samagiri*, the things necessary for the performance, viz. a *gurgu*, a new *hatak* (winnowing fan), a *chir sakom* (a kind of wristlet, of iron, now not in use among the Santals), and a *jonok* (a broom made of *sirom*, *Andropogon muricatus*, Retz.).

When these things are brought, the function is gone through. The *cela* sits down on his haunches; the *guru* hands him the *hatak* which he keeps in his lap, the rimmed bottom-end outwards, and the other end close to his body. When the *cela* is sitting properly, with his left hand holding the *hatak*, the *guru* puts a small handful of *adwa* (sundried) rice in the *hatak*. The *cela* commences to rub out this rice heap, moving his hand round and round.

During this the *cela* becomes possessed, whereupon the *oŋha* addresses him as follows: *Dewa janu sewa janu raja janu math, Gosāc! Raj dō munda dō sadoman catoman-teko nīr hec hojor hijuka: inatele badaca oroma, ni raj ni munda kanae mente. Boŋga dō buru dō celate caŋiate duruŋen betharen, buru mal mahle hatak sapket tohoŋket khan, sok caole bagar caole ghasaokel suturketkhan dhiŋgai dhiuŋar gai leka nīr hec hojor hecenkhan sirā gando paŋa gando belket aŋelket khan sewakak maswarkakale.*

That is: To worship, you see, to adore, you see, a king, you see, a head, my Lord! Kings, Munda with horses, with umbrellas they come running, come hurrying; thereby we know, understand, this one is a king, this one a Munda. A *boŋga*, a spirit, through a disciple, a pupil has sat down, has taken a seat, when a winnowing fan made by a Mahle of hill bamboo is held, taken hold of, when clean rice, impure rice has been rubbed out, rubbed down, when like a cow in milk, like a cow with calf he came run-

<sup>1</sup> So far as the writer knows, the expression is not otherwise used in Santali: I shall not here make any attempt at finding out the original meaning. Possibly this expression and *paŋsari* both refer to some specific action, now quite forgotten. The word is in Santali used about what is here described. Popular Santal etymology connects the word with *akho*, proficient.

ning, came hurrying, when the principal stool, the solid stool has been placed, been put, we shall make worship, pay homage.<sup>1</sup>

The possessed one grunts and is further addressed: *Dɔ dɛkhon Gosāe, ɔkoetak em tīcɛn, em ɔyena, hesak latar bayɛ latar sirɔ gando pata gando belkel atelkel, jatak janamak lailem, tobɛ nāhi ale kāyā andhra manwale haɖaea oromale, nui ɔnɔga nui buru kanac mente; tobɛ nāhile sewakak maswarkakale.*

That is: Please let us see, my Lord, who thou art who art stretched like a string, like a straw rope; under the pipol tree, under the banyan tree the principal stool, the solid stool has been placed, been put; tell first (thy) race (thy) birth, then we blind sightless human beings shall know, shall understand, that it is this *ɔnɔga*, this spirit<sup>2</sup>; then only we shall make worship, pay homage.

Then the 'bonga' (that is, the possessed man) replies: *Sā hā hā hāk! Dek tobɛkhan in dɔ khɔjkidiin tapuskidiinkhan dhīyū gai dhinuar gai lekai nūr hɛɛ hojor hɛɛcenañ. Hesak latar bayɛ latar sirɔ gando pata gando belkel atelkelkhan duruɓenañ bethurenañ. Tobɛ in dɔ Lohbor guru kanañ; tobɛ cele mente jatak janamak doñ oko dohɔea, rebɛl dohɔea. Porasale bañkhan ūhūk! Dek ja bhōyō bhōɛ!*

That is: Yes, yes, yes! Look, since you asked for me, enquired for me, like a cow in milk, a cow with calf I came running, came hurrying. As under the pipol tree, under the banyan tree the principal stool, the solid stool has been placed, been put, I sat down, I took my seat. So then, I am Lohbor guru (this name as an example); now then for what purpose shall I keep hidden, keep back what is (my) race, (my) birth. That is all and true, else nothing here, no! Look out, you bulky bumpkin!<sup>3</sup>

<sup>1</sup> The translation is in a couple of places only tentative. The words are as uttered by Santals; but the language is faulty, and according to ordinary usage, in several places ungrammatical, the subject pronouns being mostly omitted. I have not heard of any Santal understanding all of it. The thrice repeated *janu* is not Santali; it may possibly be the same as Hindi *janmo*. *Munḍa* means here, not the Munḍas of Choṭa Nagpur, but the Pahaṛias of the northern parts of the Santal Parganas. The Pahaṛias were the zemindars or landowners in former days.

<sup>2</sup> *Buru* in Santali means 'mountain, hill'. Some have tried to make out that 'spirit' is the original meaning of the word, but they are very likely mistaken. *Buru* is the general name the Santali language has for mountains and hills; there are a number of other words also, but these refer to some particular form of hills and could not be used about mountains in general. According to Santal traditions, when the *godels* of Thakur, the Supreme Being (*godel* is the village headman's messenger), once rebelled, saying that as they were doing all the work they should also have the power, they were driven away from the presence of Thakur and came and settled down on the earth, on hills, in streams and pools, rocks and crevices, etc. (it is a very curious tradition resembling what has been told from the Hawaiian islands, and the biblical narrative of the fall of the angels; it would be intensely interesting to find out the origin of this tradition among the Santals). It is Santal belief that all hills have resident spirits. It is against all analogy that a name for spirits (for which moreover the Santals have other words) should be employed as a name for a natural object. On the other hand we find all over the world, both at the present time and in former ages, that the name of a place or of the abode of a king or some power is used for the resident. It is unnecessary to give examples, such as Pharaoh, Mikado, the Sublime Porte, Rome, the Holy See, Downing Street, Quai d'Orsay, etc. *Bonga* is the common name for spirit, whatever its derivation may be; *buru* is a mountain, and a spirit that resides on a mountain. *Bonga buru* is a general name for spirits and mountain spirits, a kind of collective to include all sorts; *buru bonga*, a very common expression, means literally a hill or mountain spirit. Etymologically possibly near related words in other languages mean 'mountain'.

<sup>3</sup> The first words *so hū hū hāk* (there may be as many *hū* as one likes) are interjectional and used to signify that the *bonga* is present, in accordance with expectation. They are always used in similar circumstances. *Porasale*, at the end, is not understood by the Santals, the commonly offered explanation being that it stands for *para* and *sari*, that is, that the rignarole is finished and true. It may possibly be some corrupt word or other, meaning that the 'exhibition' is at an end. The last word is mostly used in jest about very stout people.

The *ojha* has rehearsed the whole with the man beforehand and taught him his answer.

The invocations quoted are samples; there are several variants, but what has been cited will be sufficient to show the nature of these proceedings.

The *cela* who has been made *kaṭ khurā*, as described, is henceforth given special treatment. The *ojha* takes him along when he goes on professional visits, shows him how to feel the pulse, to understand the different symptoms, etc., teaches him to prepare the medicines, and where to find them, in short, does what he can to qualify him to become an *ojha*.

There are one or two matters more that should be mentioned. The *ojha* instructs his disciples, besides in what has already been told, also in some specific kind of divination. They are to learn how to foretell what kind of a calf a cow will bring forth, sex and colour, whether a woman will give birth to a boy or a girl, how to tell what kind of food people eat, and so on. It is done very much in the same way as when divining by oil-leaf. The disciple takes a *sal* leaf, marks it with oil in several places, e.g., one mark for a bull calf, one for a female calf, one for a red, one for a white calf, and so on, one mark for every possibility. Uttering an appropriate *mantar* (the same as in the ordinary divination, only omitting the unsuitable parts, and adding what is thought necessary) he puts a covering leaf on, places the whole on the ground, takes it up, salutes the leaf, takes the covering off and sees what the 'oracle' tells. Time will show whether the disciple has been successful or not; one for whom the oracle shows what proves to be correct is deemed lucky; he has the favour of the powers behind. It is perhaps also to find this out that this kind of divination is practised by the *celas*; one hears otherwise very little of it in the villages.

Only those who take a sufficient interest in *ojha* science among the *celas* will attempt these matters; the others may be more or less interested onlookers.

### 3.

#### *The sid or initiation.*

To become a full-fledged *ojha* it is necessary to receive what is called *sid*.<sup>1</sup> The *ojha* gives this to a *cela*, who asks for it and who is deemed fit for it.

The course of instruction described is, as mentioned, brought to its conclusion shortly before the *Dasāc dāṇan*. All *celas* are supposed to become *paṣari*, that is, in reality a person who has been through a course; one or two may be made *kaṭ khurā*, and such a one is supposed to be fit for receiving the *sid*. One who is made *kaṭ khurā* has generally attended two or three years' courses.

As already touched on, only a very few of the disciples receive *sid*, or care to go

<sup>1</sup> *Sid* is a word come from Hindi (originally Sanskrit *siddhi*; in Hindi it means 'accomplishment, perfection, proof, final emancipation, etc.; also the acquisition of supernatural powers by magical means or through the performance of certain mystical or alchemical rites or processes, and the supernatural faculty so acquired' (Platts, Dictionary giving practically the same meanings as in Sanskrit). In Santali the word is used exclusively for a ceremony initiating in anything more or less occult, more especially for the final function making anybody an *ojha*, and the initiation of a *dān*, making a woman a witch.

so far; those who receive *sid* may do so on the morning of the day of *belboron* (as understood by the Santal *ojha* and his disciples); often, perhaps generally, it is given at some other time; there is no rule as to time, provided the recipient is a finished *cela*.

It might be noted that it is not the *ojha* who declares that a *cela* is now ripe for receiving the initiation. It is the disciple who takes the initiative, asking the *ojha* to give him the final touch. He has been following the old *ojha* some time, has learnt his practice and thinks that he may now be able to work independently. The *ojha* will not refuse, he only demands the necessaries for the function. These are the following: A new loin-cloth, a goat, one pair of pigeons and some fowls (these are all to be sacrificed; the number of fowls varies, but is generally five; and all *ojhas* do not want pigeons), one rupee (some *ojhas* demand five rupees) and one 'pot' of beer.

On the *cela* agreeing to this, the *ojha guru* will, as soon as the *cela* has collected the necessaries, go to the house of the disciple, alone or accompanied by his wife, and give the *sid* there. It is not done in the *guru's* house. It is done in the following way:—

The two concerned first go and bathe, such being a necessary preliminary to a sacrificial performance. Having returned, they 'clean' a small place in the court-yard with cowdung, and the *ojha* here puts down a few small handfuls of *adwa* rice and makes some *sindur* marks at each small heap, the number of heaps, and consequently also of *sindur* marks, varying according to the number of sacrifices to be made. The *cela* provides the rice and the *sindur*, handing it to the *guru* in leaf-cups, according to custom.

Sitting down on the new loin-cloth, spread in the court-yard for the occasion, the *ojha* performs the sacrifices; the *cela* holds the goat, the fowls and the pigeons whilst the *guru* beheads them. In one corner of the cloth the money to be given to the *guru* is tied up, and when the sacrifices are performed, he takes cloth and money.

The head of the sacrificed goat is cooked with rice, and the brain is made into 'cakes'; this is all eaten by the two principals.

In addition to the goat mentioned, the *ojha* will sacrifice a pair of pigeons, or a fowl to some special *bonga* of his. This is done in the following way:—The *cela* holds the fowl and lets it feed on the rice put down. The *ojha* thereupon utters the following or some similar invocation:—

*Mən tobē, phalna, phalnic celjon kana, uni thenin jima kam kana : uni hatte ataimē : uni thenin soprotkam kana ; jāhāre ojhaKac, jāhā hilokre amē tikawam khan ar amē unumlem khan, rugiyē bogelen khan dāṛēm namkoa ; bac bogelen khan bam nama.*

Translated, this 'invocation' (which is in Santali) means: "Beware then, thou so-and-so (name of *bonga* is mentioned), so-and-so (name of disciple) is learning; I am giving thee into his charge, receive by his hand; I am handing thee to him; somewhere or other he will do *ojha*-work; when he some day or other makes a mark for thee and he names thee, then if the patient gets well, thou wilt receive sacrificial animals; if he does not recover, thou wilt receive nothing."

At this time the *guru* tells his *cela* the names of the different *ojha bongas* to be invoked.

The two men are not alone; any one may be a spectator. When the flesh of the sacrificed animals is ready prepared for cooking, the *ojha* will instruct the father of the *cela* to call the headman of the village and some of the more important villagers. At the same time, he gives instructions with reference to the above mentioned 'cakes,' and also that the flesh of the two pigeons (if such are sacrificed) is to be kept separate and made into 'cakes.'

Whilst the flesh of the goat and the fowls is cooked as curry and eaten by all present, the 'cakes' mentioned are reserved for the two *ojhas*; the cake prepared from the pigeons (or if pigeons are not sacrificed, then from a fowl) the *cela* is instructed to divide into two. The *guru* and *cela* are now covered by a cloth, so they cannot be seen; they sit in the middle of the court-yard. The *guru* instructs his disciple to take forcibly away from him the part of the 'cake' that he first takes to eat; even if he has got it into his mouth and is chewing it, he is to pick it out and eat it. If he is not able to do this, the *ojha* says, he will not be able to take up the work like his master; his inability is a sign that he has not learnt.

This is gone through whilst they are hidden by the cloth; likely Santals seeing them doing this would feel disgusted. It is probably meant as a symbolic act; the *guru* gives his disciple of his very own, and the *cela* shows his power.

The *sid* has now been given; it is consequently the revealing of the names of certain *boṅgas*, combined with sacrifices and the symbolic 'cake' eating, as described. From now on the disciple is through the action of the *guru* brought into direct contact with the supernatural powers invoked by *ojhas*.

After all formalities have been gone through, the people collected commence to drink the beer. The *guru* announces, that he has given the young man the *sid*. The beer is to celebrate the occasion, and they are witnesses.

When they have eaten and finished the beer, they separate.

The *cela* is now a full-blown *ojha*. It will, however, be easily understood, that the course described is not sufficient to teach a man what an *ojha* is supposed to know or to be able to do. He may possibly be able to pick up a sufficiency of *mantars*, etc., to be able to perform this part of an *ojha's* work. So far as the other part of his work is concerned, the real treatment of disease, according to their lights, he will have to seek knowledge and experience wherever it is to be found.

Remembering the nature of his 'knowledge' and 'science,' it is obvious that his success as an *ojha* must to a very large extent depend on his personal ability to make people believe in him. Cf. the preceding paper Sect. VIII. On the whole I should say, that taking all into consideration it is difficult for a working *ojha* to avoid becoming an utter humbug and a cheat. There may be some who believe in their 'art'; but there are just as many who only practise because they earn money and good food. I have heard several *ojhas* confess that it is all humbug, so far as the 'spiritual' side of their work is concerned.

What an *ojha* is expected to know and be able to do has been described in detail in the body of this paper; his medical knowledge and practices have been described in the Santal Medicine, to which the reader is referred.

## 4.

*The boṅgas invoked by the oḷhas.*

Besides the five *boṅgas* mentioned above the *oḷhas* have quite a number of others that may be invoked. Some have a predilection for one, others for another, and certain *boṅgas* are invoked in certain diseases only.

The names of these *boṅgas*, so far as the writer has been able to ascertain, are the following:—

*Sib Ṭhakur* (probably a form for Shiva).

*Bolman Ṭhakur* (lit. the powerful *Ṭhakur*).

*Dharti muni māi* (or *mac*, a female *boṅga*, possibly another name for one of the Hindu goddesses; *muni* is undoubtedly Hindi, but may in Santal pronunciation be the same as either *muni*, or *mani*).

*Dharti mae*, probably the same as *Dharti muni mae*; it might be noted that this female *boṅga* sometimes seems to be taken as the complement or necessary adjunct to the *Serma Siū Ṭhakur*.

*Jitu siū* (invoked at the time of the Jitiya festival).

*Ma Monsa* (invoked at the Monsa festival; these last ones are females).

*Gāṅga gaurā*.

*Parbatī*.

*Pirthi kūār*.

*Baset kūār*.

*Bās bir*, probably the name of a bamboo-clad hill.

*Mahabir*, the same as Hindi *mahavira*, whether it is meant to represent Vishnu, or the Jain teacher; possibly the *oḷha* does not know; it is sufficient that there is a *boṅga* so named.

*Maha parasnat*, the *boṅga* supposed to reside on the Paresnath hill in the Hazaribagh district to the west of the Santal Parganas.

*Mihuicu*, or *Maloica*, the spirit supposed to reside on the Maloncha hill in the southern part of the Jamtara Sub-division of the Santal Parganas; this spirit is much feared and believed to be very powerful; ordinary people make vows to him, and it is reported that human sacrifices have been offered to him formerly.

*Siū bahni* (also *Siū bahni*), a *boṅga* supposed to reside on the Kaṛakaṭa hill in the Santal Parganas; supposed to be a very powerful spirit; Santals passing the hill when on their way, e.g., to a tea garden, make vows to this spirit to offer a sacrifice when they return. The name is very likely a corruption of Skr. *Sinha vahini*, borne on a lion, an epithet of Durga; the *boṅga* is, however, supposed to be male.

*Bās pahar*, lit. bamboo hill or mountain, a hill *boṅga* of a hill so named. The *oḷak boṅga* or house-god of the Santal Hāsdaḱ tribe has the same name.

*Rāṅga pahar*, a hill *boṅga*, male.

*Boka pahri*, a female hill *boṅga*, residing at a hill so called.

*Pācbāhni*, a hill *boṅga*, residing on a hill so called, female.

*Pahar dana*, a hill *boṅga*, said also to be the name of an *abge boṅga*.

*Dhan ghara*, the same is the *abge boṅga* of the Santal Marṇḍi and Ṭuḍu septs; also said to be the name of a *kisār boṅga*.

*Nārsiñi*, a hill *boṅga*.

*Lila bati*, a female *boṅga* supposed to reside on a hill in the district of Maubhum, said to be the greatest *boṅga* of the witches.

*Marāñ buru*, lit. the great mountain, the principal national godling of the Santals; he has a peculiar double position, as he is also worshipped (specially libated to) together with the Ancestors.

*Mañjhi haṛam*, the village-headman *boṅga*, by many counted to be identical with *Pilcu Haṛam*, the first man; supposed to reside in every village, where there is a *Mañjhi than*, a small structure in the village street just outside the entrance to the headman's house.

*Pargana*, the overchief *boṅga*, a rather feared spirit.

*Deś mañjhi*, a *boṅga* supposed to be a departed sub-overchief, so called.

This last mentioned *boṅga* is not commonly worshipped by others than the *ojhas*, like the three others just mentioned.

*Gosāe era*, a lady of the holy grove, national godling, invoked against sores (*uri*).

*Jaher era*, also a national godling, female, invoked in cattle disease.

*Kaṇa cōḍon*.

*Sikra bari*.

*Mae sahri*.

*Sirkauk*.

*Nag nagin* (or *Lag lagin*), likely not different from the well-known godlings, but adapted to *ojha* ideas, supposed to be able to prevent epidemics, also to end such; invoked also in cattle disease.

*Lila caṇḍi*, female, also the *abge boṅga* of the Santal Hembrom sept.

*Gar dana*, also an *abge boṅga* of the Santal Besra sept.

*Karhar dana*.

*Gar siñka*, also an *abge boṅga* of the Santal Hembrom sept, said to be residing on some hill or other.

*Siñghasor nat*.

*Siñsor ckoṭ*.

*Bhansiñ*, a *jatra boṅga* with *Dular siñ*, his wife.

*Sagram Siñ*, also a *jatra boṅga*.

*Gurāia*, also the *oṛak boṅga*, house or family god of the following Santal septs, viz., the Hembrom, Marṇḍi and Soren. *Gurāia* is a well-known godling of the lower strata of Hindus (cp. Crooke, Popular Religion).

*Ṭhūṇṭa tursa*, also the *oṛak boṅga* of the Santal Ṭuḍu sept.

*Gurāia cāora*, also an *oṛak boṅga*.

*Çor dana*, lit. theft giver, said to be the *boṅga* specially invoked by thieves ; this is, however, quite outside the Santal pale ; they have no professional thieves.

*Jata cāora*.

*Dhara cāora* (has *cāora* any connection with Hindi *caura*, the funeral pile on which *sati* is performed ?).

*Roṅgo ruji*, a *boṅga* to whom worship is made the night before the men start for the annual tribal hunt, with utterly obscene songs and practices.

*Kal cāora*.

*Lila cāora* (should *lila* have anything to do with Malto *lila*, a tortoise ? The writer has, some years ago, seen a place of worship called *lila than* ; in the vicinity there is a stone tortoise ; the place has been a Paharia one.)

*Luri lora*, invoked in small-pox.

*Ghat cāora*.

*Gay cāora*.

*Jog dana*.

*Sara dana*.

*Çaṇḍi dana*.

*Lila dana*.

*Band kūār*.

*Jolon kūār*.

*Koclo kūār*.

*Tak biral*.

*Kal bisa*.

*Duriā barḍo*, invoked in madness.

*Kudra çañḍi*, female.

*Kal çañḍi*, female.

*Dhana çañḍi*, female.

*Dhara çañḍi*, female.

*Sara çañḍi*, female.

*Bisa çañḍi*, female (also named *Besa çañḍi*), invoked when there is poison.

*Risa çañḍi*, female.

*Nason çañḍi*, invoked in madness.

*Ban çuri*, female, said to be identical with *Sara çañḍi*.

*Bhelwa raṅgi*, female.

*Ratni raṅgi*, female.

*Kundli puhkri*, the *boṅga* of the tank so named ; see p. 7, footnote.

*Kapaṭ darha*, the *boṅga* of a waterpool so named, said to be on the south side of the Brahmini river, not far from the Haripur Inspection Bungalow in the Dumka Sub-division, S.P.

*Nāgin koilo* (or *Nāgin koelo*), female.

*Lelori*, female.



*Gohal ghurā.*

*Āk duara.*

*Āk deora*, female.

*Kal deora*, female.

*Dhayaṇ kiari.*

*Bisa raṅgi*, female.

*Koelo raṅgi*, female.

*Barchi raṅgi*, female.

*Raṅgin caṅgin*, female.

*Solma Sōrē*, female (also Solma Sēṛē.)

*Hisi*, female.

*Dumvi*, female.

*Ulumpaika.*

*Julumpaika*, this and the preceding one are *boṅgas* whom the traditions tell the Santals' ancestors invoked to find their way when they were running away out of fear for Mandhō Siñ.

*Kaṇi Karan*, lit. battle-axe Karan.

*Bhalua Bijai*, lit. swallow Bijai; *bhalua* is likely short for *bhalua kaṇi*, the name of a common form of their battle-axes. The two last named are personages from the same event or period as *Ulumpaika*; all these last named four are seldom invoked; they are said to be specially invoked when labour is protracted.

*Pat cira*, female.

*Kal Bhacṛo.*

*Masañ Kal.*

*Rokot Kūari*, female.

Most of the *boṅgas* mentioned are worshipped by sacrificing animals, pigeons or fowls to them, mostly as a result of a vow in case of recovery. This has been described in the previous part of the paper. To some of them *bul māyām* is offered, viz., to those who are supposed to have come out when the oil-oracle was consulted; the operations have been fully described previously (see p. 22 ss.).

In addition to the *boṅgas* also the *oḥa gurus* are invoked, more especially in the *mantars*. Every *oḥa* is supposed to invoke his own *guru* from whom he has learnt and received his *sid*; it is not, however, always, or even commonly practised, anyhow not so long as the *guru* is alive. When a *guru* is dead, he becomes, according to Santal belief, a *boṅga*.

Among the *gurus* the following are specially remembered and invoked: First of all the reputed original teacher, *Kamru* (or, *Kambru*) *guru* who is mentioned in the great majority of *mantars*. Further, *Gaṇḍo guru*, *Sidha guru*, *Bir hoṛ guru*, *Keḷa guru*, *Daṇḍo guru*, *Rohra guru*, *Bhaero guru*, *Mansiñ guru*, *Tivom guru*, *Buañ guru*, *Poḷa guru*, *Lohbor guru*, *Jitu guru*, *Keṛha guru*, *Būhoṛ guru*.

All the names mentioned, both of *boṅgas* and of *gurus* (and I have no doubt

they might be considerably added to), are of very little interest to the ordinary reader. They have, however, for several reasons been recorded here.

They may be of some slight assistance towards tracing the connection between the Santal people and part of the religious worship found among the lower strata of the inhabitants of northern (and north-eastern) India. The writer is under the impression that there is considerably more of this kind of interaction or dependence than is generally thought.

When it is remembered that the Santals believe that the hills and rivers, etc., are the residence of some *boŋga* or other who may get his name from such a hill or river or pool, these very names may, if it is possible to locate them, possibly show a connection between such localities and the ancestors of the present people, or, anyhow, that these ancestors have had some connection with people who have been living near, or have known such places. The wanderings of the Santals are so little known that one likes to press into service anything available to try to find out a little. A few of the names recorded above are easy of identification.

The names may, in their Santali garb, have some small philological interest.<sup>1</sup>

## 5.

*The Dasāe daṛan, the September wandering.*

The course of instruction is, as mentioned, finished for the year a few days before the *Dasāe p̄orob*, the festival of the *Dasāe*, or Aswin, month. This is the common name among the Santals for the *Durga puja*. This is naturally not a Santal festival; it is celebrated by the many Bengalis living in the country, the Santals participating as active spectators. The festival plays some rôle in the life of the Santal villagers, a large number of people, especially young men and girls, going *ñéñé*, looking, as it is called. They go and view the image prepared for the festival, and sometimes even bow to it. At the final act, when the image is immersed, Santals are often hired to carry it, and the din and noise always accompanying this last act in these parts is to a large extent due to the drumming and shouting and hubbub of the Santal spectators. Incidentally it might be remarked that the *Dasāe p̄orob* is one of their time-markers. The Santals do not worship Durga.

When the *guru* and his disciples have held their final function, the *belboron* (as described here below, and generally a few days before the Hindu *belboron*), they are ready to commence the *Dasāe daṛan*, lit. *Dasāe* wandering about.

Those who may participate are, as remarked, the *oĵha* and his disciples; besides

<sup>1</sup> It has previously been stated (see p. 1) that the Santals consider all *boŋgas* to be malevolent and inimical, the only exception being *Cando boŋga*; but he is confused with the Supreme Being who is good.

As regards the *oĵha boŋgas* there is likely little difference in the *oĵha*'s and the ordinary Santal opinion, as to the nature of *boŋgas*. The *oĵhas* may have adopted some ideas concerning them from the Hindus; specially may this be the case with the most known and publicly worshipped members of the Hindu pantheon adopted by them.

There is one idea concerning the *boŋgas*, borrowed from Hinduism, and foreign to the ordinary Santal mind, *viz.*, that the *boŋgas* may be obliged to obey a *mantar*. It does not, however, seem to be the *mantar* knowing *oĵha* whom they must obey, but the *oĵha* acting as the representative of certain gods.

This shows from where the *oĵha* must have received his 'science,' and at the same time, that the Santal *oĵha* has adapted the 'doctrine' to serve his own ideas. It might be interesting to discuss these matters.

those of the current year, also any of previous years' courses who may remember enough of the songs, etc., and who may wish to participate in the fun, and even the disciples of other *ojhas*, provided they live in the village.

The raison d'être of the *Dasæ daṛan* is on the one hand the fun and merry-making and the showing off of the 'scholars;' on the other hand there seems to be some sense of appreciation that these young men have gone through a course of instruction in fighting the foes of man.

Those who participate have to dress in a special manner. Instead of the ordinary *denganak*, or loincloth, such as worn by the Santals, they wear what is called *kaçni*. This is a bit of cloth some three to four yards long, taken plaited round the waist and fixed by being turned in over the *ḍora* (this is the string worn by all male Santals round the waist). The *kaçni* is consequently a kind of skirt; over the *kaçni* they have a narrow bit of cloth tied round the waist. Inside they have a *bhagwa*, a narrow strip of cloth passed between the legs and fastened in the *ḍora* in front and behind. I have been told, that formerly it was not the custom to use *kaçni*; they had ordinary *denganak* or *dhuti* on.

To cover the breast they may use anything, even a coat at the present day, often a small bit of cloth just thrown round the shoulders and breast. On the head they have a kind of turban, never anything very elaborate.

They may, or may not, according to ability or wish and predilection, have one or more of the following: *Paingan*, hollow anklets, with small pebbles or bits of iron inside, making a sound at the least motion; *lipur*, an anklet of leather with small *jhuṅka*, globe-shaped metal bells, fixed on, and *urmal*, a loin belt, of the same stuff and make as that of the *lipur*, also with *jhuṅka*. All these make a tinkling sound. They may also put on what is called a *komor piti*, a broad waist belt, of skin with red cloth and mica, etc., sown on; sometimes also what is called *komor kaṭhi*, a kind of loin ornament, made with shells and tied round the waist so that part of it stands out behind like a kind of short tail. None of these ornaments is obligatory.

All have peacock feathers; during their dancing these are kept in the right hand high up, and the hand is twisted in time with the dancing steps, giving the feathers a peculiar roundabout swing. Formerly they were in the habit of having the *ṭaini thenga*, the *ṭaini* stick. This is a stick, from five to six or even more feet long, and one to two inches thick, of bamboo or other suitable wood. At the top it has a peculiar 'crown' of iron. A bit of iron is divided into three or four 'branches'; these are twisted (to the left) and a few small iron rings (often also twisted) are slipped in on the 'branches' (one I have before me has six small twisted rings). The 'branches' are joined together and the whole driven like a nail into the top end of the stick. The iron 'crown' is some three inches high more or less. When this stick is stamped on the ground the rings tinkle.

The *ṭaini* is now very seldom seen, and is practically not used any more by the *Dasæ koṛa*; but the *ojha* himself may carry one along during the *daṛan*. When a *ṭaini* is carried they use *denganak* and not *kaçni* for loincloth, I am told.

Formerly, it is said, every disciple had a *ṭaini thenga*, and this was the only thing

they had when going begging: their dancing was simply to walk round and round in the court-yard, constantly stamping the *ṭāini* stick end down on the ground.

It is said, that formerly the *oḥas* were in the habit of carrying such a stick when going on professional visits. When in Japan some years ago, the writer saw at Nagasaki in a temple yard a Shinto priest walking with a stick that to me looked just like a *ṭāini*; it was, of course, not possible to examine the thing more closely. In connection with this *ṭāini* stick it is of interest to note that several of the Santal subsects are by custom not permitted to make use of it.

The *Dasāe kōya* (lit. *Dasāe* boys, September boys) as they are called at the time, have a number of 'musical' instruments. The *kab kubi* and the *buṇṇ* have already been described; they further carry cymbals and brass cups (used as bells), some small bells, a *ḍeḍger* (a small kettle-drum), a *ḍhulki* (a small drum of wood, both ends covered) and Santal flutes. They also carry the common Santal *banam* (a one-stringed violin, played with a bow) with them, both *banam* and bow being for the occasion furnished with tassels and feathers.

It will be seen the *Dasāe kōya* are fairly well furnished with instruments, anyhow for making noise.<sup>1</sup>

The begging party consists of some twenty to thirty young men, according to the size of the village and its number of young men. As previously remarked, former *celas* will join, and also other youngsters go along, even if they have learnt nothing; such, however, only to swell the crowd. One such party will carry with them some four to five pairs of cymbals, one or two brass cups, four to five *kab kubi*, a couple of *buṇṇ* (the carriers of this are always placed at the end of a row because the *buṇṇ* would otherwise interfere with the movements of the other dancers), one *ḍeḍger*, one *ḍhulki*, three to four small bells (*ghaṇṭi*), a couple of *banam* and one pair of flutes (these last ones, in Santali called *tirio*, are always made in pairs tuned together).

We shall then hear how the actual *Dasāe dāran* is gone through. On the morning of the *oḥa belboron* day (as already remarked this does not generally fall on the same day as the *belboron* of the Durga puja, but is taken one or a couple of days earlier) the *guru* and *celas* start for some place at a distance away from the village, preferably close to a forest. They are all on an empty stomach. They have some rice and flour with them, *sindur* and *aenom*, cooking pots, fire and fowls (and pigeons) for sacrifices. When they have found a suitable spot, preferably at the foot of a tree, a fairly large *kōṇḍ* is made and plastered with cowdung; small handfuls of rice are put down here, *sindur* is applied (five streaks for each *hoṅga* or *guru*); the *aenom*

<sup>1</sup> It might be mentioned that this *Dasāe dāran* is imitated by others who have nothing to do with the *oḥas*, but make use of the occasion to go round and beg Indian corn on their own hook. These competitors generally operate in couples; they nearly always use the *buṇṇi*, and frequently carry with them what is called *tap* and *caḍḍor badoni*, puppets worked with the finger, sometimes quite a show with a number of figures, mostly, however, only one figure put on one finger and two wooden hands put on two other fingers of the same hand. The hands are clapped before the puppet, and songs are sung. The *Dasāe kōya* and these others should not be mixed up together: they have nothing to do with each other; only they operate at the same time. Incidentally it might be remarked that, otherwise, clapping hands is the opposite of applause with the Santals: it means derision, a fairly sure sign, if needed, that this puppet show is not original with them.

(black eye paint) is also applied. The disciples sit in a row, whilst the *guru* sacrifices the fowls, one after the other in the ordinary way, first letting the fowl feed on the rice. When sacrificing the *ojha* mutters an invocation of which the following is a sample :

*Johar tobē, Kamru guru* (or, *Lohbor guru*, or *Gaṇḍo guru*, etc.) *techū dōle belborōnok kana, disom belborōn ūtūmtele belborōnok kana ; ona ūtūmtele emape kana. Disomle darana ūndā ūta, taṭka birki alo hoyok ma ; jāhāe guniye bāḍaekhan, ban pathriye calaokhan, alo lagao bajaoale ma ; ape dohaete disomle dāyā agui ma. Horho akale, jānge akale taḥṅpe !*

That is: Be greeted then, Kamru guru (or Lohbor guru, etc.), to-day we are performing the *belborōn* ; we are performing this on account of the *belborōn* of the country ; in the name of this we are giving you. We shall wander about in the country at night in darkness, may there be nothing to frighten, to suddenly scare ; if any one knows sorcery, if any one works black magic, may it not have effect or hit us ! Let us by thy grace wander through the country and come back. Keep watch over us, be our constant guard !

These invocations vary according to the knowledge of the *guru*. At this time the *ojha* applies *sindur* to the peacock-feathers of the disciples, viz., to those they are to carry along, during the *Dasāe darān*.

When the sacrifices have been performed, the *ojha* party is joined by the village people, any man who cares. The fowls (and pigeons, if such have been sacrificed ; some say that pigeons are not taken, others assert the opposite) are then singed and all what is not eatable destroyed, whereupon they cook the fowls with the rice to a kind of hash.

Whilst this is being cooked, the disciples pass the time calling up the *boṅgas*, specially those 'nameless' ones mentioned in the previous chapter, and are 'possessed' by one or the other of these.

At this time one revolting thing happens. One young man has been 'possessed' by the *baghut boṅga*, the tiger spirit. The other disciples are sitting round him, singing ; a white fowl is then let loose there, and the *boṅga* pounces on the fowl and bites through its neck. When the play is over, the young man who acted as 'tiger' *boṅga* makes 'cakes' of this fowl and eats these himself alone.

When they have all eaten, the *kōṇḍ* is destroyed and they start on their way back. As many as are going to be dancers change their clothes at this stage.

It will be understood that there is very little more than the name in common between the Durga Puja *belborōn* and that of the *ojha*'s, except the particular time observed.

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<sup>1</sup> One would not think of meeting anything of this kind with the Santals. They explain it themselves by saying that at the moment they are *rum*, they are *boṅga*, and not man. It might be remarked, that at one of their festivals (the *haha*, flower, festival, in the spring when the *sal* trees stand in blossom) some men who have been 'possessed' by certain *boṅgas* and act as such, suck up blood of fowls that have been sacrificed to them (viz., the *boṅgas* they represent). It is significant that a man 'possessed' can get himself to do such a thing ; a Santal in his senses would abhor the thing just as much as anybody else.

The *ojha guru* does not go straight home. Now comes what is called *rau jagao*, a kind of 'blessing' of the medicinal roots, etc., used by the *ojha*. Followed by his *paṭ cela* and a few others who carry a wooden bar (*khouta*) or something to dig with, he goes round in the forest. In his hand he has a leaf-cup, in which he has flour kneaded out with a little water. When they pass a tree or a bush that is considered to have medicinal value, the *ojha* takes a little of the kneaded flour and sprinkles this on the ground, telling that this is medicine against such and such a disease. The *celas* who follow then dig out a bit of the roots and take this along.

From these performances they all return to the *ojha guru's* house. In some cases they are reported to come so late, that there is time for nothing more that day; in such cases they go from the *guru's* house to their respective homes and return to the *guru* next morning, to start from there. As a rule they will be back during the afternoon. They first dance in the *guru's* court-yard; here also some of them are 'possessed,' and they act as described. In the meantime, the *ojha guru* crushes the medicinal roots, etc., brought, mixes the stuff with rice-flour and water in a leaf-cup (*bhāutić*, a small cup made of one leaf, this being plaited and stitched with a straw in four corner places), and taking this cup and his *ṭāini* stick he and his followers commence the *ḍayan*, their wandering to beg. Whilst walking along the village street, they sing the following over and over again:

*Jagao guru ho, jagao cela, aṭharo gonḍa mantar jagao*  
*Solo gonḍa biru,*  
*Jagao jagao ho, Ṭhakin Ṭhakraṇ,*  
*Jagao jagao ho, sara des jagao!*

That is:

Make efficient, o *guru*, make efficient, o disciples, seventy-two mantars make efficient,  
 Sixty-four forest-roots,  
 Make efficient, o, make efficient, Thakin Thakraṇ,  
 Make efficient, o, make efficient, the whole country make efficient!'

As is proper the first object of their walk is the house of the *ato mañjhi*, the village headman. When they reach this place, they enter the court-yard in Indian file style, the *paṭ cela* leading, all keeping their peacock feathers high, jerking them at each step, as they enter and walk round the court-yard some three to four times. When entering they sing the following (or some variant; there are several, different according to different *gurus*):

*Dasāea ka jhala mala, Dibire Durga,*  
*Nayaka jhala mala, keo ho, jhalaeloma, jhalaelom?*  
*Jhala mala Kamru des ho.*

<sup>1</sup> *Jagao* is used for making efficient: we might perhaps often translate it 'bless.' In Hindi it means to awaken: here to awaken the inherent properties or power of what is mentioned. During the Sohrae festival the cattle are similarly made *jagao*.

*Aṭharo gonḍa*, lit. eighteen sets of four, a very common way of counting. *Solo gonḍa*, lit. sixteen sets of four. These numbers may possibly have some reference to the numbers of mantars and medicines taught. *Ṭhakin Ṭhakraṇ* refers to **Durga**.

*Hate lela silia, desere jugia yeho yarwa cala,  
Desere jugia, yeho kaica dudu paire ma paikate,  
Maha gurura bunaloma sar khelaere.*

*Hate lela silia, kande lela duria,  
Mac to yaelom, des desi jugia,  
Mae to yaelom nangare bulqi.*

*Hari Hari, kal baje kasa baje,  
Mahakaete siru sindur,  
Dibire Durga sar khelaelom.*

(or,—*telek sindur, Tinik debta sar khelaere.*)

Translated (it is a rather mixed language, just a little Santali with partly quite misunderstood and not correct Hindi-Bihari) it is something like this (I might again remark that I translate in accordance with what the Santals believe to understand to be the meaning):

The resplendence of the *Dasac* festival, o Dibi Durga,  
Is there no resplendence? <sup>1</sup> Who then? I made it resplendent, I made it re-  
splendent,  
Resplendent, the country of Kamru.  
With the *sili* (hair) rope in their hand the jugis give them this sundried rice;  
Give the jugis this fresh milk, *pai* (pint) by *pai*;  
I have become a great Adjutant bird,<sup>2</sup> the play is true!  
With the *sili* (hair) rope in the hand, with a tassel on the shoulder,  
O mother, I have come, jugis from all countries (are there),  
O mother, I have come, to walk about in the town.  
Time after time they call out Hari, Hari! time after time they sound the brass  
(cymbals),  
Making it smell sweetly the finest sindur,  
O Dibi Durga, I have made play the real thing.

(or,—marking sindur, A number of godlings, the play is true, or real, or in  
straight rows. The words are differently understood).

Whilst the dancers walk round and round the court-yard, the *guru* goes with his leaf-cup and sprinkles a little of its contents on the waterpot stand and a little over the entrance door (on the eaves). The lady of the house or some other female (daughter or daughter-in-law of the headman) brings a stool for the *guru* to sit down on.

Now the dancers form up in lines of eight to ten and commence to dance; one with a *huah* is, as already remarked, always the last of a line, the others place themselves as

<sup>1</sup> This is how the Santals understand it, or rather guess at its meaning. As is known *Nayaha* is one of the *saktis* of Durga's. Such a misunderstanding is instructive.

<sup>2</sup> The Adjutant bird: (*Ardea argala*) plays a certain rôle in the superstitions of the Santals. A feather is thought to be efficacious against snake bite, even only the mentioning of its name. It is told and believed that if the shadow of an Adjutant bird sweeping past falls on a snake on the ground the snake dies. The Hindu origin of this belief in the magical powers of the bird is obvious. *Garur* is borrowed from Hindi where the word is the common form for Skr. *garuda*.

they please. The 'dance' is of a very simple kind. The dancers take a few steps with a swaying motion forwards, and the same steps backwards, drumming and playing anything they have, holding their peacock feathers up as described and jerking them, all singing one or the other of the *Dasæ* songs (these will be mentioned further on). When they have made these steps backwards and forwards a few times, the dancing 'master' says *dirrrr dirrrr*, and the whole company turns round, at the same time making a kind of cringing bow. Thus they continue, playing, dancing, singing, until the headman's wife or some other lady of the house comes out with some Indian corn in a winnowing fan. She lets the Indian corn fall into a basket which the *Dasæ kora* have brought along. They expect to get a quantity, so they always take along a man with a shoulder-stick or banghy-pole and slings (*bharia marâr* and *sikuqr*) and baskets, to take the Indian corn. This is for the *Dasæ kora*, the performing young men.

The *guru* also gets a share, generally the same quantity as that given to the boys. In his case the Indian corn is put on the ground in front of him and he has to pick it up himself; he twines a piece of string and puts the cobs on this, carrying the whole on a stick over his shoulder.

When they have got the Indian corn, they stop dancing (it is understood that the people are satisfied with what they have seen and heard) and go away in Indian file, singing the above quoted *Jagao guru ho, jagao ccla, etc.* After this visit to the headman's house they proceed to visit the other houses of their village, taking all in succession, until they reach the end of the village street, when they go back and visit the houses on the other side of the headman's house. The homesteads of a Santal village lie on both sides of the village street, ordinarily well away from each other (that is, where outside influence has not made the Santals alter their own comparatively sanitary way of building). When 'taking' the street they do not work one side first and the other side coming back, but take both sides at once. They do not visit only the Santals, but if people of other races are living in their village, they will also visit them and beg, even Mohammedans. Brahmins, they tell, may ask them to become *rum* and act before them.

As soon as they get out into the street, they walk along two, three or four abreast; they sing again, as they walk, *Jagao guru ho, etc.*

When they enter any court-yard, they act in the same way as they did entering the headman's house, sing the same, dance and drum, etc. The *guru* in every house sprinkles his medicinal rice-water on the waterpots or their stand and over the entrance door. When they have received the Indian corn, they start for the next house.

The same is repeated in every house with only few variations. When they on entering a court-yard see that an *ojha* lives here (that is, see an *ojha's than*, cf. above p. 46), or know that such a one is living there (there may be several in a fairly large village), they go through the same performance as in other houses, but here in addition the following: a couple of the young men become *rum*, possessed by some *guru bouga* or other, and also (but not always) by some of the 'play' *bougas*. The house-wife, or, if



she is not there, or is incapacitated, another grown-up female, brings some *sindur* mixed with oil in a *bhāutić* (see above p. 72) leaf-cup and gives this to the *guru* who proceeds to make *sindur* marks in five places, beside the *than* or somewhere in the court-yard; he also smears *sindur* on the foreheads of the *rum* young men and on their backs (it should be remarked that this is always done when anyone is possessed by a *bonga*). When all is done and they have received what they want, they walk out, one after the other saluting the housewife who stands at the entrance door with her hands kept turned upwards and together, as a woman does when receiving a salute. The *guru* takes the unused *sindur* along with him; it is his.

There is one other variation, referred to previously. If they, on entering a court-yard, see a number of pumpkins on the roof, presently one of the *Dasāe kora* becomes 'possessed' by the *hārū boŋga*, climbs up on the roof and takes a pumpkin.

In the evening they return with their spoils to the *guru's* house, where they finish the day, dancing, singing, becoming 'possessed' and the like. They do not stay long, and return to their respective houses for the night.

The next morning they return to the *guru's* house, clothe themselves according to custom, dance a little, and start to finish the village.

When there is no house left to beg in, they again go to the *guru's* house, and make ready to visit some other village. The object is the same, to beg and to have some fun.

Before they start they dance a little, whereupon they sing :

:1: *Delabon guru ho* :/:

*Disonte dō ho, guru ho, disonte dō ho!*

:j: *Delabon guru ho* :/:

*Deste dō ho, guru ho, deste dō!*

*Disomre dō ho, guru ho,*

*Celko ūamoka, guru ho? celko ūamoka?*

*Desre dō ho, guru ho,*

*Celko ūamoka, guru ho? Celko ūamoka?*

*Disomre dō ho, guru ho,*

*Sunume sindur ho, guru ho, sunume sindur :*

*Desre dō ho, guru ho,*

*Nacnom kajar ho, guru ho, nacnom kajar.*

*Sunume sindur dō, guru ho,*

*Cekac anećem, guru ho, cekac aneć?*

*Nacnom kajar dō, guru ho,*

*Cekac anećem, guru ho, cekac aneć?*

*Sunume sindur dō, guru ho!*

*Sindur lagil ho, guru ho! sindur lagil.*

*Nacnom kajar dō, guru ho!*

*Kajar lagil, guru ho! kajar lagil.*

That is,

Come let us go, o *guru*,  
 Out in the country, o *guru*, out in the country !  
 Come, let us go, o *guru*,  
 Out in the land, o *guru*, out in the land !  
 In the country, o *guru*,  
 What things are to be had, o *guru* ? What things are to be had ?  
 In the land, o *guru*,  
 What things are to be had, o *guru* ? What things are to be had ?  
 In the country, o *guru*,  
 Oil and *sindur*, o *guru*, oil and *sindur*,  
 In the land, o *guru*,  
 Eye-paint and lamp-black, o *guru*, eye-paint and lamp-black.  
 Oil and *sindur*, o *guru* ;  
 What are you going to do with that, o *guru*, what are you going to do with  
 that ?  
 Eye-paint and lamp-black, o *guru*,  
 What are you going to do with that, o *guru*, what are you going to do with  
 that ?  
 Oil and *sindur*, o *guru*,  
 Oil and *sindur*, o *guru*, I am going to apply, going to apply ;  
 Eye-paint and lamp-black, o *guru*,  
 Eye-paint and lamp-black, o *guru*, I am going to apply, going to apply.<sup>1</sup>

Having finished this song they start, walking across the field to the village they intend to visit. On their way they stop at some suitable place to arrange their clothes, specially to take on the loin cloth *kacni* fashion (if they start in the morning without previous dancing anywhere, they go dressed as usual). When they reach the end of the village street, they march along to the first house (here not to the headman's house first), singing as they pass along the street the following:—

*Kulhi jagao nat bati, raja ho,*  
*Nakhra jagao nat bati, raja ho,*  
*Raja putā dhorome duar,*  
 (or, *raja putā, dara manjur ac*)  
*Hari, Hari raja ho,*  
*Raja putā dhorome duar.*

<sup>1</sup> The here cited song is, as will be seen, really an alternating song between *guru* and disciples. It is, however, sung by all. The language is genuine Santali with a couple of 'poetical' peculiarities, and one form that is often heard with certain individuals, but is not otherwise ordinary language. *viz.*, *net*, or fully *aneṭ*, added to the finite verb instead of simply *a*. There are some individuals who have got into the habit of nearly always using this.

*Sunum sindur* is the *sindur* with the oil that is necessary to prepare the 'paint' used. *Aenom* (*uaenom* is the poetical form with prefixed *n*) *kajar* are two words for the same thing. The first word is 'eye-paint,' the second is their name for lamp-black that is used as eye-paint. They paint this on the eye lids. They also use the same stuff in certain sacrificial performances, that is to say, not the ordinary sacrifices, but the *apha*. (Cf. p. 31.)

That is,

The village street make efficient, the brass-cup of the dance, o king,  
The place of dancing make efficient, the brass-cup of the dance, o king,  
The king's son, at the sacred entrance.

(or, The king's son, coming along the road like a peacock,—according to Santal translation).

Hari, Hari, o king,  
The king's son at the sacred entrance.

Whenever they pass along the street of a village not their own they sing the above gibberish.

When they enter the court-yard of a house they sing *Dasæu ka jhala mala, etc.*, and otherwise act just as in their own village. Here, however, the *guru* does not bring any medicine-water with him to sprinkle on the water pots. When they enter the court-yard of an *ojha*, they go through the same as in their own village. Whilst in their own village everybody is supposed to give some Indian corn, many in 'foreign' villages are not inclined to give. When they enter a house of such people they are at once informed that they have no one there who could give. No woman shows herself, and the *Dasæu kora* naturally do not stop, but go to the next house.

During their wandering about they will frequently meet a party from some other village out on the same business; in such cases they get some extra fun. This will be described in a chapter below.

According to the size of the villages visited and the number of houses where they are received, they manage to 'do' two or three (not more) villages in one day. Every evening, often long after sun-set, they return to their own village and deposit the results of their begging in the *guru's* house, and again start from there the next morning.

As a rule they go begging up to three days, the last day in any case being the *basan hilok*, the day of immersion or dismissal, as the Santals call it. On this day they may attempt some begging in the forenoon, but will not get much. They all march with their *guru* to the *dibi tandi*, lit. the goddess plain, the open place near the house where the Durga image has been standing, and where generally crowds of people come together, in these parts also very large numbers of Santals. Here they dance and sing, drum and play; here they are one after the other 'possessed' by the different *bohgas* mentioned and perform their various plays. *Sindur* is not used here, and there is no begging.

When all is over they march to their *guru's* house and have some final dancing and other performances, whereupon they go to their respective homes.

The Indian corn collected remains in the meantime in the charge of the *guru*. The amount collected varies. In each house visited they receive, I am told, from one to four *jhumbli*. One *jhumbli* is four cobs of Indian corn, tied together by the covering leaves of the cobs that are pulled back. The amount of maize given may consequently turn out to be anything from half a seer to two seers in each house. In this is not included what is given to the *guru*. He receives his corn separately and

keeps all for himself; it is his due, a kind of payment for all the trouble he has taken.

The *celas* go to the *guru* every evening, now not for instruction or anything similar, but to separate the Indian corn from the cobs. The maize must first be properly dry; it generally takes a couple of weeks to get this done. They may ultimately have a couple of maunds of Indian corn. They will now do one of two things; they may sell the maize and for the money buy a *khāsi* or a *badhiā*; or they have a festival called *cela karam*.

A *khāsi* is a castrated he-goat, a *badhiā* a castrated pig. The animal is killed and divided between those who have participated, besides which every household in their village gets a share; they are particular that none shall be left out.<sup>1</sup> They do not have a public feast, eating together; each takes his share home, where it is prepared as curry (*utu*, as they call it) and eaten with their rice.

When they have done as described some years in succession, the *guru* who, as a matter of course, still leads them, proposes to them that they should have the *karam* festival. He supports his proposal by saying that they have now so many times given their own village people food; now they ought to do something for the whole country-side, and let them taste their Indian corn.

Agreeing to this they measure what they have of Indian corn and possibly *janhe* (*Paspalum scrobiculatum*, L., a millet grown by the Santals and said to give intoxicating beer. Where people have no Indian corn they may give some *janhe* instead, I am told), to find out how much beer (*hāndi*) they may be able to manufacture. They may brew from the maize and the *janhe*; sometimes they exchange the Indian corn for rice or *janhe*. The stuff is portioned out to the different households in the village, and the people are requested to brew. In consultation with the village headman, his deputy and other village people, a day is fixed for the celebration, and those who have received the Indian corn, etc., for brewing are requested to have the beer ready on the day notified, adding that on that day they are all to come together at the *guru's* house. The intended celebration is announced in the neighbouring villages and all are invited to come.

In the morning of the day appointed all the beer is brought to the *guru's* house, and one pot is drunk at once; this is called *jan hāndi*, the beer of knowing, or intimation. In the evening people come together. During daylight they have looked out a *karam* tree in the forest; after sunset a dozen or so start with drums to fetch a branch (*karam* is the *Adina cordifolia*, H.f. & B., a large forest tree). A small branch is cut and brought by two unmarried young men, and by the same two planted in the village street just outside the entrance to the *guru's* house. Now the actual festival commences.

A little beer is libated beside the planted branch, some for *Pitru haram* and

<sup>1</sup> When the Santals club together to buy an animal for food, they are anxious that all may get equal and just shares according to their contributions. All eatable parts are cut up into small bits and divided into as many portions as there are 'shares' (one such portion is called *joro*), every portion getting the same amount of each kind of meat, fat, intestines, etc. It is quite a serious business with them.

*Pilcu budhi* (the first man and woman), some for *Majñhi harām* (the spirit of the original village chief, by many Santals considered identical with the first man) and some to *Marāñ buru* (the principal national godling). The libation to *Majñhi harām* may be omitted. Some one recites the *hinti* for the occasion.<sup>1</sup>

Now the beer drinking and dancing commences. First the village people drink in the *oġha guru's* house and go out to dance. They dance some four *akhar* (rounds). When they have done they call the people of some village or other whom they have seen present. These come in, get each two leaf-cups of beer and commence to dance. When these have had two *akhar* of dancing, the people of another village are called and treated in the same way, and so on, until all villages present have had their turn. According to the number of villages represented this dancing may go on until cock-crow or even longer. Up to this time they dance in the street round the planted *karam* branch a certain kind of dance, called *karam enēç*, or also *riñja* (*enēç* means dance or play). There are songs sung to a special melody, the dancing drum is beaten to a special time. No one commences dancing before he is called with his village; but as soon as they have commenced, they may continue as much as they like, only not too close to the *karam* branch, in order not to hamper those 'legitimately' there.

When all have been called, the dance is changed to what is called *bhinsar*, that has other dancing steps, other drumming and songs with other melodies. At sunrise the two young men who brought and planted the *karam* branch go and pluck it up. The one who takes hold of it runs round with it a couple of times, keeping it high up. The girls present jump up and try to pluck a leaf of the branch. If there are girls present wishing to pledge themselves to special friendship, they put the leaf they have taken in each other's hair; from this time on these pairs are connected in special intimate friendship; they call each other *karam ðar* (*karam* branch) and do not use their names.

The two young men thereupon run with the branch to a tank or other fairly deep water, enter the water until they are sufficiently in to be able to immerse themselves. The one who has the branch lets it go whilst under water.<sup>2</sup> Hereupon they return to the others, after having bathed. Then the dancing ceases and all visitors return to their respective villages. Those of the village continue drinking what beer may be left and dance (now *lagyē*, the most common Santal dance) until noon. Then all is over.

No sacrifices are offered, only beer libated as described.

There are a couple of things that should be mentioned. The Santals have a large number of different dances, with corresponding different songs and different drum beating. The dance used at the *Dasāc ðaran* is called *Dasāc* or *loboc*; the

<sup>1</sup> A *hinti* is a recitation of appropriate tradition and precepts, statements, often in figurative language, of what they are at the particular occasion occupied with. The *hinti* varies; at certain occasions it is a long story, reciting the traditions from the very commencement of the world, literally *ab ovo*, down to the moment of recitation. So here, there are not many who know the *hinti* properly; one who is known to know is therefore generally called in to recite.

<sup>2</sup> Very much the same kind of diving is gone through when they go to the Damuda river with the bones of dead people. The bones are let go by the man carrying them whilst he is immersed in the water.

songs and melodies have the same name ; of the last named there are several different ones.

## 6.

*When Dasāe begging parties meet.*

The *Dasāe dāran* is not restricted to begging in one's own village ; as a matter of fact they do more begging in other villages than in their own, although they, of course, will receive more liberal gifts at home than abroad. As every village is supposed to have a *guru* and every year to have a course of instruction as described, and as they all end their courses at the same time and in the same manner, it will naturally happen that the begging parties meet.

When meeting they have some wrangling, one party trying to outdo the other and to show themselves superior in power. It may to an outsider sound rather harsh ; the fact that they have learnt these songs and questions and answers at their course shows that it is not to be taken at its face value.

As soon as they see one another, they both sing :

*Jhari lota cepel cepel, horlo lolo ; tokoe guru doe lever seteren ?*

*Horlo lolo, tokoe cela doe lever seteren ?*

That is :

A lota with a spout, brimful, swaying, lulling, which guru has come swaying here ?

Swaying, lulling, which disciple has come swaying here ?

*Yorē tapua, hamar sōngē lagis kenere ?*

*Bāwē bāwē ban calabo, tolē tolē pathri yurabo.*

That is :

Hey, you dunce, why will you pit yourself against me ?

High through the air I shall set magic in motion, deep below I shall cause the (opposite) sorcery to disappear.

*Dabha lad bad, dabha paki gel,*

*Tomara biconme khae jaga, amar solē juan ke ?*

That is :

The orange is soft, the orange is ripe ;

I shall eat your seed ; who is stronger than myself ?

Thereupon the answer comes :

*Gun calare gunia,*

*Hae, hae ! guru gunia,*

*Hae hae ! guru na gunia.*

That is :

Work your magic, sorcerer !

Alas, alas ! the *guru* sorcerer,

Alas, alas ! the *guru* is no sorcerer.

*Gun menaktam khan mar ge calaome !*

*Pathri menaktam khan mar ge nēdeñme !*

*Gunem sambratĩnkhan marge teŋgonme !  
Pathrim darantiĩn khan mar ge hijukme !*

That is :

If you have any magic power, do work it !  
If you have any sorcery, do hit me fatally !  
If you can restrain my magic, do stand up !  
If you can meet my sorcery, do come here !

After this braggadocio they come nearer and commence a more friendly intercourse. They ask each other (using a Bihari dialect) : *Suluk jaebe na guru, badi jaebe?* Will the *guru* not go in peace, will he go with ill-will? They answer : *Suluk jaebo*, we shall go in peace. Hereupon they sing :

*Johari guru ho, d̄go johara ;  
Johari guru ho, d̄go beohara.  
Johar, johar, guru ho, cete johar ?  
Beohar, beohar, guru ho, cete beohar ?  
Cela celakin d̄o balaea johar,  
Guru gurukin d̄o so johar.*

That is :

Be greeted, o *guru*, come let us greet each other ;  
Be greeted, o *guru*, come let us show courtesy to each other.  
Greeting, greeting, o *guru*, what greeting ?  
Courtesy, courtesy, o *guru*, what courtesy ?  
The disciples between themselves the greeting of men whose children are married ;  
The *gurus* between themselves the ' equal ' greeting.<sup>1</sup>

There is then some greeting gone through. Next they ask each other for lime and tobacco. The most common way of using tobacco among the Santals is to chew tobacco leaf pounded and mixed with unslaked lime of mussels in the hollow of one's hand ; this tobacco chewing is in use among men (formerly never among women) and is a very common way of commencing a talk with other people. Strangers (provided they are Santals) will ask each other for lime and tobacco ; if the party addressed is unwilling it means either great hurry or non-acceptance of the invitation to talk. The *Dasāe* boys may ask for tobacco in the ordinary way ; but they have also some songs, used at this occasion. The following is one of these.

They sing :

*Thamakur, thamakur ; gosāe, maṇḍa thamakur,  
Baha leka daka, s̄ngel leka p̄aura,*

<sup>1</sup> The greeting or salutation performed between two men whose children are married is a very elaborate and rather curious acting ; it is the finest form of salutation between equals known to Santals. The *so johar*, lit. equal greeting, is a form used by persons who are unrelated and do not know their respective ages. They both ' receive ' each other's salutation. See the writer's paper on the different kinds of salutation used by the Santals. J. A. S. B., Vol. LXXVII, Part III, (1898), where a full description is found.

*Burhi chagol marc cobor rase,  
 Andia mandhi, mandia paranik.  
 Den babu, cun thamakur emok talaime.  
 Mil din lan joma, juger jug nutum taha talaia.  
 Den ho pera naicarretam ghēt thamakur,  
 Dandaretam rebēt cun ;  
 Hēt guru bhēt cclalan jomletamge.  
 Makre sutam, makre jhilmil,  
 Kē judi belware mala gathe pare,  
 Se am khaete pare.*

That is :

Tobacco, tobacco, my lord, pounded tobacco,  
 Cooked rice like flowers, liquor like fire,  
 Old juice of an aged she-goat, just sufficient,  
 A powerful headman, a vigorous deputy headman.  
 Do, young man, give us two lime and tobacco,  
 It is one day we two eat ; age upon age a name will remain for us two.  
 Give, o friend, the tobacco tied up in the edge of your cloth,  
 The lime stuck in your waist ;  
 The outdone *guru*, the visiting *cela*, we two shall first eat what you have.  
 Twisted thread, twisted shutter ;  
 If any one can string the bael necklace,  
 He will be able to eat the mango.

The language is a curious mixture.

Whilst sitting together to chew tobacco, they attempt to try each other's knowledge, and to show their superiority, if they have any, something like the rivalry between the disciples of different schools. They ask questions and expect answers, all stereotype, and strangely enough, generally in a foreign, mixed and incorrect language. The following are examples.

*Bin bhituak phule jo hilai lagae,  
 Bin baklak kather nam jo kahi deghore, guru ho.*

That is,

The stalkless flower waving,  
 The barkless tree's name, please, *guru*, tell.

The answer is :

*Tumi ho guru, ami ho guru,  
 Bin bhituak phule jo hilai lagae,  
 Bin baklak kather nam jo kahi decho re, guru ho.*

That is,

You are a *guru*, I am also a *guru*, that is, the stalkless, etc.

*Kon kon bin rokot kat, babaji ?  
 Uhi je bajae lakta he,  
 Uhi je bin rokot kat, babaji.*



That is,

What can you cut without shedding blood, o babaji ?  
 Why, listen, it is sounding,  
 Why, that is cutting without shedding blood, o babaji.

The following is an answer to a scolding :

*Are, sala sala bolis na, sal gac to moṭa hoilo,  
 Huluk na buluk na, marte marte camme charega ;  
 Deḡger daḡkate laḡrē salre huḡuk ḡbuk kartu he re.*

That is,

You fellow, don't say *sala* (brother-in-law), the *sal* tree has become thick ;  
 Don't loaf about ; thrashing you I shall flay your skin off ;  
 Covering a kettle-drum with it I shall make it sound lustily at the laḡrē  
 dancing place (*sal*).

The play on *sala*, the *sal* stick that may be used, and the dancing *sal*, might be noted.

*Hal bhaḡlo, ḡal bhaḡlo, ḡal bhaḡlo, des jae.  
 Kon des ? Des jae, Kamru des.*

That is,

The plough broke, the ploughshare broke, the yoke broke ; I have started for  
 the country.

Which country ? I have started for the country, Kamru's country.

The samples given must suffice ; most, if any, of the conundrums with their answers have nothing to do with *ojha* 'science' and are of very little interest, except it should be from a linguistic point of view, as they show, how a foreign language can be 'murdered' by those who do not know anything of it. One is often reminded of the Latin of the *Epistolae obscurorum virorum*.

## 7.

### *The Dasāe songs.*

When the *Dasāe koṛa*, the 'September boys,' dance in the court-yards they have as mentioned, a number of special songs sung to special melodies that fit in with their dancing steps. These are, as mentioned above, called *Dasāe sereñ*, also *lobḡe sereñ* ; *sereñ* is the Santali name for a song ; *lobḡe* refers to the steps of the dancing.

The *Dasāe* songs are practically all in Santali, with many poetical peculiarities, as to the form of words and also as to the grammatical construction.

*Bindire sutāmlēben tuṅḡān kan ḡo,  
 Bindire toṛṅteben gemēn kan ḡo ;  
 Bindire Siñ bir ḡo lōk kan ḡo,  
 Bindire Man bir ḡo hasa ḡigiren.*

That is,

O spider, you two are moving along the thread (web),  
 O spider, you two are climbing slowly up the gossamer ;

O spider, the *Sin* forest is burning,  
O spider, the *Man* forest has become dust and ashes.<sup>1</sup>

*Ōt ma lolō, Kamru guru, serma seton, Buan guru,  
Yō haere, cela dolañ lalaoketko.  
Sui sutam gutukate senerre lañ galankako,  
Reay kañda, sita nala latarrelañ dohokako.*

That is,

The earth is hot, o Kamru guru, the sky is fierce sunshine, o Buan guru ;  
Alas, alas, we two have tantalized the disciples ;  
We two shall thread a needle and weave them on the rafter,  
In a cool waterpot, below the Sita valley we two shall put them.

*Cetan khon con latar khon con koemar jugi darae kan,  
Koemar jugi cetete lañ bidaye?  
Koemar jugi toatelañ bidaye,  
Koemar jugi dahetelañ bidā bahere.*

That is,

Whether from up-country or from the low country a jugi is coming,  
Wherewith are we two to send the begging jugi off ?  
We two shall send the begging jugi off with milk,  
We two shall send the begging jugi off and away with curds.

*Singi sin singi ninda has hasil ceyē, dai, kin rodon akada ;  
Do se, do se laiaepe,  
Jaher nera laiaepe,  
Bareakin manewakin nupel akana.*

That is,

All day and all night the swan pair, o elder sister, have been bothering,  
Do, do, tell her,  
Tell the Lady of the holy grove,<sup>2</sup>  
Two human beings have appeared.

*Tokoe guru nuralle pohoko doko nārgolen ?  
Tokoe cela baherte pakayeko tundañ kan ?  
Kamru guru nuralle pohoko doko nārgolen,  
Kamru cela baherte do pakayeko tundañ kan.*

That is,

Through which guru's incitement did the locusts come down ?  
Through which disciples' calling out are the larvæ moving about ?

<sup>1</sup> *Tōrē* is a fabulous thread mentioned in the traditional account of the creation of the world, as going between heaven and earth. Gossamer thread floating in the air is called *tōrē*; apparently they are not quite certain whether it is gossamer. *Sin bir* and *Man bir* are forests mentioned in the Santal traditions.

<sup>2</sup> According to Santal traditions the first human pair came out of two eggs of a pair of swans. When the Creator first made a human pair from earth, the Day horse came and kicked them to pieces just as he was going to give them souls. So he made a pair of swans from what he plucked off his breast, and these two got two eggs from which the first human pair came out. The introduction of *Jaher era* is entirely unknown in the traditions.

Through the incitement of Kamru guru the locusts came down.  
Kamru's disciples calling them out the larvæ are moving about.

*Naire ma naigor hako biḡle boyole ;*  
*Hae, hae ! gaḡare ma tayan biḡle boyole ;*  
*Hae hae ! natore ma nato kuḡikin bilit balan.*

That is,

In the big river the river fish are swimming about ;  
Alas, alas! in the big river the crocodile is swimming about ;  
Alas, alas, in the village the two village girls go glittering about.

*Horre hesak sakam hipire hipire,*  
*Hḡete hesak sakam hipir hipir ;*  
*Daharre baye sakam nḡhḡore nḡhḡore.*

That is,

On the road is the trembling pipol leaf,  
The wind makes the pipol leaves tremble ;  
On the cart-track is the glossy banyan leaf.

*Horre kasmar kulai bir ma tilai lo,*  
*Kulai peḡel peḡel, gate, kulai homor homor,*  
*Marna lagae kulai do,*  
*Kulai peḡel peḡel, gate, kulai homor homor.*

That is,

On the road a kasmar tree, a hare, in the forest the tilai bush is burnt,  
The hare is jumping about, the hare is mourning, o companion,  
The hare is going to die,  
The hare is jumping about, o companion, the hare is mourning.

*Logo burure, guru ho, kadlak matkom ho, guru ho, kadlak matkom ho,*  
*Hae hae ! ghanta barire, guru ho, caole sarjom ho, guru ho, caole sarjom ho !*  
*Hae hae ! halan hapatin ho, guru ho, kadlak matkom, guru ho, kadlak matkom*  
*ho,*  
*Bocha boehakin, guru ho, halan hapatin ho, guru ho, halan hapatin,*  
*Natea nateakin, guru ho, cepce hapatin, guru ho, cepce hapatin.*

That is,

On the Logo hill, o guru, there is a middle sized mahua tree, o guru, a middle sized mahua tree,  
O dear, dear! on the Ghanta bari, o guru, there is sal grain, o guru, sal grain ;  
O dear, dear! to pluck and divide, o guru, the middle sized mahua tree,  
o guru, the middle sized mahua tree.  
The two brothers, o guru, will pluck and divide, o guru, will pluck and divide;  
The two wives of the two brothers will, o guru, suck between them, o guru, will suck and divide.<sup>1</sup>

<sup>1</sup> *Matkom*, the mahua, *Bassia latifolia*, Roxb.

*Ghanta bari*, lit. the stir about field (or homestead) may possibly refer to the Mandar hill (in the south of the Bhagalpur district) where the gods churned the ocean.

*Cetane disom dō, guru hoc dakketa ho, guru hoc dakketa ho ;  
 Latare disom dō, guru hoe jayiketa ho, guru hoe jayiketa ho.  
 Gañ nai dō, guru ho, p̄er̄ęc̄ena ho, guru ho, p̄er̄ęc̄ena ho,  
 Soṛa nai dō, guru ho, coṛañenare, guru ho, coṛañenare.  
 Cekatē, cekate, guru holañ p̄arom calak ho, guru lañ p̄arom calaka ?  
 Mit sutam dō, guru ho, cōṭē lobere, hae hae !  
 Bar sutam dō, guru ho, buañe dandire, guru ho, buañe dandire ;  
 Mit jaṅga dō, guru ho, toṛē sutamre, guru ho, toṛē sutamre, hae hae !  
 Mit jaṅga dō, guru ho, buañe dandire, guru ho, buañe dandire.*

That is,

In the up-country, o guru, it rained, o guru, it rained ;  
 In the low-country, o guru, it poured, o guru, it poured.  
 The Ganges river, o guru, was filled, o guru, was filled,  
 The Sora river, o guru, ran overflowing, o guru, ran overflowing.  
 How, how, o guru, will we two get across, o guru, we two get across ?  
 One thread, o guru, high above, o dear, dear !  
 Two threads, o guru, in the buañ stick, o guru, in the buañ stick ;  
 One foot, o guru, in the gossamer thread, o guru, in the gossamer thread,  
 o dear, dear !  
 One foot, o guru, on the buañ stick, o guru, on the buañ stick.

*Toṅōe gururen cela dōko nodōnen dahades dō, guru ho, dahades ?  
 Toṅōe-gururen cela dōko nodōnen ? sarag dihan bharnō leka dhuyiko notañel.  
 Kamru gururen cela dōko nodōnena, dahades dō, guru ho, dahades dō, hae hae !  
 Kamru gururen cela dōko nodōnena, sarag dihan dhuyiko notañel.*

That is,

Which guru's disciples have come out over the country, o guru, over the  
 country ?  
 Which guru's disciples have come out ? right up to heaven like a whirlwind  
 they spread the dust.  
 Kamru guru's disciples have come out over the country, o guru, over the  
 country ; alas, alas !  
 Kamru guru's disciples have come out, right up to heaven they spread the  
 dust.

*Hako hako, guru ho, danda danda, hae !  
 Dhiri cetan, guru ho, hako belc, hae hae !  
 Caurā cetan, guru ho, hakoe bibrum kan.*

That is,

Fish, fish, o guru, fins, fins, o dear, dear !  
 Upon the stone, o guru, the fish egg, o dear, dear !  
 Upon the rock, o guru, the fish is sitting on eggs !

*Kurikin na toṛēteben tūndañ kana, hae hae !  
 Kurikin na toṛēteben ḡm̄eñ kana, hae hae !*

*Kurikin na nabên nasul sangarte, nisi serman tetanena ;  
Nardo kurikin tohon nasulleben,  
Nardo kurikin tohon sangarleben !*

That is,

You two girls, you are moving along the gossamer, o dear, dear,  
You two girls, you are crawling along the gossamer, o dear, dear!  
You two girls, supporting and taking about you two for twenty years I became  
utterly destitute ;  
Any more, you two girls, I shall certainly not support you two,  
Any more, you two girls, I shall certainly not take you two about with me !

*Tokoe gururen cela doko noðonena lale lal do, guru ho, lale lal do ?  
Tokoe gururen cela doko baherena, mat' barahe, guru ho, carhi barahe ?  
Kamru gururen cela doko noðonena lale lal do, guru ho, lale lal do, hae hae !  
Kamru gururen cela doko baherena, mat' barahe, guru ho, carhi barahe !*

That is,

Which guru's disciples have come out so red, o guru, so red ?  
Which guru's disciples have come out in the country, with a rope of bamboo,  
o guru, with a three-stranded rope ?  
Kamru guru's disciples have come out so red, o guru, so red, o dear, dear !  
Kamru guru's disciples have come out in the country, with a rope of bamboo,  
o guru, with a three-stranded rope !

*Kurikin na, dhinki lebēdben na, kurikin,  
Numul noyonben, hae hae ! kurikin !  
Caole sokojben na, kurikin, sankha natēben !*

That is,

You two girls, tread the dhinki, you two girls,  
Look down where the shade is, o dear, dear ! you two girls !  
Toss up the rice, you two girls, listen to the sound the shell wristlets are  
making !

*Tokoe guru vacare hesak belek kan, guru ho,  
Hesak belek kan, hae hae ?  
Tokoe guru batere baye belek kan, guru ho,  
Baye belek kan, hae hae ?  
Care kisinikin cero berok kan.  
Mane huhay do gurukin kena kinik kan,  
Gurukin kena kinik kan.*

That is,

In which guru's court-yard is the pipol ripening, o guru,  
The pipol ripening, o dear, dear ?  
In which guru's property is the banyan ripening, o guru,  
The banyan ripening, o dear, dear ?  
The two pied-starlings are twittering,

The two fine green doves, o guru, are chattering,  
O guru, the two are chattering.

*Tokoe guru racare divhe joloĕ kan, guru ho,  
Hae hae, divhe bamberoĕ ?  
Kamru guru racare divhe joloĕ kan, guru ho,  
Hae hae, divhe bamberoĕ.*

That is,

In which guru's court-yard is the lamp burning, o guru,  
O dear, dear, the lamp shining ?  
In Kamru guru's court-yard the lamp is burning, o guru,  
O dear, dear, the lamp is shining.

*Tokoe guru ho, guru hoe akhyaleta ho,  
Guru hoe akhyaleta ho, hae hae ?  
Kamru guru hoe akhyaleta ho,  
Guru hoe akhyaleta ho, hae hae !*

That is,

Which guru, o guru, provided the place for performance,  
O guru, provided the place for performance ? O dear, dear !  
Kamru guru provided the place for performance,  
O guru, he provided the place for performance, o dear, dear !

*Hae hae, Kamru cela do cela doe pindlela ho ;  
Cete lagit ho guru hoe akhyaleta ho,  
Guru hoe akhyaleta ho ?  
Sunume sindur lagit guru hoe akhyaleta ;  
Naenom kajar lagit cela hoe pindlela do.*

That is,

O dear, dear ! Kamru's disciple, the disciple made an altar ;  
For what purpose did the guru provide a place for performance,  
O guru, did he provide a place for performance ?  
To use oil and sindur, o guru, he provided a place for performance,  
To use eye-paint and lamp-black the disciple made an altar.

*Hae hae ! sedae Siaṛsiñ kumañ  
Kode pitha silpiuteko sinlede,  
Janhe domboĕ dakateko lebdaledea.*

That is,

O dear, dear ! in the old days father's sister's husband Siaṛ Siñ  
They shut up with a door of kode millet bread,  
With a ball of cooked janhe millet they threw him down.

*Tokare do ho, guru ho, dhak saĕ kan, guru ho, hae hae ?  
Tokare do ho, guru ho, ranĕkhi rāwāoĕ kan, hae hae ?  
Ot ma patalre, guru ho, dhak saĕ kan, hae hae ;  
Serma coĕere do, guru, ranĕkhi rāwāoĕ kan, guru ho.*

That is,

Where, o guru, is the kettle drum sounding, o guru, o dear, dear ?

Where, o guru, are the brass cymbals chiming, o dear, dear ?

The earth, in the world below, o guru, the kettle drum is sounding, o dear, dear ;

In the sky above, o guru, the brass cymbals are chiming, o guru.

*Hae hae ! dur dese yaile, buhin, jhatkaite bidai de !*

*Hae hae ! jaite jaite badi dur jhatka, buhin, bidai de !*

That is,

O dear, dear ! I have come to a country far away, o sister, be quick to send me off !

O dear, dear ! walking, walking I have come very far, be quick, o sister, and send me off !

*Hae hae ! kisār nera mēc gando macire goe duruḥ akan,*

*Hae hae ! daṅgua kūrī satere goe racak kan.*

*Hae hae ! kočç kočçete ye beṅgeladin,*

*Hae hae ! kokombeye landawadin.*

That is,

O dear, dear ! the master's wife is sitting on the chairs, planks and stools, o brother-in-law,

O dear, dear ! the maiden is standing pulling the straw of the eaves, o brother-in-law.

O dear, dear ! she looked at me sideways,

O dear, dear ! she turned her head aslant and laughed to me.

*Hae hae ! Sarag dihon patalreko enec kana,*

*Hae hae ! guru do, guru doc nemoḥ kan do sunume sindur,*

*Hae hae ! cela do, cela doc nemoḥ kan do naenom kajar.*

That is,

O dear, dear ! right to heaven and in the netherworld they are dancing,

O dear, dear ! the guru, the guru is giving oil and sindur,

O dear, dear ! the disciple, the disciple is giving eye-paint and lamp-black.

*Hae hae ! de go yayo bhik yayo,*

*Arwa cal, eka dāli dār lagil,*

*Hae hae ! eka kodar maṭi lagil ;*

*Yuhi dekhō mora saṅgare bhāi yayo.*

That is,

O dear, dear ! do, o mother, o mother, give what I beg, o mother, Sun-dried rice, one basket for the branches.

O dear, dear ! one hoe for the earth ;

See him, my dead brother-in law, o mother.

*Hae hae ! kuli kuli sunte jabo ghore ghore ;*

*Hae hae ! khelte jabo, hae hae ! na hami jabo, go,*

*Sēbokero bari duare.*

That is,

O dear, dear! I shall go through the street to listen from house to house ;  
 O dear, dear! I shall go to dance, o dear, dear! No, I am not going  
 To the door of the worshippers' house.

*Hae hae! nape dō, gō nayo, norak duarre,*  
*Hae hae! nale dō, gō nayo, serma setoñre ;*  
*Hae hae! koe dō, gō nayo, nemalepe,*  
*Hae hae! koe dō, gō nayo, bidakalepe !*

That is,

O dear, dear! You, o mother, o mother, are in your house and home,  
 O dear, dear! we, o mother, o mother, are in the heat of the sun in the sky  
 O dear, dear! what we beg, o mother, o mother, give us,  
 O dear, dear! what we beg, o mother, o mother, send us off with that !

*Hae hae! netom dangra dō, guru ho, kōñrekade,*  
*Hae hae! kōñc dangra dō guru hoe etōmrekade ;*  
*Hae hae! guru hoe burumen dō, guru hoe burumen dō ;*  
*Kuya lekan kuyi, guru hoe lai barac kan, guru hoe katha barac kan.*

That is,

O dear, dear! The right side bullock, o guru, he has put on the left side,  
 O dear, dear! The left side bullock he has, o guru, put on the right side.  
 O dear, dear! o guru, he lay down, o guru, he lay down ;  
 A girl black like a wild dog, o guru, is telling it, o guru, she is spreading a  
 report of it.

*Hae hae! dēs lōbē disom cayayen,*  
*Hae hae! guru ho, delabon deste,*  
*Hae hae! guru ho, delabon disomte ;*  
*Hae hae! dēs lōbē disom baheren,*  
*Hae hae! guru ho, delabon dēste,*  
*Hae hae! guru ho, delabon disomte !*

That is,

O dear, dear! the desirable country, the land has become stinking,  
 O dear, dear! o guru, come let us go out into the country,  
 O dear, dear! o guru, come let us go out into the land ;  
 O dear, dear! the desirable country has become defiled,  
 O dear, dear! o guru, come let us go out into the country,  
 O dear, dear! o guru, come let us go out into the land !

*Hae hae!, tokoekoren piari ghuyi*  
*Likide likide, guru ho ?*  
*Hae hae! tokoekoren pondko sadom*  
*Domoge, guru ho, domoge domoge ?*  
*Hae hae! Kamru gururen piari ghuyi*  
*Likide likide, guru ho.*



*Hae hae! Kamru celaren ponḍko sadom  
Domoge domoge, guru ho, domoge.*

That is,

O dear, dear! whose lovely mare  
Is gracefully galloping, o guru?  
O dear, dear! whose white horses  
Are jumping, o guru, jumping and plunging?  
O dear, dear! Kamru guru's lovely mare  
Is gracefully galloping, o guru.  
O dear, dear! Kamru's disciple's white horses.  
Are jumping, o guru, jumping and plunging.

*Hae hae! singi sin singi uinda  
Hās hāsīl cērē gurukin roḍon akada re.  
Hae hae! cele lagit, gurukin roḍonkeda re?  
Hae hae! manwa lagit, gurukin roḍonkeda re.  
Hae hae! dal cetanre, gurukin cipia kan, gurukin cipia kan;  
Hae hae! dal cetanre, gurukin tupuka kan, gurukin tupuka kan.  
Hae hae! dal cetanre, gurukin beble kan, gurukin beble kan,  
Hae hae! dal cetanre, guru ho, manwa jonom do, guru ho, manwa jonom do;  
Hae hae! tokare do, guru ho, gaiko jonomlen, guru ho, gaiko jonomlen?  
Hae hae! tokare do ho, guru ho, gaiko busārlen, guru ho, gaiko busārlen?  
Hae hae! kasi taṇḍire, guru ho, gaiko jonomlen, guru ho, gaiko jonomlen;  
Hae hae! kasi taṇḍire, guru ho, gaiko busārlen, guru ho, gaiko busārlen.*

That is,

O dear, dear! All day and all night  
The swan pair, o guru, have been bothering.  
O dear, dear! for what, o guru, did they bother?  
O dear, dear! for the human being, o guru, they bothered.  
O dear, dear! on the water-dal, o guru, they are searching for each other,  
o guru, they are searching for each other.  
O dear, dear! on the water-dal, o guru, they are making a nest for them-  
selves, o guru, they are making a nest for themselves.  
O dear, dear! on the water-dal, o guru, they are laying eggs, o guru, they  
are laying eggs.  
O dear, dear! on the water-dal, o guru, was the birth of man, o guru, was  
the birth of man.  
O dear, dear! where, o guru, were the cows born, o guru, were the cows  
born?  
O dear, dear! where, o guru, were the cows brought forth, o guru, were the  
cows brought forth?  
O dear, dear! in the kasi grass field, o guru, the cows were born, o guru, the  
cows were born;

O dear, dear! in the kasi grass field, o guru, the cows were brought forth,  
o guru, the cows were brought forth.

*Hae hae! Tuṛi Pukhuri, guru ho, natal baha dḡ, guru ho, natal baha dḡ;*

*Hae hae! Baha Bandela, guru ho, toa baha ho, guru ho, toa baha ho.*

That is,

O dear, dear! at Toṛe Pokhore<sup>1</sup>, o guru, is the aṭal flower, o guru, is the aṭal  
flower;

O dear, dear! at Baha Bandela, o guru, is the milk flower, o guru, is the  
milk flower.

*Hae hae! kaṣi taṇḍire kaḳiye janamlena re, kaḳiye janamlenare;*

*Hae hae! celem cedaere māi nam ṅelledea?*

*Hae hae! celem cedaere māi nam cialedea?*

*Hae hae! raca jojokreṅ ṅelledea, guru hoṅ ṅelledea;*

*Hae hae! gurić gidireṅ cialedea, guru hoṅ cialedea.*

That is,

O dear, dear! in the kasi grass field aunt was born, aunt was born (or, bore);

O dear, dear! what were you doing, o girl, when you saw her?

O dear, dear! what were you doing, o girl, when you discovered her?

O dear, dear! whilst I was sweeping the court-yard, o guru, I saw her, o guru,  
I saw her;

O dear, dear! whilst I was throwing the cow-dung away I discovered her, o  
guru, I discovered her.

*Hae hae! haṭ bajarre, guru ho, daṅgua kuṛi, guru ho, daṅgua kuṛi;*

*Hae hae! liḷam bajarre, guru ho, chaḍui kuṛi, guru ho, chaḍui kuṛi.*

*Hae hae! chaḍui kuṛi dḡ, guru ho, lumam luḡri, guru ho, lumam luḡri;*

*Hae hae! daṅgua kuṛi dḡ, guru ho, lumam saṛi ho, guru ho, lumam saṛi ho.*

That is,

O dear, dear! in the market town, o guru, a maiden, o guru, a maiden;

O dear, dear! in the auction town, o guru, a divorced girl, o guru, a divorced  
girl.

O dear, dear! the divorced girl, o guru, in silken cloth, o guru, in silken  
cloth;

O dear, dear! the maiden, o guru, in a silken sari, o guru, in a silken sari.

*Dentiṅ, go, jaṛi jote! dentiṅ, go, kindiri banam!*

*Hae hae! toḳoć gururen cela dḡko noḍonena, lalc lal dḡ, guru ho, lalc lal?*

*Hae hae! Kaṃru gururen cela dḡko baherena lalc lal dḡ, guru ho, lalc lal.*

That is,

Give me, o mother, the fibre yoke-rope! give me, o mother, the stringed  
fiddle!

<sup>1</sup> Toṛe Pokhore Baha Bandela is a place mentioned in the Santal traditions, where the ancestors deliberately gave up some old customs and adopted new ones.

O dear, dear! which guru's disciples have come out so red, o guru, so red?  
 O dear, dear! Kamru guru's disciples have come out in the land so red, o  
 guru, so red.

*Hae hae! guru dɔ, guru dɔ, gɛl bar guru dɔko ɲacurenare ;*  
*Hae hae! cela dɔ, cela dɔ, gɛl bar cela dɔko baherena.*  
*Hae hae! noɔɔnako guru nera basna daḱ dɔ ;*  
*Hae hae! belako guru nera paṭa gaṇɔ dɔ.*

That is,

O dear, dear! gurus, gurus, twelve gurus turned round ;  
 O dear, dear! disciples, twelve disciples came out.  
 O dear, dear! the guru's wife will bring a cup of water,  
 O dear, dear! the guru's wife will place solid stools for them to sit on.

*Hae hae! toka disom dāyākeda, guru ho ?*  
*Hae hae! toka disom saṅgarkeda, guru ho ?*  
*Hae hae! bhāṇḍ disom dāyākedañ, cela ho,*  
*Hae hae! Turuk disom saṅgarkedañ, cela ho.*  
*Hae hae! bhāṇḍ disom dɔ, cela ho, bhōṇḍgea,*  
*Hae hae! cela ho, Turuk disom dɔ bañ bogea.*

That is,

O dear, dear! which country did you travel in, o guru ?  
 O dear, dear! which country did you go about in, o guru ?  
 O dear, dear! I travelled in the defiled country, o disciple ;  
 O dear, dear! I went about in the Mogul country, o disciple.  
 O dear, dear! the defiled country, o disciple, is unclean ?  
 O dear, dear! o disciple, the Mogul country is not good.

*Hae hae! toka disomben dāyākeda,*  
*Jugikin, jugikin na, sat jugikin ?*  
*Hae hae! bhāṇḍ disom dāyākeda,*  
*Jugikin, jugikin na, sat jugikin.*  
*Hae hae! Turuk disomben saṅgarkeda,*  
*Jugikin, jugikin na buunum barariñ.*

That is,

O dear, dear! where did you travel,  
 You two jugis, two jugis, two trustworthy jugis ?  
 O dear, dear! in the defiled country you travelled  
 You two jugis, two jugis, two trustworthy jugis.  
 O dear, dear! in the Mogul country you went about  
 You two jugis, two jugis, o girl, the giant wasp.

*Hae hae! kaṣi ṭaṇḍire kaṣim geledenare, kaṣim geḷḷenare.*  
*Hae hae! goṛa mutulre bajgor bahalenare, bajgor bahalenare.*  
*Hae hae! cetem cekaere kaṣim űelledare, māi na ?*  
*Hae hae! raca jɔjɔkre kaṣiñ űelledare, kaṣiñ űelledare.*

*Hae hae! guriç giđire bajgor cialeďaire, bajgor cialeďaire.*

*Hae hae! paçhia høeye høekeda, kasi gele notańenare, guru ho, notańenare ;*

*Hae hae! purua bharnđo rakaşena, bajgor baha liveġenare, guru ho, liveġenare.*

That is,

O dear, dear! in the kasi grass field you formed ears, o kasi grass, you formed ears, o kasi grass.

O dear, dear! at the cattle-shed gable the bajgor bush blossomed, the bajgor bush blossomed.

O dear, dear! what were you doing when you saw the kasi grass?

O dear, dear! whilst I was sweeping the court-yard I saw the kasi grass, I saw the kasi grass.

O dear, dear! whilst I was throwing the cowdung out I discovered the bajgor, I discovered the bajgor.

O dear, dear! the west wind was blowing, the kasi grass ears were blown away, o guru, were blown away ;

O dear, dear! a whirlwind from the east came up, the bajgor blossom drooped, o guru, it drooped.

*Puruđ dađ đo poroye poroye, paçhia dađ đo halaye halaye,*

*Ğađa munđu dađ, đai na, huđure huđure.*

*Hae hae! Logma buru, Ğhańta baři cetunte*

*Talse rakaşen, guru ho, talse rakaşen.*

That is,

Rain from the east is drizzling, rain from the west is storming and pouring, Rivers and jungle full of water, o elder sister, thundering, thundering.

O dear, dear! Over the Logma mountain, the Ğhańta baři hill (The water) dashed up, o guru, dashed up.

*Hae hae! delabon, delabon ho jhimbri,*

*Đeste đo re, jhimbri, disomte đo re!*

*Hae hae! cete lađil đo jhimbri,*

*Đeste đo re, jhimbri, đeste đo re?*

*Hae hae! cete lađil đo jhimbri,*

*Disomte đo, jhimbri, disomte đo?*

*Hae hae! sunume sindur lađil jhimbri*

*Đeste đo re, jhimbri, đeste đo re.*

*Hae hae! yaenom kajar lađil jhimbri,*

*Disomte đo re, jhimbri, disomte đo re.*

That is,

O dear, dear! come along, come along, o fish-trap,

Out in the land, o fish-trap, out in the country!

O dear, dear! for what purpose, o fish-trap,

Out in the land, o fish-trap, out in the land?

O dear, dear! for what purpose, o fish-trap,  
 Out in the country, o fish-trap, out in the country?  
 O dear, dear! to catch oil and sindur, o fish-trap,  
 Out in the land, o fish-trap, out in the land.  
 O dear, dear! to catch eye-paint and lamp-black, o fish-trap,  
 Out in the country, o fish-trap, out in the country.

*Dara hara catom noṛak kurikin na,  
 Dela se, dela se noḍonlenben!  
 Hae hae! nataḷ gondaḷ nataḅ pinda kurikin na,  
 Dela se, dela se baherlenben!  
 Hae hae! sona chatar chatarkate  
 Rupegor badha, badhakate kurikin na,  
 Dela se, dela se nonḍonlenben,  
 Dela se, dela se baherlenben!  
 Hae hae! toka hoeyo hoekeda, sona chatar noṭañenare!  
 Hae hae! toka bharṇḍoc bharṇḍokeda, rupegor badha napirenare!*

That is,

You two girls in the splendid hip-roofed house,  
 Please come, please come, come out at once!  
 O dear, dear! you two girls in the large and glorious receiving veranda,  
 Please come, please come, step out at once!  
 O dear, dear! shading yourselves with an umbrella of gold,  
 You two girls with sandals of silver on,  
 Please come, please come, come out at once,  
 Please come, please come, step out at once!  
 O dear, dear! what wind came blowing, the gold umbrella was blown away!  
 O dear, dear! what whirlwind came whirling, the silver sandals were  
 swooped away!

*Siñ bir do ḷok kan, Man bir do hasa ḍigiren,  
 Do se, Chita, űel naḡui kūi daḷ do!  
 Do se, Chita, ciḡ naḡui ḍaḍi daḷ do!  
 Ciḡ hōñ ciḡkeda kūi daḷ do,  
 űel hōñ űelkeda ḍaḍi daḷ do.  
 Kūi daḷ do perēc akan, ḍaḍi daḷ do talse rakapen.  
 Do se, Chita, lo naḡui kūi daḷ do,  
 Do se, Chita, bhuraḷ naḡui ḍaḍi daḷ do,  
 Siñ bir lañ dulaḷ, Man bir lañ nirci niriḷja.*

That is,

The Siñ forest is burning, the Man forest has become dust and ashes,  
 Do, Chita, go and see what water there is in the well!  
 Do, Chita, go and find out what water there is in the spring!  
 I have been and found out about the water in the well,  
 I have been and seen what water there is in the spring.

The well is full of water, the spring is brimming over with water.  
 Do, Chita, draw water and fetch it from the well,  
 Do, Chita, dip your vessel and bring water from the spring,  
 We two shall pour water on the Siñ forest ; we two shall sprinkle on the Man  
 forest and extinguish the fire.

*Toka birko sendera kan ? sisa tamak sade kan,  
 Sakewa dō huḍure huḍure.  
 Toka birko kareka kan ? sisa tamak sade kan,  
 Sakewa dō huḍure huḍure.  
 Siñ birko sendera kan, sisa tamak sade kan,  
 Sakewa dō huḍure huḍure.  
 Man birko kareka kan, sisa tamak sade kan,  
 Sakewa dō huḍure huḍure.  
 Tōkōekoko sendera kan ? sisa tamak sade kan,  
 Sakewa dō huḍure huḍure.  
 Tōkōekoko kareka kan ? sisa tamak sade kan,  
 Sakewa dō huḍure huḍure.  
 Mōrēkoko sendera kan, sisa tamak sade kan,  
 Sakewa dō huḍure huḍure.  
 Mōrēkoko kareka kan, sisa tamak sade kan,  
 Sakewa dō huḍure huḍure.*

That is,

In which forest are they hunting ? the leaden kettle-drum is sounding,  
 The horn is making a din.  
 In which forest are they following the chase ? The leaden kettle-drum is  
 sounding,  
 The horn is making a din.  
 In the Siñ forest they are hunting, the leaden kettle-drum is sounding,  
 The horn is making a din.  
 In the Man forest they are following the chase, the leaden kettle-drum is  
 sounding,  
 The horn is making a din.  
 Who are those who hunt ? The leaden kettle-drum is sounding,  
 The horn is making a din.  
 Who are those who follow the chase ? The leaden kettle-drum is sounding,  
 The horn is making a din.  
 The Five (the country side) are hunting, the leaden kettle-drum is sounding,  
 The horn is sounding.  
 The Five are following the chase, the leaden kettle-drum is sounding,  
 The horn is making a din.

*Hac hac ! naire ma, guru ho, gāṅḍ garur, guru ho, gāṅḍ garur ;  
 Hac hae ! lala Gaṅgare, guru ho, sōṅer gidi, guru ho, sōṅer gidi.*

*Hae hae! naguwalañ dō, guru ho, sōṅṅṅ gidi, guru ho, sōṅṅṅ gidi :*

*Hae hae! sęṅṅwalañ dō, guru ho, gāñḍ garuṅ, guru ho, gāñḍ garuṅ.*

That is,

O dear, dear! in the river, o guru, is the Adjutant bird,<sup>1</sup> o guru, the Adjutant bird;

O dear, dear! in the middle of the Ganges, o guru, is the king-vulture, o guru, the king vulture.

O dear, dear! we two, o guru, shall fetch the king-vulture, o guru, the king-vulture;

O dear, dear! we two, o guru, shall bring the Adjutant bird here, o guru, the Adjutant bird.

*Naire dak dō, kuṛikin, dhipre hasa,*

*Numben na, kuṛikin, naṅkanben.*

*Kocare đubua sunum, pakhare kundar nakič,*

*Rodokben na, kuṛikin, nakijokben.*

*Đaire cāuričtaben, kocare toa baha,*

*Sudukben na, kuṛikin, bahakben!*

That is,

In the river there is water, you two girls, on the bank there is earth,

Bathe, you two girls, wash your hair.

In the corner there is bottle oil, in the niche there is a hair comb,

Tie up your hair, you two girls, comb yourselves.

On the pole are your plaits of cow's tail hair, in the corner is the milk flower,

Tie your hair in a knot, you two girls, fix a flower there!

*Hae hae! đęsre dō ho, guru ho, juri jugi dō, guru ho, juri jugi dō ;*

*Hae hae! disomre dō, guru ho, juri banam dō, guru ho, juri banam dō.*

*Hae hae! cefem cekacre dō, juri banam, guru hom űḡleda ho?*

*Hae hae! cefem cekacre dō juri jugi, guru hom cialečkin ?*

*Hae hae! disom đayanre dō, guru hoñ űḡleda juri banam dō,*

*Hae hae! disom saṅgarre dō guru hoñ cialečkin juri jugi dō, guru ho, juri jugi dō.*

That is,

O dear, dear! in the land, o guru, a pair of jugis, o guru, a pair of jugis,

O dear, dear! in the country, o guru, a double fiddle, o guru, a double fiddle.

O dear, dear! what were you doing when you, o guru, saw the double fiddle?

O dear, dear! what were you doing when you, o guru, discovered the pair of jugis?

O dear, dear! whilst going round in the country, o guru, I saw the double fiddle,

O dear, dear! whilst travelling about in the country, o guru, I discovered the pair of jugis, o guru, the pair of jugis.

<sup>1</sup> *Gāñḍ garuṅ* in Santali generally means rhinoceros; here it is said to be used for the Adjutant bird.

*Hae hae ! tokare do, guru ho, gaiiko janamlen, guru ho, gaiiko janamlen ?*

*Hae hae ! tokare do, guru ho, boŋgae nupellen, guru ho, boŋgae nupellen ?*

*Hae hae ! kasi taŋdire, guru ho, gaiiko janamlen, guru ho, gaiiko janamlen.*

*Hae hae ! kasi taŋdire, guru ho, boŋgae nupellen, guru ho, boŋgae nupellen.*

*Hae hae ! cete laŋil, guru ho, boŋgae nupellen, guru ho ?*

*Hae hae ! cete laŋil, guru ho, gaiiko janamlen ?*

*Hae hae ! sunume sindur laŋil, guru ho, gaiiko janamlen, guru ho, gaiiko janamlen,*

*Hae hae ! naenom kajar laŋil, guru ho, boŋgae nupellen, guru ho, boŋgae nupellen*

That is,

O dear, dear ! where, o guru, were the cows born, o guru, the cows born ?

O dear, dear ! where, o guru, did the bonga appear, o guru, did the bonga appear ?

O dear, dear ! in the kasi grass field, o guru, were the cows born, o guru, were the cows born.

O dear, dear ! in the kasi grass field, o guru, the bonga showed himself, o guru, the bonga showed himself.

O dear, dear ! for what purpose, o guru, did the bonga appear, o guru ?

O dear, dear ! for what purpose, o guru, were the cows born ?

O dear, dear ! to get oil and sindur, o guru, the cows were born, o guru, the cows were born,

O dear, dear ! to get eye-paint and lamp-black, o guru, the bonga appeared, o guru, the bonga appeared.

*Disom dayanre do, Kamru guru, nam baŋe lahakme,*

*Nale do hoc jivi, hasa hoŋmo hoetele bindaŋok, nam baŋe beretkalem !*

That is,

When we walk about in the country, o Kamru guru, please you go in front.

We are souls of air, when our body of earth will by the air fall to the ground, you please put us on our feet.

*Nape purub khon, guru ho, nale paŋhim khon, guru ho,*

*Maj kulire, gurulañ, gurulañ nãrgo napamen.*

*Bohoŋkretam, guru ho, toya dhaca,*

*Tarenretam, guru ho, lal gamcha.*

*Johari, guru ho, johari,*

*Johari, guru ho, de lañ johara.*

That is,

You coming from the east, o guru, we coming from the west, o guru,

In the middle of the village street, we two, o guru, we two, o guru, came down and met.

On your head, o guru, you have a plume of blue jay feathers,

On your shoulder, o guru, a red strip of cloth.

Greeting, o guru, greeting,

Greeting, o guru, come let us salute each other !



*Hac hac! cctane disom do, guru ho, nalom calak ho, guru ho; nalom calak;*  
*Hac hac! latave disom do, guru ho, nalom setrok, guru ho, nalom setrok.*  
*Hac hac! nasul miru leka, guruko sikyi dohokem,*  
*Hac hac! nasul kare leka, guruko biri dohokem.*

That is,

O dear, dear! to the up-country, o guru, don't go, o guru, do not go;  
 O dear, dear! in the low-country, o guru, do not arrive, o guru, do not arrive.  
 O dear, dear! like a kept parakeet they might chain and keep you, o guru,  
 O dear, dear! like a kept maina, o guru, they might fetter and keep you.

Except in a very few places no remarks of any kind have been made to explain the above quoted songs; they must speak for themselves and show what is in the minds of the Santals when they are out for *Dasæ dajan*. Some of the songs recorded show reference to countries in which the ancestors of the present-day Santals have, according to their own traditions, at some time been living, and to events that happened in those countries, now only indistinctly remembered, that may, or may not, have had some connection with the predecessors of the *ojhas*. It is with our present knowledge not possible to do more than guess at the possible time of the events referred to. Likely they are not less than three to four hundred years old, perhaps more.

Others of the songs refer to the present time, partly in veiled language, and others again to the doings of the *Dasæ kora* themselves. It might be noted, that there generally is no direct begging in any of the Santali songs. Most of the songs refer to matters that ordinarily seem to have a very small place in the Santal mind.

There are, of course, other *Dasæ* songs than those here cited. It will be observed, that the Santals do not make use of rhyme, and to make the words scan smoothly they very frequently introduce a vowel, not used in ordinary language, omit something, or add a *re* not otherwise heard. I have reproduced so many verses, because they are of some interest to the student of the language.

## 8.

### Mantar and Jharni.

The 'medicinal' side of the *ojha's* work has been mentioned elsewhere. Previous to giving medicine the *ojha* will generally try the effect of his various *mantar* and *jharni*, which are supposed to be able to drive all evils away by their inherent magic powers. That these never are efficacious apparently do not prevent their use. So long as they believe, or anyhow their patients have any belief in them, there is, to them, always the possibility of their working power. Even if they do not have any visible effect, it may be thought advisable to resort to them to keep on the safe side with the spirits.

Below will be given specimens of the different *mantar* and *jharni*. As elsewhere mentioned the *jharni* is not spoken, but sung to special melodies (see p. 14).

According to Santal ideas there is a natural enmity between an *ojha* and the witches. The *ojha* tries to undo the evil work of the witches, and these will naturally

attempt to hinder the *ojha* in doing his work ; he must consequently also guard himself against the possible sorceries of the witches, and naturally against all inimical and malevolent powers.

When the *ojha guru* opens his course of instruction one of his first acts is to secure his course and his disciples against the dangers mentioned (see p. 47) and to take measures to protect his disciples when they go and come (see p. 50).

Here is a *mantar* which the disciples are taught to use to protect themselves :

*Tcl turī rai sursā, cul culte cul bandhōn, mul mulle mul bandhōn, ghica calte ghica bandhōn, chāti calte chāti bandhōn, pañjra calte pañjra bandhōn, dānda calte dānda bandhōn, cūke calte cūke bandhōn, jānga calte jānga bandhōn, themna calte themna bandhōn, supti calte supti bandhōn ; kē bandhē ? Guru bandhē, guru gean, mae bandhē, bandhē siri Kahri gean, Kamru dohae bandhē.*

That is translated something like this : Oil *turī, rai, sursā* (different kinds of mustard from which oil is pressed). When applied to the hair, the hair to be charmed ; when applied to the head, the head to be charmed ; when applied to the neck, the neck to be charmed ; when applied to the chest, the chest to be charmed ; when applied to the ribs, the ribs to be charmed ; when applied to the loins, the loins to be charmed ; when applied to the eyes, the eyes to be charmed ; when applied to the thighs, the thighs to be charmed ; when applied to the knees, the knees to be charmed ; when applied to the feet, the feet to be charmed ; who charms ? The *guru* charms, by the *guru's* knowledge ; the Mother charms, charms by the knowledge of *Kahri* (or : charms by knowing the propitious wording), charms by the grace of *Kamru*.

Any of the oils mentioned is supposed to be applied at the time.

When an *ojha* goes on a professional visit, he will to protect himself use the same *mantar* as that cited p. 50. When passing through a forest with dangerous animals he may use the following :

*Hare bagha, mūr colte mūr bandhōn, dāt colte dāt bandhōn, gola colte gola bandhōn, chāti colte chāti bandhōn, dārā colte dārā bandhōn, jānghi colte jānghi bandhōn, gunthi colte gunthi bandhōn, țena colte țena bandhōn, suptiē colte suptiē bandhōn, roa colte roa bandhōn ; kē bandhē ? Guru bandhē, Kamru guru dohae bandhē.*

Translated : O tiger (or, leopard,) when moving the head, the head to be charmed ; when moving the teeth, the teeth to be charmed ; when moving the throat, the throat to be charmed ; when moving the chest, the chest to be charmed ; when moving the loins, the loins to be charmed ; when moving the thighs, the thighs to be charmed ; when moving the knees, the knees to be charmed ; when moving the legs, the legs to be charmed ; when moving the feet, the feet to be charmed ; when the hair is moving, the hair to be charmed ; who charms ? The *guru* charms, by the grace of *Kamru guru* he charms.

When he has pronounced this *mantar*, the tiger will sit quiet without moving.

If he should meet any one who looks threatening, the following is effective ; the *ojha* takes up some dust and scatters this in front of him towards the person coming ; at the same time he says : *Are Hindu Musalman, na karēs, amko dekhia, mukhe dekhia hāsi uthe !*

That is, O Hindu, Musalman, don't abuse, seeing me looking at my face may you feel inclined to laugh.

The witches are believed to be able to hit people in the following way : they take a small stone or (preferably) a small bit of charcoal and blow this out from the mouth towards the person to be hit ; if nothing is done to counteract the ' shot ', the person ' hit ' in this way will fall down in a swoon, anyhow become suddenly ill (it is one form of what they call *ban pathri*). The following *mantar* is used ; *Dēsc̄ porob dekhte jabe, dhelka maṭi uṭhai libo, porhae dibo ; kise libo? Kopale chatiye ar guru gun cale, se gun kaṭia amar gun laḡia jae.*

Translated : She will go and see the festival of the country ; I shall pick up a clot of earth ; I shall ' read over ' it and give it ; what shall I receive it in ? In the forehead, in the breast, another *guru* uses magic ; doing away with that sorcery I shall use my own magic.

The above is supposed to be an effective guard.

If any one is supposed to have been ' hit ' the following is used : *Pathri ke pathri udailom, band ke band udailom ; ke udailom? Guru udailom, dohae Kamru guru !*

That is, I sent spell after spell flying, I sent charm after charm flying ; whom did I send flying ? I sent the *guru* flying, grace, o Kamru *guru* !

Whereupon the *oja* blows over the patient. Thereupon medicine.

When children are crying without apparent cause, or when they suffer from a peculiar form of vomiting and diarrhoea, they are supposed to have been exposed to what is called *aha*, the effect of the evil eye. The following *mantar* is used :

*Kandni gelo, nidani ailo, koto khon kande he? Haṭ kandoni, baṭ kandoni, chaita kandoni ; i kandoni ke phuke? Guru phuke, guru gean, mac phuke, phuke siri Kahri gean, Kamru dohae phuke.*

That is, Cryer went, sleepy came, how long is it crying ? Market crying, road crying, child crying ; this cryer who blows away ? The *guru* blows away, by the *guru's* knowledge ; the Mother blows away, blows away by the knowledge of Sri Kahri, by the grace of Kamru he blows away.

Finished off with blowing.

*Mantar* against headache :

*Matha piṛa ke phuke? Guru gean, mac phuke, phukai, siri Kahri gean, Kamru dohae phuke, chutia ja.*

That is, Headache who blows away ? By the *guru's* knowledge, the Mother blows away ; causes to blow away by the knowledge of Sri Kahri, by the grace of Kamru he blows away, get away !

Finished with blowing.

Against *aha* (another) :

*Purub pachim utor dakhin car kōṇḍ car poa maṭi bandhon ; dos bhai noṅjor bandhon, ha korile mukhe nakha, Dibi Durga Sita Bhorot dohae.*

That is, East, West, North, South, the four corners, the four quarters, to be charmed ; the ten brothers' view to be charmed ; if you gape (I shall give it you) in your mouth, in your nose, by the grace of Dibi, Durga, Sita and Bhorot.

The *ojha* blows and performs *bulau* (see, p. 26) with the kernel of *soso* (*Semecarpus anacardium*) and a bit of a broom.

Against *mčl haso* (lit. eye pain) the following is used: the patient is in the evening after dark taken out and told to look at the stars; the *ojha* takes a garlic in his mouth and blowing into the eyes of the patient three or five times he utters the following *mantar*: *Cok uthe; i cok kakhe uthe? phalna ke phalni ke, i cok ke phuke? Guru phuke, guru gean, mac phuke, phukai siri Kahri gean, Kamru dohae, siri dohae phuke.*

That is, The eye pains; who causes this eye-ache? So and so (man), so and so (woman), this eye-ache who blows away? The *guru* blows away by the *guru's* knowledge, the Mother blows away, causes to blow away, by the knowledge of Sri Kahri, by the grace of Kamru, by luck, by grace, he blows away.

After having got his eyes blown into, the patient is to go straight in without looking anywhere.

The following is another against the same:

*Cok cok, i cok na dukhe, na phule; ke phuke? Guru phuke, guru gean, mac phuke, phukai siri Kahri gean, Kamru dohae phuke.*

That is, Eye, eye, this eye does not pain, does not swell; who blows away? The *guru* blows away, by the *guru's* knowledge; the Mother blows away, causes to blow away, etc. (as above.)

Against pain anywhere in the body (here called *betha*, a name ordinarily used about pneumonia, pleurisy and intercostal rheumatism) the following *mantar* is used: *Betha betha, munder betha. dater betha, kokhar betha, panjar betha, dandar betha, i bethar bis ke jhar? Guru jhar, guru gean, mac jhar, jharac siri Kahri gean, Kamru dohae jhar.*

That is, Pain pain, headache, toothache, pain in the side, pain in the ribs, pain in the loins, who lays this pain? The *guru* lays it by the *guru's* knowledge, the Mother lays it, etc. (as above.)

Then follows the *jhar*, the laying or exorcising of the pain through passing the left hand, in which he has a peacock feather, as previously described, from the head downwards, and singing the following *jharni*: *Bethagor betha, munder betha, bethagor betha, dater betha, bethagor betha, kokhar betha, bethagor betha, dandar betha, bis jharore; koner guru hamar jharac to jharac? koner cela hamar jhara sere bis do? munder betha, dater betha, kokhar betha, panjar betha, dandar betha bis jharore.*

That is, The pain causing pain, the headache, the pain causing pain, the toothache, the pain causing pain, the pain in the side, the pain causing pain, the pain in the loins, to stroke the poison; which *guru* by his stroking causes me to stroke? which disciple strokes the poison down in me? Headache, toothache, pain in the side, pain in the ribs, pain in the loins, the poison—stroke it out.

The above which is in a corrupt form of Bilari is immediately followed by the following in Santali: *Delan betha; odokokme, delan betha, baherokme, goromlan doc ok-ta kana, hromlan doc cinta kana; delan betha, odokokme, delan betha, baherokme!*

That is, Come, o pain, come out, come, o pain, get out, our (inclusive dual is used) namesake is speaking evil, our co-wife is backbiting; come, o pain, come out, come, o pain, get out!

If this does not help, medicine is to be applied invoking the *boṅgas* ; *bul māvām* is to be resorted to.

The following is another *mantar* for the same : *Betha betha, golar betha, chatir betha, paijar betha, hūk betha, suk betha, bhitri betha, boṅga betha, i betha kē jhaṛe ? Guru jhaṛe, guru gean, mac jhaṛe, jhaṛe siri Kahri gean, Kamru dohae jhaṛe.*

That is, Pain pain, throat pain, chest pain, rib pain, lumbago pain, gradually developed pain, inside pain, *boṅga*-pain, who is stroking this pain out ? The *guru* is stroking it out, by the *guru's* knowledge, the Mother is stroking it out, stroking, etc. (as previously).

The *jhaṛni* then follows : *Betha do jhaṛ se, Kamru guru kera betha doe jhaṛa, Kamru cela kera betha doe nija, betha do jhaṛ se, Daṇḍo guru kera betha doe jhaṛa, Daṇḍo cela kera betha doe nija se bis do.*

That is, The pain to be stroked out, *Kamru guru* will stroke the caused pain out, *Kamru's* disciple will take the caused pain ; the pain to be stroked out ; *Daṇḍo guru* will stroke the caused pain out, *Daṇḍo's* disciple will take the caused pain, the poison.

The following is a third *man ar*, showing what an *oja* may include under the name of *betha* : *Betha betha, ceṅgha betha, dōṇḍ bai, palaniṅ adgao, gola biṛhi sunorio, i betha kē jhaṛe ? Guru jhaṛe, guru gean, dohae Kamru guru !*

That is, Pain pain, colic convulsion, convulsion by strangulation of intestines, carbuncle on the back, sores in the throat, inflammation of the gums, who strokes this pain away ? The *guru* strokes by the *guru's* knowledge, by the grace of *Kamru guru*.

This is finished off with blowing over the patient and the following *jhaṛni* : *Yore yore betha, muṅḍa jo betha jhaṛea nārgoea, sirome jonokte jhaṛea nārgoea, saṅarom jonokte giragor baher.*

That is, Hey there, hey there, o pain, where pain in the head it is stroked out, brought down, with a *sirom* broom it is stroked out, brought down, with a *saṅarom* broom it is swept out and away.

Against colic the following *mantar* is used : *Nun nun, purub nun, paḥim nun, utor nun, dakhin nun, i nun kē porhae ? Guru porhe, i nun kakhe dei ? Phalnare, phalni : kē piṛa peṭ tambhe ? Jivi chat paṭ jivi tambhe ? Guru tambhe, tambhae siri Kahri gean Kamru dohae, guru dohae tambhe.*

That is, Salt salt, east salt, west salt, north salt, south salt, who causes to read over this salt ? The *guru* reads ; to whom shall I give this salt ? So-and-so (man), so-and-so (female) ; who is making the stomach ache to cease ? The soul is restless, who is making it quiet ? The *guru* is making it quiet ; causing it to be quiet, etc. (as previously).

This was a *mantar* to make the salt effective, in a corrupt and mixed form of *Bihari*. Then comes immediately another *mantar* to make the water in which the salt is dissolved safe. It runs thus : *Pani pani, purub pani, paḥim pani, utor pani, dakhin pani, i pani kē porhae ? Guru porhe, guru gean, mac porhe, porhae siri Kahri gean, Kamru dohae porhe.*

That is, Water water, east water, west water, north water, south water, who

causes to read over this water? The *guru* reads by the *guru's* knowledge; the Mother reads, causes to read, etc. (as previously).

The salt is during this dissolved in the water and the patient drinks it all without breathing.

When a woman's breast suppurates, the following is used: *Dud dud, i dud, ghoṛa aṅgarea goborea, i dud, ke jhāṛe?* *Guru jhāṛe, guru gean, mac jhāṛe, jhāṛe siri Kahri gean, Kamru guru dohae.*

That is, Milk milk, this milk, red and black, dark, this milk who strokes it away? The *guru* strokes, by the *guru's* knowledge; the Mother strokes, strokes, etc. (as previously).

(The translation of three words is uncertain, viz., *ghoṛa aṅgarea goborea*, not known to any Santal I have met; it is also a question whether the Santals do not here take *dud* to be equivalent to 'breast' like in their own language, where they have same word for milk and a woman's *mamma*.)

The *mantar* is followed by this *jhāṛni*: *Dudegor dude, delañ, dude, oḍoḥokme; delañ, dude, baherokme. Dudegor dude, seṅgel dude, rupegor dude, goromlañ doe okta kana, hiromlañ doe cinta kana; delañ, dude, oḍokoḥme, delañ, dude, baherokme, bis!*

That is, Milk of milk, come, o milk, come out; come, o milk, get out. Milk of milk, fire milk, silver milk, our (inclusive dual is used) namesake is speaking evil, our co-wife is backbiting; come, o milk, come out, come, o milk, get out, the poison!

They call a certain complaint *sagaḥ* (the word really means the awned seed of certain grasses, very troublesome at the time of ripening, because they stick and prick the skin; as a name for a complaint it is used about fever supposed to be due to the presence in the body of any small foreign body); against this they use the following *mantar*: *Aṣcul karon, kaṅgari karon ke kukare?* *Guru kukare, kukarlom ekthenc guṭi qilom, baḥṛare upor ho.*

That is, What is caused by hair, what is caused by charcoal who rubs? The *guru* rubs; I rubbed it, I brought it together at one place, get up to the surface. (Above is a good specimen of how a foreign language may be made to serve, being misunderstood, the words being partly remoulded and given a meaning corresponding to the meaning of a Santali word similar in sound).

After the *mantar* comes a *jhāṛni*: *Lundano, lundano abc bisa lund lalare.* (I rubbed, I rubbed, now the poison is brought here by rubbing.)

During the operation two *boṅgas* (*sakel*) are also invoked. It might be mentioned, that what is translated 'rub' (in Santali *lundan* or *lundau*) is to rub gently with a circular motion, sometimes making use of a ball of rice, flour or other stuff to make the rubbing more effective.

Another *mantar* for the same complaint is the following: *Gada gada bag jac, nice nice sial jac, se bag roa, se bhaluk roa, se bilar roa, se kukur roa, se manus roa, i roar bis ke jhāṛe?* *Guru jhāṛe, guru gean, mac jhāṛe, jhāṛe siri Kahri gean, dohae guru jhāṛe.*

That is, The leopard (or tiger) is walking along in the river bed, below the jackal is going along, this leopard's hair, this bear's hair, this cat's hair, this dog's hair, this human hair,—the poison of that hair who strokes it away? The *guru* strokes, by

the *guru's* knowledge; the Mother strokes, causes to stroke by the knowledge of Sr Kahri, causes to stroke by the *guru's* grace.

Then the *jhāri*: *Koner randini, koner papini, bisa tora dilaise? yabe bisa bis jharonre.*

That is, Which widow, which sinning woman caused to give you the poison? now the poison, stroke the poison away.

The *jhāri* is continued in Santali: *Cetete do, gurulan jhaye noḍona? Cetete do, celalan girom bahera? Saparom jonokte, gurulan jhaye noḍona, lukui jonokte do, celalan girom bahera.*

That is, Wherewith, o *guru*, shall we two stroke it away? Wherewith, o disciple, shall we two sweep it out? With a *sirrom* broom, o *guru*, we two shall stroke it away; with a *lukui* broom, o disciple, we two shall sweep it out.

The following is a third specimen against the same: first the *mantar*: *Jambir jambir, songk jambir, rupek jambir, i jambir ke jhaye? Guru jhaye, Kamru guru dohae.*

That is, Citron citron, golden citron, silver citron, this citron who strokes it away? the *guru* strokes, by the grace of Kamru *guru*.

Whilst uttering this *mantar* the *ojha* strokes the patient, applying at the same time some oil, over which a *mantar* has been previously 'read.' It is the same as the 'tel tel, rae tel', etc., (see p. 18) uttered when performing *sunum boṅga* (see also p. 16 ss.).

When the poison in this way has been gathered at one place, the *ojha* bites it out with his teeth; he draws blood; what he in this way gradually (biting several times) gets out he spits into a leaf-cup. Into this he pours a little water and takes it away some distance to see what has come out, whereupon he throws it away.

Against *hūk* (lumbago) and similar complaints they use this *mantar*: *Hūk, dandar hūk, kokhar hūk, pañjar hūk, i hūk ke jhaye? Guru jhaye, guru gean, mae jhaye, jhaye siri Kahri gean, Kamru dohae jhaye.*

That is, Lumbago, pain in the loins, pain in the side, pain in the ribs, this lumbago who strokes away? The *guru* strokes, by the *guru's* knowledge, the Mother strokes, causes to stroke, etc. (as previously).

And then the following *jhāri*: *Hūk jharon, betha jharon, koner guru hamar jhaye tho jhaye? koner cela hamar jhaye sere bis do.*

That is, Stroking away the lumbago, stroking away the pain, which *guru* is causing to stroke away for me, causing to stroke away? which disciple is causing to stroke the poison away for me?

Against fever (malaria and others) the following *mantar* is used: *Lag jor, pap jor, i jor ke phuke? Guru phuke, guru gean, mac phuke, phuke siri Kahri gean, Kamru dohae phuke.*

That is, Fever applied (*i.e.*, due to the action of witches or *boṅga*), fever due to sin (*i.e.*, venereal), this fever who is blowing off? The *guru* blows it off, by the *guru's* knowledge, the Mother blows it off, blows, etc. (as previously).

A variant of above is the following: *Lag jor, pap jor, amol jor, piti jor, der pohoria*

*jor*, *i jor ke* etc., as above. That is: Fever applied, fever due to sin, fever due to acidity of the stomach, fever due to gall, six hours' fever, this fever, etc., as above.

The following is a *mantar* against high fever: *Tarka tarka, kat kate, mat mate, akar bindi, bhurme phule, hap bir Narsin guru dohae*; *jhiti kuti dheba band, asia guru dhoromia kaj jug bijun nijhur, thak thak jib rak Kamru guru dohae*.

That is, Quick, rat-tat, gnashing, crooked, piercing, giddy, broken, o father man of valour, Narsin *guru*, grace! Taking all along, shutting up, having come, by the *guru's* righteousness, doing work without hindrance, be quiet, keep the soul, by the grace of Kamru *guru*.

Finished off with blowing.

Language is corrupt and mixed.

A number of complaints are called *bai*; generally some kind of convulsions, loss of control of the body, fit, etc.

The following is a *mantar* against *bai*: *Bai bai, songek bai, rupek bai, i bai ke jhare?* *Guru jhare, guru gean, mac jhare, jhare siri Kahri gean, Kamru dohae jhare*.

That is, Convulsions convulsions, gold convulsions, silver convulsions, these convulsions who strokes away? The *guru* strokes, by the *guru's* knowledge, the Mother strokes, strokes, etc. (as previously).

The following is another; the *ojha* first 'reads over' mustard, *Hal dhrolom taе boulom sursa, i sursa ke porhe?* *Guru porhe, guru gean, mac porhe, Isor Mahadeb dohae porhe*.

That is, I caught hold of the plough, I sowed the mustard seed, who reads over this mustard seed? The *guru* reads, by the *guru's* knowledge; the Mother reads, by the grace of the Lord Mahadeb he reads.

The *ojha* thereupon scatters the mustard seed over the patient, uttering the following *mantar*: *Sursa sursa siri sursa, sursa phule jabo lonka ghurba toke jhar guru re bis*.

That is, Mustard mustard, fine mustard, I shall go to fetch the mustard flower very far away, I shall bring it back to you, o *guru*, stroke the poison away.

This is a third for the same (*mantar*): *Bai bai, ros bai, amol bai, khepto bai, i bai ke jhare?* *Kamru dohae jhare*.

That is, Convulsions convulsions, convulsions due to the juices of the body, convulsions due to acidity, raging convulsions, these convulsions who strokes away? By the grace of Kamru he strokes away.

Whereupon the following *jharni*: *Yore yore bai do munde jo bai do sirome jonokte jhareu nargoea, saparom jonokte giragor bahera*; *Kamru guru jhajar kanae, Gando guru doe giragor bahereta*.

That is, Hey, hey! o convulsions, what convulsions are in the head, with a *sirom* broom he is stroking and bringing it down, with a *saparom* broom he is sweeping it out; Kamru *guru* is stroking, Gando *guru* is sweeping it out.

Finished off by blowing over the patient.

Against *dond bai* (strangulation of the intestines) the following *mantar* is used: *Cengha jharon, patha jharon, i bis ke jhare?* *Guru jhare, guru gean, mac jhare, jhare siri Kahri gean, Kamru dohae jhare*.



That is, Stroking the colic, stroking the swelling, who is stroking away this poison? The *guru* is stroking, by the *guru's* knowledge; the Mother is stroking, causes to stroke, etc. (as previously).

Followed by the following *jhāṛni*: *Hatkan jhāṛṇ, palaniu jhāṛṇ, cengha jhāṛṇ, paṭha jhāṛṇ jhāṛre bis.*

That is, *Hatkan* (a medicinal plant, *Leea*) stroking, stroking the sore on the back, stroking for colic, stroking for swelling, stroking stroke the poison out.

Against *gand* (swelling of a gland, specially in the loins) the following *mantar* is used: *Kōṇḍ kōṇḍ, agil kōṇḍ, paḥim kōṇḍ, i kōṇḍer bis ke jhare? Guru jhare, guru gean, mac jhare, jhare siri Kahri gean, Kamru dohae jhare.*

That is, Region region, front region, west region, who is stroking the poison of this region away? The *guru* strokes, by the *guru's* knowledge, the Mother strokes, causes to stroke, etc. (as previously).

Against a cut by a sickle the following *mantar* is used: *Hāsuā katel ghao jiri hiri rokote porē, jiri hiri pani porē, i rokot ke phuke? Guru phuke, guru gean, mac phuke, phukai siri Kahri gean, Kamru dohae phuke.*

That is, Wound by the cut of a sickle, blood is trickling flowing, water is trickling flowing, who is blowing at this blood? The *guru* blows, by the *guru's* knowledge, the Mother blows, causes to blow, etc. (as previously).

Against a wound caused by stumbling against anything they have the following *mantar*: *Pathol kaṭṭom, ghao jiri hiri rokot porē, i rokot ke phuke? Guru phuke, guru gean, mac phuke, phukai siri Kahri gean, Kamru dohae phuke.*

That is, Stumbling I cut myself and got a wound, the blood is trickling flowing; this blood who is blowing at it? The *guru* blows by the *guru's* knowledge, the Mother blows, causes to blow, etc. (as previously).

Then follows a *jhāṛni*: *Rokote jhāṛja kal, rokote bohae jhāṛja kal.*

That is, The blood is flowing the whole time, the blood is flowing the whole time gushing.

The following is a *mantar* against a cut by any kind of implement: *Ṭāṅgate bajilom, jiri hiri rokot bohae, se rokot ke tambhe? Guru tambhe, guru gean, mac tambhe, tambhae siri Kahri gean, Kamru dohae tambhe.*

That is, I hurt myself on an axe (or, as the case may be, by a knife or any other instrument, which is named in the *mantar*), the blood is trickling flowing, who stops this blood? The *guru* stops by the *guru's* knowledge, the Mother stops, causes to stop, etc. (as previously).

Followed by this *jhāṛni*: *Ṭāṅgate bajilom, jiri hiri rokote bohae, phukite phukite yanda kal, Kamru guru, se rokot tambhiloma re bis.*

That is, I hurt myself on an axe, the blood is trickling flowing, blowing blowing loudly, o *Kamru guru*, I stopped that blood, poison.

Against sores caused by *soṣo* (*Scmecarpus anacardium*) they have also a *mantar*: *Bhel bhelwa bhelar mukhi se bhelwa porlo, i bhelwar ghao ke phuke? Guru phuke, guru gean, mac phuke, phukai siri Kahri gean, Kamru dohae phuke.*

That is, The marking nut, the opening of the marking nut, that marking nut touched, the sore of that marking nut who is blowing at it? The *guru* is blowing by the knowledge of the *guru*, the Mother blows, causes to blow knowing the fortunate wording (or as translated above), by the grace of Kamru he blows.

Against the bite of a mad dog or jackal they use the following *mantar*: *Kari kukur kulu dulu, e kukur dat, e kukur bis, e bis ke jharç?* *Guru jharç, guru gean, Mae jharç, siri Kahri gean, Kamru dohae jharç.*

That is, The black bitch hanging the head, the tooth of this bitch, the poison of this bitch who is stroking it away? The *guru* strokes by the *guru's* knowledge, the Mother strokes, causes to stroke, knowing the fortunate wording (or as translated above), by the grace of Kamru he strokes.

Followed by this *jharni*: *Kukur kata Maesa jharon, jharre bisai nindan jharon.*

That is, The bite of the bitch Monsa is stroking, stroke away the poison, she is stroking the lying one.

If the poison has entered the body, that is, if rabies has developed, the following *mantar* is used: *Gada gada bag jae, nico nico suar jae, i bag roa, bhaluk roa, i cul ke gutai?* *Guru gutai, gutai siri Kahri gean, Kamru dohae gutai.*

That is, In the river bed the tiger (or leopard) walks along, below the boar walks, this tiger-hair, this bear-hair, this hair who collects? The *guru* causes to collect (in one place), causes to collect knowing the fortunate wording (or as above translated), by the grace of Kamru he collects.

Against dog's bite the following is used: *Are kukur kara kara, tokor dat, tokor bis ke jharç?* *Guru jharç, guru gean, mae jharç, Isor Mahadeb dohae jharç.*

That is, O thou black black dog, thy teeth, thy poison who strokes away? The *guru* strokes by the *guru's* knowledge, the Mother strokes, by the grace of the Lord Mahadeb (Siva) he strokes away.

Followed by this *jharni*: *Seta banar se ho, setu banar se ho tundan kan, bando banar se ho, bando banar seko gujuk kan. Tokoe guru do re jharç narogoa, tokoe guru dore jharni bahera?* *Kamru guru doye jharç narogoa. Kamru cela doye jharni bahera, kar dohae? Isor Mahadeb dohae!*

That is, The dog vermin (some ant-like insects or larvæ believed to come out after being bitten by a mad dog), the dog vermin moves about; the *bando*-flower like vermin, the *bando*-flower like vermin is dying. Which *guru* will stroke this down? Which *guru* will pass this out and away? Kamru *guru* will stroke it down, Kamru's disciple will pass it out and away, by whose grace? By the Lord Mahadeb (Siva's) grace.

Against the bite of a chameleon they have the following *mantar*: *Girgiti sap, i bis ke jharç?* *Guru jharç, guru gean, mae jharç, jharç siri Kahri gean, Kamru dohae jharç.*

That is, The chameleon (or, lizard) snake, this snake, this poison who strokes away? The *guru*, etc. (as above).

Followed by a *jharni*: *Sirkut khaele, girgiti gulman khaele, kal bisa, hario, dada, songro bis do haru harare kas pitarer bis.*

That is, The scolopender ate, the chameleon ate by mistake the poisonous ver-

min ; take it away, o elder brother, the extremely dangerous poison, o Hari, the many coloured lizard's poison.

The following is a *mantar* against being hurt by the sting of a scorpion : *Bichi bichi, khulir bichi, ranglir bichi, e bicher bis ke jharc? Guru jharc, guru gean, mae jharc, jharc siri Kahri gean, Kamru dohae jharc.*

That is, Scorpion scorpion, light coloured scorpion, reddish scorpion, this scorpion's poison who strokes away? The *guru*, etc., as above.

The following is a variant . *Bichi bichi, kuili bichi rambru bichi tokor dat, tokor bis ke jharc? Guru jharc, guru gean, mae jharc ; kar dohae? Ma Monsa Dibir dohae.*

That is, Scorpion scorpion, black scorpion, brownish scorpion, this one's tooth, this one's poison who strokes away? The *guru* strokes, by the *guru's* knowledge, the Mother strokes, by whose grace? by the grace of the Mother Monsa Dibi.

Against the bite of *Kul seron*, a lizard so called, the following *mantar* : *Kul dandka dhurun dhusun, gache uhllo, sarage dhuā dekhele nam namre bis ; e bis ke jharc? Guru jharc, guru gean, mae jharc, jharc siri Kahri gean, Kamru guru dohae jharc.*

That is, Leopard mite, grey with dust, he mounted the tree ; seeing the smoke in the sky come down, o poison ; who strokes this poison? The *guru* strokes, etc., as previously.

We shall now hear some of their *mantars*, etc., against snake bite ; it may be noted that the Santals believe practically all snakes to be poisonous. They believe that the bite of a good many lizards, of some frogs and similar animals is also poisonous ; and less than a bite is enough to be hurt ; being touched is often sufficient, according to their belief. I suppose much which is believed due to poison is really due to fear, although the Santals as a general rule take a sensible view of matters ; I have, however, seen cases bordering on collapse that were entirely due to fear.

In connection with snake bite *mantars* are used, but more than *mantars* they use the *jharni* combined with *jharc*. The following are examples :

*Mantar* : *Ma Gandhari Gaura Rati, ami jani nare sapa kon kon jati cōti, cōti, malonti, bhabona, pathura surup sap, khuili sāpin. Kar ghorc khuili ki kar bape jai, tokor guna mongol pan? ke jharc? Guru jharc, guru gean, mae jharc, Isor Mahadeb dohae jharc ; kar dohae? Ma Monsa Dibir dohae.*

That is, Mother Gandhari Gaura Rati, I do not know what kind of snake, whether Russel's viper, the *cōti*, the *malonti*, the *bhabona*, the *pathura*, exactly what snake, black female snake. In whose house did you eat him or whose father will go, by whose virtue will he get felicity? who strokes? The *guru* strokes by the *guru's* knowledge, the Mother strokes, he strokes by the grace of the Lord Mahadeb (Siva) ; by whose grace? by the grace of the Mother Monsa Dibi.

Here is another : *Lila lila je khaner bis sei khaner mile jae, caṭ cutki curā mala, i bis ke jharc? Guru jharc, Kamru guru dohae jharc.*

That is, Play play, the poison of any place shall be collected at this place, in the very uppermost parts ; that poison who is stroking? The *guru* strokes, by the grace of Kamru *guru* he strokes.

Followed by this *jhāṛṇī*: *Tōkṣe biñe jōjom kana bis do? Jhāṛa se jhāṛ se guru bis do; namase ṇami gelare bis. Nayañ biñe jōjom kana bis do; gañdet biñe jōjom kana bis do, etc.*

That is, Which snake is 'eating,' the poison? The *guru* will stroke, yes, stroke the poison; come down, it came down the poison. The cobra snake is 'eating,' its poison; the karait snake is 'eating,' its poison, etc.

If the snake is known, only the name of this one is mentioned; if it is unknown, the *ojha* will enumerate all the snakes he knows; it is of importance that the name of the snake responsible should be mentioned.

The *ojha* who gave above *mantar* and *jhāṛṇī* is also responsible for the following in connection with treatment of snake-bite. The *ojha* first mutters the following: *Citi citi sâp citi, joler citi, maha gaṛṇa ankare* (that is, Variegated, variegated, snake variegated, water variegated, in the grasp of the great adjutant bird), whereupon he proceeds to charm the patient (*bandhṇ* it is called) to prevent the 'wick from falling,' as it is called, that is, to secure the bitten one against dying. He does this by blowing into the nose of the patient, whereupon he utters the following *mantar*: *Dât bandhḥ, nak bandhḥ, jib bandhḥ, i bandhḥ; kḥ bandhḥ? Guru bandhḥ, guru geaṇ, Kam guru dohaḥ bandhḥ.*

That is, He charms the teeth, he charms the nose, he charms the tongue, he charms this; who charms? The *guru* charms by the *guru's* knowledge, he charms by the grace of Kam (*i.e.* Kamru) *guru*. At the same time he ties the limb with a string, some hair, or whatever may be handy, if the bite is in a place where this is possible.

If blood comes out from the nose, this is taken to be a sure sign that the 'wick has fallen down', that the person is beyond help, and the *ojha* will declare his inability to do anything, saying that 'the eaters have prevailed; he could not manage it.'

The following is a *mantar*, against snake bite: *Dhondḥ bis niṅṅur ke jae, mukhe dekhia lorbi, taṇ bhelar mukhu sunbar kahni sat sat ke bis korlom; i bis kḥ jhāṛ? Guru jhāṛḥ, guru geaṇ, mae jhāṛḥ, jhāṛae siri Kahri geaṇ, Kamru dohaḥ jhāḥ jhāṛḥ.*

That is, The poison of the *dhondḥ* (a water snake, non-poisonous; here mentioned as an example) will come down to the tail, seeing me you engaged to fight; as soon as I heard the story, I at once ascertained the poison; who is stroking this poison? The *guru* strokes, by the *guru's* knowledge, the Mother strokes, causes to stroke knowing the fortunate wording (or as translated above), by the grace of Kamru he strokes.

Then comes the following *jhāṛṇī*:

*Culer soñjok namal bisa matha barire bhelase bis do,  
Mathar soñjok namal bisa datā barire bhelase bis do,  
Dāter soñjok namal bisa jibā barire bhelase bis do,  
Jibāṛ soñjok namal bisa gola barire bhelase bis do,  
Golar soñjok namal bisa chḥḥi barire bhelase bis do,  
Chatir soñjok namal bisa pḥḥḥ barire bhelase bis do,  
Pḥḥḥ soñjok namal bisa ḍaṇḍa barire bhelase bis do,*

*Dandar soñjok namal bisa gunthi barire bhelase bis do,*  
*Gunthir soñjok namal bisa themna barire bhelase bis do,*  
*Themna soñjok namal bisa thopa barire bhelase bis do,*  
*Thopar soñjok namal bisa qngur barire bhelase bis do,*  
*Angur soñjok namal bisa gāwa barire bhelase bis do.*

That is,

The poison that was in the hair has come down and is now on a level with the head, the poison,

The poison that was in the head has come down and is now on a level with the teeth, the poison,—

and so on, the poison is brought gradually down from the teeth to the tongue, from the tongue to the throat, from the throat to the breast, from the breast to the stomach, from the stomach to the loins, from the loins to the knees, from the knees to the legs, from the legs to the feet, from the feet to the toes, and from the toes to a level with the village (that is, down into the ground).

If possible, the *jhay* against snake bite is performed with a feather of the adjacent bird; if that is not available, a peacock's feather is used or, if nothing else, part of a broom (*sirom* or *saparom*). See p. 73, footnote 3.

*Mantar* is used also against cattle disease. Here is one, used when a buffalo is troubled with a swollen neck, so that it cannot have the yoke on. A scorpion is found and put on the buffalo's neck to make it sting, and the following *mantar* is uttered: *Hadgar kur kuri hingur loce se bonhaete asite site seromre matha.*

What this really means it is difficult to make out; as the present text stands it is a mixture of Santali and Bihari. It may possibly be something like: 'Lean, in the gripes, reddish exudation, to charm this to come, coolness, a head on the neck.'

Even against a blight of the crops *mantar* is used; the following is one: *Gudi gudi, purub gudi, pachia gudi, utor gudi, dakhin gudi, amar khet; yacla gudi, sat samud Loñka gay phukia uria jahre gudi.*

That is, Flying bug, flying bug, east bug, west bug, north bug, south bug, in my paddy field the flying bug came, past seven seas to the Lanka fortress be blown and fly away, flying bug.

I have more *mantars* and *jharnis*; the specimens quoted are sufficient to show their nature.

It might be remarked, that *jhay* may be performed without a sung *jharni*; the *ojha* may make the 'passes' simply reciting a *mantar*. The *jharni* is sung only once; but as elsewhere mentioned, the *ojha* will sometimes continue the *jhay*, whistling the *jharni* melody.

It will be observed there is a distinct difference between a *jharni* and a *mantar*. The *jharni* is more of a persuasive character; it seems to be an attempt to get the illness or its cause away by gentle means, and not by force. It is only exceptionally that the *guru* or a spirit is mentioned; where that is done it is perhaps not a *jharni* proper. The *mantar*, on the other hand, is a reference to higher powers, an attempt to remove disease or its cause by the force of spirit power, or even by a word alone, if one only has the proper word. It does not seem difficult to deduce from what source

these *mantars* must have originally come, or in any case, the idea of the possibility of using them. The *ojha* takes care to state that he acts as the representative of and by the grace of some spirit or other.

A couple of things seem to be vital to success. The spirit at whose command the disease should disappear must be the proper spirit having the proper power; and the disease, or whatever it may be, must be named by its proper name.

A name is to a Santal something more than it generally is to us; it is not only a means of identification, it represents, is part of, somebody or something. If the proper name is not used, the person (or the disease) is not properly or effectually called. The connection between caller and called is not properly established.

This is a peculiar trait of the Santals; with the fear they have of the *boingas* they are quite unconcerned when speaking of them using general terms, even when using the vilest epithets. If the supposed real name is mentioned, all is altered. The 'owner' of the name is brought to one's presence.<sup>1</sup>

It will have been observed that when uttering a *mantar* a large number of names for different objects are used, the purpose apparently being to make sure, so far as possible, that the thing or disease or cause is mentioned and properly mentioned, partly on account of the belief just referred to, partly to ensure that nothing or no possibility is left out.

In support of this one may refer to the *mantars* used against snake-bite. When the snake is known, this snake alone is mentioned; if, as frequently happens, it is unknown what kind of snake has bitten, every known species is enumerated.

One may further refer to the *mantars* used when 'reading' over oil; all likely kinds of oil are mentioned to make sure that the oil present is not forgotten. In the same way, when the *ojha* charms his disciples to make their going and coming sure, every possible source of danger is enumerated.<sup>2</sup>

To be safe all and everything must be included.

## 9.

### *Special snake-bite mantars in corrupt Bengali.*

In connection with snake-bite they have quite a number of *mantars*. Besides those quoted above I have a very long and curious one, or rather a string of *mantars*,

<sup>1</sup> The following may show this. It happened many years ago; I had a Santal to pull the pankha for me. One day, I asked him who his *abge boinga* was (the *abge* is a kind of tutelary *boinga* whose name is not disclosed, specially not to women; it is said that when a man feels his end coming he will whisper the name into the ears of his eldest son). The man answered, that he did not know; when his father died, he had been quite a child; none had mentioned the name to him, and he had not had anything to do with *boinga* worship. This was also likely true. I then asked him which sept he belonged to; on his telling this, I asked whether his sept's *abge* was not called so and so. I have seldom seen fear like in him. He commenced to tremble and to perspire profusely; ultimately he ran away and did not return until a couple of hours had elapsed. When I asked him, why he had bolted, he answered that he had heard that these *boingas* were very dangerous and powerful, and when they were mentioned by name, they might come, and he would not stay to be exposed to what might happen. He had no doubt as to the reality and nature of the spirits. But, as will be seen, the mentioning of the general term of *abge* did not affect him; as soon as the supposed real name was spoken, the fear of the presence came.

<sup>2</sup> One is here reminded of the old Norse tale of the death of Balder. All creation had been made to swear that they would not hurt Balder; somehow the mistletoe had been forgotten or left out; and it was the mistletoe that killed him.

giving charms, etc., for a good many matters connected with snake-bite and the call of the *ojha* and what he must do in self-protection (it seems) and to counteract the poison. It is of some interest to have all these in extenso ; they number in all 66. A few are translated here below ; the whole of them are printed without translation p. 116 ss.

They are in a very corrupt form of Bengali with here and there Hindi words and constructions interspersed, also in a couple of places Santali. I asked a Bengali friend to help me with it ; he sent it back saying he could not understand it ; there are so many strange words, not found in any dictionary and not known to an educated Bengali. Since I have tried to get through it myself, the whole is, however, so uncertain, that I do not think it would do to publish a translation. Incidentally it might be remarked that the *ojha* himself does not understand it ; he has only a most vague idea of the contents. This does not, of course, spoil the magic, according to *ojha* ideas.

The *mantars* referred to in several respects show a decided difference from those previously given ; one seems to be transferred to another sphere ; I take it that the influence of Hinduism is much stronger here. *Kamru guru* is only occasionally mentioned ; strangely enough 'the grace of *Kamru's* country' is heard. The Hindu deities have a rather large place ; *Monasa*, the snake-goddess is very often mentioned, generally coupled with *Dibi* (*i.e.*, *Durga*) ; *Krishna* is also often mentioned under different names ; further *Mahadeb* (*Siva*) and possibly also *Vishnu*, and often *Vishnu's* bird, the *garur*. Also other deities are named, *Saraswati* and others. A few of the *mantars* are quoted :

*Huka bolē gara guru, hulka bolē cāc,*

*Hukar pani cahe guru, tar bis nae.,*

The *huka* says *gara guru* (gurgles), the *huka* bowl gives up ashes,

The water of the *huka* the *guru* wants, there is no poison in that.

*Dhula dhubli, dhulate lotac har har, bis uria palac.*

White dust, I roll in dust again and again, the poison is evaporated.

*Dhulate lutu putu, biser jala bami ache, mukher kotha :*

*Mae Monsa Hori bolo, Hori sobde naire bis.*

Roll in dust again and again, the pain of the poison is abated,—the word of (my) mouth ;

Mother *Monsa*, say *Hari*, in the word *Hari* there is no poison.

*Sorosati, Sorosati, lilol borone, rokoti Sorosati*

*Kuntol korone agu jai, ma Monsa khae :*

*Pichu jai Mahadeb Dibi, as korē khas na ;*

*Amake churio na, amake churis to,*

*Khai Isor Mahadeber matha.*

*Saraswati*, *Saraswati*, blue coloured, saves *Saraswati*,

Hair on ear, goes ahead, Mother *Monsa* eats ;

Behind go *Mahadeb* and *Dibi*, do not eat with hope ,

Do not taunt me, if you taunt me,  
I eat up the Lord Mahadeb's head.

(This last is used for self-protection by the *ojha* when going anywhere at night.)

*Thak, sapina, nicole, tor mukh bandbo lohar sikolç,*

*Loç çor koris na ; judi loç çor koris to khai Isor Mahadeber matha.*

Stay, snake, in your cover, I shall tie thy mouth with an iron chain,  
Don't move, if thou movest, I shall eat the head of the Lord Mahadeb.

*Bati jagao, bati sar bati he,*

*Samdor pat bati jagao nathu de.*

Lamp (of life) burn, true lamp of life,

With a *samdor* leaf make the lamp burn, putting it in the nose.

The language is mixed ; *bati*, in Santali, lamp or wick, is used about the principle of life ; it is specially heard when people have been bitten by snakes ; e.g. *bati nürena*, the lamp-wick has fallen, means, that there is no hope, life is extinct. *Jagao* is to awaken, make effective, keep alive.

*Sat simoler ase banika, tac bosi gorur panikha,*

*Gorur panikha jhäpe'jhüpe, bolç Gopaler gha mukhe.*

Twisted with the fibre of seven simols, hence the *garur*'s, wings are closed,  
Closing his wings *garur* says, Gopal's sore is in his head.

*Poddò pate jonmò hoilo, Manik ar Bisai Thakur,*

*Tac sati jani ; kon tole agun hobç, kon tole pani ?*

*Kon tole bis namhe ? bhatis lani Mahadeb amar ma bap ?*

*Gorur muher sis, çk hatç bis jharbo dekhò tohor this ;*

*Arhai bahar jha, siar condor mukhe ja.*

On a lotus leaf they were born, Manik and Bisai Thakur ;

This I know for certain ; below what will it become fire, below what  
will it become water ?

Below what will the poison go down, o light-bringer Mahadeb, my father  
and mother ?

With the remedy in the mouth of the *garur* I shall with one hand stroke  
the poison down, look, thy anger.

Away it go past two and a half low-lying fields, off to the mouth of the  
*siar condò* snake.

(Translation somewhat uncertain ; the Santals have a belief that there is a kind of small ball or tablet in the head of the *garur* bird, supposed to be an infallible cure for snake-bite.)

*Ban ban, sil ban, pathri ban, i ban ke mare ? Guru mare, guru geane,*

*mae mare ; kar dohae ? Mahadeb Gaurar dohae mare, raja Bhojke dohae.*

Dart dart, stone dart, flint dart, who shoots this dart ? The *guru* shoots  
by the *guru*'s knowledge ; the Mother shoots, by whose grace ? by the  
grace of Mahadeb Gaura he shoots, by the grace of king Bhoj.



*Sapi, sunu, sapina, Gokhuler kotha : p̄ñc̄ t̄ari Kisun jonm̄o hoilo kotha ?  
Jonm̄o hoilo Madhupure doibar gh̄or̄c̄, b̄asad tul̄ai dile Gokhule, nai dh̄ore Kisna  
hate m̄hon b̄asi, matha camp̄a phul ; h̄asite khel̄ite ḡelo Kalid̄oher kule sate, c̄ki  
lagal dh̄um.*

O snake, listen, o female snake, to the words of Gokhul : The rescuer of the five (*i.e.* here, humanity), Kisun, where was he born ? He was born in Madhupur in a cow-milking house, Gokhul gave him his caste ; the midwife put a sweet sounding flute in Kisna's hand, the champaka flower on his head, laughing he went with Kalidoh's relatives to play ; with them he started a noise.

*Or̄c̄ Nitai dhubinir bis, kal kuṭir bis, gha mukh̄c̄ jh̄ar̄c̄ ; kar dohac ? Ma Monsa  
Dibir dohae.*

O Nitai, dhubi-woman's poison, mortal poison, the sore with my mouth I charm away ; by whose grace ? by the grace of Mother Monsa and Dibi (Durga).

*Nitai dhubin, Nitai dhubin litui kap̄or̄ kac̄e he, chah̄o d̄eṣ̄e p̄or̄et̄o, hae hae ! lib̄o to  
lib̄o aṅger saj.*

Nitai dhubi-woman, Nitai dhubi-woman every day dumps clothes, if it should fall to the country (*i.e.*, the owner die), alas, alas ! I should acquire the ornaments of the body.

*Yor̄c̄ yor̄c̄ kul ser̄c̄u, yor̄c̄ yor̄c̄ girigiti, daret̄em dejok̄ kan̄ do, dela se n̄argolenme ;  
Nal̄aṅge bh̄ai, nal̄aṅge bundhu ; col̄o col̄o kiser ḍakon.*

*Yoh̄e baba he, sor̄aṅge ki ser̄o dh̄ūā je uṛiche ?  
I par̄c̄ Gañ n̄adi, u par̄c̄ Jabo hoyeche, baba he,  
Saraṅge kiser dh̄ūā je uṛiche ?*

Oh oh 'tiger-song' lizard, oh oh brown lizard, thou art mounting the tree, please come down at once ;

Thou and I are brothers, thou and I are friends ; come quickly, there is a call of something or other.

O father, in the heavens the smoke of what is drifting ?

On this side is the Ganges river, on that side the Jabo is, oh father, the smoke of what is drifting ?

(Above is at first Santali ; refers possibly to the near approach of death and cremation.)

*Sat sac simol gach̄e bosc ach̄e garuṛa, sat sac simol gach̄e bosc ach̄e garuṛa, Kan̄ai  
bh̄aire, Kan̄ai bh̄ai !*

In seven hundred simol trees *garuṛ* are sitting, in seven hundred simol trees *garuṛ* are sitting, o Kanai brother, Kanai brother.

*Ason gach̄e Maniara kar, sat sac kaṭ bh̄angia, siar̄ cand dh̄orom tur̄ia, kaha so  
sor̄aṅge dh̄ūā ? Kar̄inaṅgin dohae, dohaere dohae nomou.*

In the ason trees on the one side of the Maniara country having broken seven hundred pieces of wood the *siaṛ cand* snake, having broken

righteousness—wherefrom is the smoke in the heavens? O *Karmanḡin* (the king cobra), grace, oh grace, grace, come down.

From the specimens quoted the difference from the commonly used Santal *ojhamantars* will be apparent. These are likely quite recently borrowed from Hindu sources. They are interesting from a linguistic point of view, showing how a language may be ill-treated by those who do not understand it. In order to put on permanent record a specimen, which otherwise might be lost, I add below the full text of the lengthy *mantar* alluded to in the beginning of this paragraph.

1. *Hukā bolē gāra guru, kulkā bolē cāe,*  
*Hukar paṇi caḥē guru, tar bis nai.*
2. *Dhulā dhubli, dhulāte loḷae*  
*Har har, bis urīā palae.*
3. *Dhulāte lutu puṭu, biser jala*  
*Bami ache, mukher kotha ;*  
*Mae Monsa Hori bolō, Hori sobdē naire bis.*
4. *Simol toḷe bicchā urīlō, gayē pōṛiṭō ;*  
*Gayē cōmkōre bis nai, bhōḃōṇē urīlō bis.*
5. *Gamcha larōṇ, gamcha calōṇ ;*  
*Gamcha calte naire bis.*
6. *Gamcha larōṇ, gamcha calōṇ ;*  
*I gamcha pīrhi marō, bis korilam paṇi.*
7. *Sōṛōṣati, Sōṛōṣati, lilol bōṛōṇē,*  
*Rōkōṭi Sōṛōṣati kuntōl korōṇē*  
*Āgu jai, ma Monsa khāe ; pichu jai Mahadeb*  
*Dibi, as kōṛē khas na ; amake churīo na ;*  
*Amake churīs tō, khai Isor Mahadeber matha.*
8. *Thak, saḷpina, nicole, tor mukh bandhō lohar sikōḷē ;*  
*Lōṛ cōṛ koris na, judi lōṛ cōṛ koris tō*  
*Khai Isor Mahadeber matha.*
9. *Jol bandhōṇ, thōl bandhōṇ,*  
*Bandhōṇ aḃōṇ kaya, tin kōṇ pīrthimi bandhō : tin maha maya.*
10. *Bārki gundhī asudhīni,*  
*Bāṭi jōgao nāṭhu dē.*
11. *Bāṭi jōgao, bāṭi sar bāṭi he,*  
*Samdōr paṭ, bāṭi jōgao nāṭhu dē.*
12. *Bāṛa jē badōḷ, jol borsa par hūyā ?*
13. *Tumi kaṭṭē aṣē, ami puchalam ghāṣē.*

14. *Mae Gandhari gaura rati ami.*  
*Ami jani nare, sāpa kon kon jati ?*  
*Chūti, cōuti, malonti.*
15. *Soronge garura, patalahi garura ;*  
*Garura jo sobde, bis je uri gelo.*
16. *Sat simoler ase banka,*  
*Tae bosu gorur pankha ;*  
*Gorur pankha jhāpe jhūpe, bole Gopaler gha mukhe.*
17. *Kaliyarē kaliya !*  
*Kotha jas palayē ?*  
*Tor bis marbo, calane caline, akase cōicol ;*  
*Patale ghor, Kaliyare kalkoti.*
18. *Bhel bhelaē mukhe, lag bhelake sobae mukhe.*  
*Sat din sat rat, i bis bojor hūyā thak.*
19. *Gat bhaṅgom, gatri bhaṅgom ;*  
*Bhaṅgom lohar sikol.*  
*Tin tuhri dar samne, namre bis ;*  
*Dorhor bis patalke jai.*
20. *Čar ganda čar sāpa,*  
*Aru lag, pāru lag, celiā phat liya, andi cihar candor,*  
*Kon sāpa khailen bapa ?*  
*Ami jani na, jani to Isor Mahadeb bapa.*
21. *Poddo pate jonmo hoilo, Manik ar Bisai Thakur,*  
*Tae sati jani ; kon tole agun hobe, kon tole pani ?*  
*Kon tole bis namhe ?*  
*Bhatis lani Mahadeb amar ma bap ?*  
*Gorur muher sis, ek hate bis jharbo, dekho tohor this ;*  
*Arhai baihar jha, siar condor mukhe ja.*
- 
22. *Bis bis, i bis, kal kotir bis gha mukhe jhare.*
23. *Ban ban, sil ban, pathri ban, i ban ke mare ?*  
*Guru mare, guru geane, mae mare : kar dohae ?*  
*Mahadeb Gaurar dohae mare, raja Bhojke dohae.*
24. *Orē ! sapinar bis, kal kotir bis, gha mukhe jhare.*
25. *Sapi, sunu, sapina, Gokhuler kotha :*  
*Pōnc tari Kisun jonmo hoilo kotha ?*  
*Jonmo hoilo Madhupure doibar ghorē ;*  
*Basad tulai dile Gokhule, nai dhore*  
*Kisna hate mōhon basi, matha campa phul ;*  
*Hāsite khelite gelo Kalidohar kule sate, eki lagal dhum.*

26. *Kon montor jharni pokkhe ?*  
*Pobon colle ban sidhorni, i dhorni lore core,*  
*Isor Mahadeber piri.*
27. *Dhrom cinta bansi dhorni,*  
*I dhorni na pai bat.*  
*Amar gurur nam Ram tari ;*  
*Sikkhot bansi dhorni ; i dhorni lore core,*  
*Gordon katia roktu khai, dhobar pat mathae le.*
28. *Sot guru bandho, i not bandho ;*  
*So asi hajar phirbi kundor bandho,*  
*Delī sordar ghore, ache du bidda ;*  
*Bapu mae pokher beta, pokhe ache.*  
*Nokhe khicia sot bol, phutbe borna guni hūyā chi.*  
*Sāp khelibar ami, ami boti Laler sik ;*  
*Bisnu kisnu lila jani, sapinar bisak koreche.*  
*Gunagara pani, Bol dekh murmur cūa ?*  
*Arek kia, ek jia, nana sāper bis mal satē jharē.*
29. *Gorur ban oka soka, Poromesorer sek son manpur ;*  
*Rukhia koro bari condon, kāhā jae ?*  
*Purub jae, purub bandho.*  
*Pachim jae, pachim bandho.*  
*Utor jae, utor bandho, dakhin jae, dakhin bandho.*  
*Kē bandhe ? Guru bandhe, guru charē mae bandhe,*  
*Bandhe serē bandhesē Kahri gia Kamru dohae.*
30. *Tilhar maṭi, didir har ;*  
*Sob sapinake aṭhe kuthe amakē dekhe barhabe.*  
*Tunḍ Isor Mahadeber mathae khas.*
31. *Kon doler kon doler moijor ?*  
*Sob sapina athe kuthe, kon doler sorbo ma sapinake ?*  
*Dhrom duli pa, i kon dolē harabito.*
32. *Dun gun aṭ caṭo, carkha carhae ke kaṭe ?*  
*Guru kaṭe, guru charē mae kaṭe ;*  
*Kaṭe serē ? Kaṭechi, Kahari gia Kamru dohae kaṭe.*
33. *Chote mote nariya kera singha.*  
*Batular pat, haru har ul, Mahadeber jat sumbhar,*  
*Haru har, nai nai jogin, Kamru kamechake dohae.*
34. *Chote mote bilati cincir, roktu bharlo ke s.*  
*Je gun gun calao, se gunkē kaṭe ;*  
*Kē kaṭe ? Mahabeb kaṭe.*  
*Mahadeb geane guru kaṭe ;*  
*Nai nai jugin, Kamru kamechake dohae.*

35. *Amar ban rage jae,*  
*Ramer ban are jae ;*  
*Se ban sil pathor bojor hūyā thak !*  
*Kar dohae ? Isor gaura.*  
*Nae nae jogin, Kamru kamecchake dohae.*
36. *Kari kurthi, Monsa jati.*  
*Jaore ban phalnakhe khate !*  
*Harda khāo, hardi khāo, muri mocrike karji khāo ;*  
*Jaore raṅga dhori, dhori bis ;*  
*Usike satme jao !*  
*Kar dohae ? Ma Monsa Dibir dohae.*
37. *Jol bhaṅgo, joloni bhaṅgo, jolatē pa bhaṅgo,*  
*Ostī nongor mathae bar, dhāe dhūi ;*  
*Tulsir mala uliā dego, uliā de morite khai ;*  
*Jole morite khai, dharē bhorsate dhumor bhase ;*  
*Sam sun sundori, kal bhuy bhuy koreche ;*  
*Kal kotir biske unotriske urailam.*  
*Kar dohae ? Ma Monsa Dibir dohae.*
38. *Ore sapinar bis !*  
*Kal kotir bis gha mukhe jhare.*
39. *Kopale kopale betola ;*  
*Ciron ciron tur dāte lagilo he.*  
*Je batē qilerē sapinar bis ;*  
*Sei batē jaiberē sapinar bis.*
40. *Ore raj safer bis !*  
*Kal kotir gha mukhe jhare.*  
*Kar dohae ?*  
*Ma Monsa Dibir dohae.*
41. *Dhula yache lutur puṭor, biser jala ;*  
*Ogo hebai ! E mukhe raj safer biser jala.*
42. *Ore, mora safer bis !*  
*Kal kutir bis gha mukhe jhare.*
43. *Cho mase cula jhare punir sâp ;*  
*Cho mase cula jhare punir sâp ;*  
*Jharase guru mae, nami gelare bis ;*  
*Nijase guru mae, nami gelare bis.*
44. *Ore, baro ruṭa sâp !*  
*Tomar bis jobore jolon.*  
*Kal kutir bis gha mukhe jhare.*  
*Kar dohae ?*  
*Ma Monsa Dibir dohae.*

45. *Jahore, jahore bisoujor molae ;  
Hqigo, khuler nithure kanu murmur sãp.*
46. *Qre Nitai dhubinir bis,  
Kal kutir bis, ghu mukhe jharç.  
Kar dohae ?  
Ma Monsa Dibir dohae.*
47. *Nitai dhubin, Nitai dhubin  
Litui kapor kace he,  
Chaho dese porçto, hae hae !  
Libo to libo anger saj.*
48. *Haliare, haler mati kal poraete bis nai.  
Gaye bis nai, paye bis nai.  
Bisna bhai, bistum ! sobae Hori bolo, bhai ;  
Hori bol !  
Hori sobde bis ure jae.  
Kar dohae ?  
Ma Monsa Dibir dohae.*
49. *Heteka khijurika piria, upor panir ghaila.  
Heteka khijurika piria, upor panir ghaila.  
Ogo, cudur cudur sapini !  
Jo jaebe, guni morare paelam.*
50. *Boso, hero, boso cape simoler tole.  
Biccha bhobone urilo, bis pori gaye comkore.  
Bis nai, Bistum bir son, mon mon mot nai.  
Pobonke ure jae, kar dohae ?  
Ma Monsa Dibir dohae.*
51. *Sat sae simol gache bose ache garura,  
Sat sae simol gache bose ache garura,  
Kanai bhaire, Kanai bhai !*
52. *Ason gache Maniara kay,  
Sat sae kat bhanga, siar cand dhorom turia,  
Kaha so soronge dhua ?  
Karinangin dohae, dohaere dohae nomou.*
53. *Yore yore kul sereu, yore yore girigiti,  
Daretem dejoj kan do, dela se nargolenme ;  
Nalange bhai, nalange bundhu ;  
Colo colo kiser dakon.  
Yohé baba he, soronge ki sero dhua je uriche ?  
I paré Gan nadi, u paré Jabo hoyeche,  
Baba he, soronge kiser dhua je uriche ?*

54. *Sāp korē ke jorē bhāi, rokot porē cim cim,  
Uṛē aponē nir bis. Kar dohae?  
Ma Monsa Dibir dohae.*
55. *Chāni, chāni, chāni, biser nam jāni ;  
Rokotei tubu tubu, rokoteṛ jāni.  
Añk lokeṛ pāni gha mukhe jhāṛē.  
Kar dohae?  
Ma Monsa Dibir dohae.*
56. *Rokotei tubu tubu ;  
Pabonē kāyē hamoyē khāilen sāpa.  
Caṇṇēi nāi. Kar dohae?  
Ma Monsa Dibir dohae.*
57. *Sāp cahe kor sāp, pitmē raho?  
Sahē dhulā aḷē uli marē thopi bis.  
Uṭorke jābō ba patalke puri.  
Kar dohae?  
Ma Monsa Dibir dohae.*
58. *Sit gaga lil boron, sāk cil lil boron.  
Uṛao bis tin bhōbon, Su camṇa satēk bakoy.  
Uṛ jao bis tūi hatek caṇṇoy.  
Kar dohae?  
Ma Monsa Dibir dohae.*
59. *Ek jhal jhalea dhuḍuame ;  
Hua jāgiā tō jāgiā, mitri jāgiā.  
Na diṣē koṛi samudor sikkhā ;  
Nam, namṛē bis tājiā, Halumankē dohae.*
60. *Sāpi, sunu, sāpinar jonmō hoilo kotha?  
Jonmō hoilo jotha toṭha Doibikir ghorē.  
Basudebe tulē dilē Gakkhula nāi ghorē.  
Hatē tulē dilen mohon mistu kiṣṭorē bhāi ;  
Mathae camṇa phul, ki koritē pāre rē bhāi ?  
Sei māyer bāpē sāpinēṛ soron korē ;  
Garur mohābir, garur moha birorē bhāi ;  
Pōñkhe borō jor, pōñkhe korē cechan.  
Guru Kalidohēṛ jol, hētē tō Kalidoh, upore to sei ghor ;  
Sei ghor bhāngiā tō harre bis!  
Kar dohae? Ma Monsa Dibir dohae.*
61. *Nāire, nāire bisor gaye kiō bis nāire nāire.  
Rombha khola phutayē biske diṣke korilam pēni.  
Nāire nāi solo soi gopini tare onḍo nonḍ pran.  
Hori bol, bhāi, Hori bol.*

62. *Dhut cun cuni musri base, kaha jae?*  
*Gogon gorasi, hē yā, hē pōa, hē caudrae!*  
*Amka oṅger biske, unotiske uṅilam.*  
*Kar dohae? Ma Monsa Dibir dohae.*
63. *Mahadeber pusbo dāri saji noyē khola;*  
*Bari rekha toḷe pōdḍo pate, pōdḍo pate jonmō hoilo;*  
*Kūṅāri jonmō, paola bhaṅgia gelo patal bhobonē.*  
*Kōa deber ma nae khe, monē lagi betha.*  
*Saka sunu sapinar sundorer kotha.*  
*Upōḷka ḷeka hori, oṅe biske lilijē.*  
*Ēkhonē ki achore bis?*  
*Kar dohae? Ma Monsa Dibir dohae.*
64. *Khoṭok dumurer trisuk, mal chara bis;*  
*Tūi borom kopale, borom kopale diyē tali.*  
*Jare bis tūi kuli kuli.*  
*Kar dohae? Ma Monsa Dibir dohae.*
65. *Bond kor kor Indujir name;*  
*Meghlal megher are bōse bond koreche.*  
*Keu na keu dekhe, lag sopi bondi kore;*  
*Du bhaṅke rakhe, jekhōn baron gel chilo;*  
*Basupiri thāye sat hajar kolsir bis pāyachilen dan.*  
*Se bis rakho rakho, thoro thoro.*  
*Aṅaitikurer bis mal satē jhare.*  
*Kar dohae? Mai Monsa Dibir dohae*
66. *Khoṭ khoṭon to garur bapa,*  
*Garur nijer ghore hamasa jachen.*  
*Ki korichen? Ghure mon pabo na.*  
*Gorurṭi golae roth katē, bahūrē bahūrē;*  
*Bis tūi jao soron batē.*  
*Biyae gelo sapina, rowā gelo kola kola.*  
*Sotalē porbote bis namche.*  
*Sonar tola, arek kiq, nana sāper bismal satē jhare.*  
*Kar dohae?*  
*Ma Monsa Dibir dohae!*

† The transliteration of above is as written by a Santal, only here and there made conform with the style of writing use for Santali.



## APPENDIX II.

### Kamru guru.

The personage venerated above all other *gurus*, invoked in the majority of *mantars*, and also regularly worshipped by the Santal *ojha*, is *Kamru guru*. He is, as stated, their reputed first teacher. He is also, by some, said to be the first teacher of *jan science* (see p. 41), and also to be the one who first instructed the witches. All agree as to his being the first teacher of *ojhaism*; but some deny his being the originator of witchcraft. In any case he plays a large rôle within the range of Santal ideas and life; his influence has made itself felt, and even now, is felt in a marked degree; how, may be gathered from the previous pages.

On account of the place he holds in Santal medical practice and superstition it may be of interest to know what ideas the Santals have formed concerning him. They have several stories about him; these belong, as they are at present told, decidedly to the realm of fairy-tales; but a few grains of historical fact may possibly be extracted from them, and some facts may be gleaned concerning the development of the Santals and their connection with peoples other than themselves. The reader may himself judge from what is told here below.

First a few words regarding his name. This is supposed to be *Kamru* or *Kambru* (the *b* being probably inserted in pronouncing the word; Santali has several analogous words, as *mamla* and *mambha*, *ramra* and *rambha*). I have heard a variant *Kamruk*; the word is by *ojhas* often pronounced *Kamru*, with stress on the first syllable, and without resultant vowel; now and then I have only been able to hear *Kam* (in *mantars*). The word is not of Santali origin; this does not, however, prove much, as the majority of the Santal proper names are of Aryan origin. It seems natural to connect the word with Skr. *kama*, and *kamarupa*, whether in its original meaning of 'taking any shape at will, beautiful, pleasing,' or as the name of a country, the western portion of Assam. This makes it possible to take it either as the name of a person so called, or as the name of a person from Kamrup.

A tradition that the Santals learnt witchcraft from a blacksmith whilst they were living in *Kamruk* seems to have its origin in a popular derivation of the name from the word *kamar*, a blacksmith.

The Santal traditions as told by the old Kolean *guru* expressly state, that their ancestors have learnt *ojha* 'science' from Kamru, and this authority adds, 'in very old times his country and our country were close to each other' (the word does not mean bordering on each other).

The question then arises: have the Santals ever been in the east during their wanderings? Their traditions, as they are recounted at the present day, speak about wanderings in one main direction, viz., towards the east; it is not possible to deduce anything else. On the other hand, I have heard Santals giving expression to a vague idea, that their ancestors have once been in the east. It is just possible that the name

of Kamru may have given rise to such tales, combined with the knowledge the present people have of Kamrup and Assam.

Incidentally it might be noted that this question touches a problem that is coming to the front at present, the problem of the linguistic connection between a large number of races living in India and in the countries to the east, north-east and south-east of India.

If the ancestors of the Santals have ever been in the east, in the present Assam, it must have been in a very remote antiquity previous to any time about which we have any reports. It is certain, that the ancestors of the Santals lived on the Chota Nagpur plateau some four to five hundred years ago, and it is probable that they had then been living in those parts of the country for centuries.

The Santal traditions tell that their ancestors helped king Ram against Ravana on Lanka; strangely enough one school of the traditions expressly deny that they went there. Taking it for granted that the story of the Ramayana has some foundation in fact, further that the monkey-king stands for the chief of the aboriginal assistants, this would all go to make it probable that part of the ancestors of the Santals some two thousand years ago or more were living in the vicinity of the present Oudh, if not actually there. The Santal traditions and what may be deduced from them, practically all seem to point to the west.

The language found in the *mantars* and *jhāṛṇis* does not point towards any very remote antiquity and certainly not to the east.

The following is heard among the Santals about Kamru:—

Kamru's birth is said to have taken place on the water under a lotus leaf, and he is said to be of the race of godlings or *bongas*; therefore he is invoked up to this day. It is also told that *Monsa* (as the Santals call the snake goddess Manasa) was born at the same time; Kamru is, however, a little younger. According to the Santali story *Monsa* was the daughter of *Sib Thakur*; he had been sitting on the lotus leaves; when he returned to heaven and looked down, he to his great astonishment saw a girl (*Monsa*) sitting where he had just been. (It is a separate story and shall not be repeated here; it is just mentioned to show where there may be some connection between the two tales.)

They were two brothers, of whom Kamru was the younger one; the elder one of whom nothing is told, died leaving two sons who stayed with Kamru. Kamru was married, but his wife was a witch.

Kamru apparently was a great medicine-man, although nothing is told in the tales about his knowledge and doings. Then it happened when Kamru was old that he was bitten by a snake. He called his two nephews and told them to go to some hill and fetch from there a certain medicine; they were to recognize the medicine by seeing that it (it is not stated whether it was the tree or the ground or anything) was shining like fire. The two nephews at once went, found the tree, dug out and took with them a part of the root, and were on their way back when they were met by Kamru's wife.

She had heard her husband instructing the two young men and had followed

after them. When she met them, she said: "What are you going to do with that medicine? Your uncle is dead." When they heard this they became very grieved and said: "What is then the use of this dirty medicine?" whereupon they threw it away and went home empty-handed.

When they reached there they saw that their uncle was alive. He at once asked them for the medicine, and they explained that their aunt had met them and told them that he was dead, wherefore they had thrown away the medicine. "Then I am going to die," Kamru said to them; "now then remember, when I have been burnt, you two must pour water over the place; then you will find two small pieces (of flesh); eat them, then you will acquire my *bidia* (science); otherwise you will be quite unable to acquire it."

Now Kamru really died, and people came together to take the body away and burn it. They built the funeral pyre, placed the body there and put fire to it, and it was burnt. The two nephews then went to pour water on the place, whilst the other people were there in the vicinity.

Just as Kamru had told them, the two young men really found two small bits of flesh; they looked at each other, whispered and asked each other: "Look here, shall we two eat this?" Both of them urged the other one to be the first to eat; the result of this contention was that they said: "By no manner of means, we shall not eat it; for if we eat it now, will not people see us?" And saying so they threw the two bits into the water and let it flow away. Consequently they did not acquire the 'science' of their uncle.

The one who did was their aunt. She had observed it, got hold of the two bits and ate them, and acquired her late husband's 'science.' But so it always is when you have to do with women; a man is unable to cope with them. And now, the story ends, there are only women in Kamru land.

It is difficult to decide what 'science' the story really refers to, whether it is witchcraft or magic. The Santals have several stories telling how women learnt witchcraft; these have one point in common with what has been related above, viz., that the women outwitted the men and by deception acquired knowledge or power really intended for the men. One variant of the story referred to tells how the women by subterfuge learnt witchcraft from *Cando boŋga*, the same story being otherwise told about *Marah buru* and *Kamru guru*, who apparently is supposed also to have known witchcraft.

We shall not enter into any discussion of these matters here. We shall only just hear a few words about the ideas of the present day Santals regarding *Kamru* or *Kamrup* country, to see whether this can give us any assistance in deciding the question raised.

Many now living Santals have been in Assam as labourers in tea-gardens and otherwise; they have also been in, or passed through, the district of Kamrup. Even if they do not mix up the present district of Kamrup with the traditional Kamru country, the similarity of the names is sufficient to make them think that the traditional Kamru country is in the east. Now people who have come back from there

have told some very tall stories, after the fashion of some travellers, the stories generally going towards confirming the tales current about the Kamru country, e.g., telling how they have been caught and kept for years by women who during daytime have kept them hidden or made them into rams or the like and let them out at night, who have taught them sorcery, and so on, and from whom they have only escaped with the greatest difficulty, risking their lives.

The contents of the folk-tales amount to the following: There is really a country called Kamru; it is in a direction southwards from where the Santals are now living; to reach there one has to cross the sea (this would not take one to the present Kamrup, but more towards the Chittagong and Burma side). The country is very rich and fertile, and there are only women living there, or else the women predominate, and no one is able to go there and stay. Another report is that there are men also, but they are not liked by the women (definite reasons that cannot be recorded are given). Once a Santal had gone there and was at once caught by a woman. He told that he had come to learn their 'science,' and was kept for five years by the Kamru woman who during daytime had him covered by a *dirmi*, a large bamboo basket, and instructed him during the night. At last he got *sid*; the woman turned him into a kite and he flew back to his own country.

Another story tells of a Santal child who was caught by a vulture and carried to Kamru country; here he grew up and ultimately married. He wanted to get back to his own country and with much difficulty persuaded some one to help him. But every time having started to go in the morning, when it became evening he found himself coming back to the place he started from. At last a woman told him, that he must leave every thing behind, not take anything of that country along; else he would never succeed. On doing this he got away.

And so on. The traditional Kamru country is a country of strange people with strange powers; the inhabitants can at will turn a man into a dog or any other animal. In those parts of the world the fabulous *ckagudia* and *ghormūhā* are found, with one leg and heads like that of horses, otherwise like human beings, who buy and eat people.

All in all, Kamru country is a land full of magic and witchcraft; but the stories told seem to imply that it is the women who are so dangerous and powerful.

It is difficult to deduct anything from the stories told by the present day Santals. It is possible that the ancestors of the people have in some remote time been in some touch with eastern people, so different from themselves that they have attributed what they have not understood to magic and sorcery.

It is possible that Santals of this and the nearest previous generations, who have been in Assam and have brought back with them tales of strange peoples, and also the name of Kamrup, may have been the real originators of the idea that Kamru's 'science' has come from this part of the world. It would be only natural, if they were inclined to seek the origin of a matter like magic in a part of the world that they do not really know, where there is room for mysticism and what is not understood; the unexplored and unknown has many possibilities other than what is known and seen every day.

I am most inclined to think that the present-day *ojha* 'science' among the Santals has been taught them, in the first instance, not in the eastern parts of India, but somewhere in the western forests by a Hindu *ojha*, by the Santals called Kamru, now an entirely mythical personage, probably a western man, possibly an eastern man emigrated to the west, the name being either a *n. pr.* or an appellative, in this case denoting a man from Kamrup or a man with Kamrup 'science.'

APPENDIX III.

*Santali Tunes.*

With reference to the tunes here recorded, I have to acknowledge the assistance rendered by Mr. Jakob Soren, a Santal bandmaster and singing master in the Santal Mission's Boarding School for boys at Kaerabani. Two of the Dasãe tunes and three of the Buãñ tunes are, as they were recorded, by the late Mr. Skrefsrud some forty years ago; these are easily recognized by the tremolants inserted; these are very common in genuine Santal song, not affected by Western ideas of music. Jakob has not recorded these.

The Santals have songs in both the major and the minor key, the last one predominating in their music.

The specimens here recorded are only examples; there is not a large difference between the tunes to which one class of songs are sung; but they have a fairly large number of different classes and a large number of songs for each class. They apparently have no difficulty in producing verses to be sung.

In the specimens recorded, the theme is easily recognized, also how it is worked.

*Jhãrni tunes.*



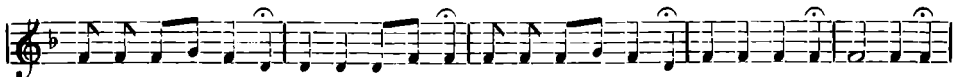
Tõ - kõe - me ðõe jha - jař ka - na ? Tõ - kõe - me ðõe ji - re ka - na re bis ?



Ne ðõ ne ðõe jha - jař ka - na, ne ðõ ne ðõe ji - re ka - na re bis.



Be - tha - gor be - tha, nuñ ðer be - tha, be - tha - gor be - tha, ðãt - er be - tha :



be - tha - gor be - tha ko - khar be - tha : be - tha - gor be - tha ðãñðar be - tha, bis jha - roñ -



re, Ko - ner gu - ru ha - mar jha - řae jha - řae ? Ko - ner ce - la

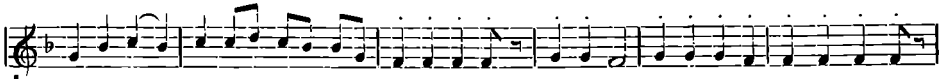


ha - mar jha - ra se - re bis do. Muñ - ðer be - tha, dā - ter be - tha,



ko - khar be - tha, pañ - jar be - tha. ðañ - ðar be - tha bis jhañ - gū re.

*Dasāe tunes.*



Bin - di - re su - ðam - te ben ðunðāñ kan do, Bin - di - re to - ðe - te ben ge - meñ kan do.



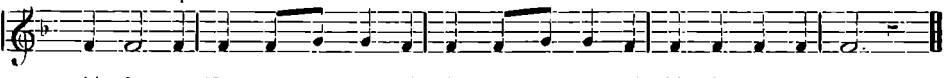
Bin - di - re Siú bir do lõk kan do, Bin - di - re Man bir do ha - sa ði - gir - en.



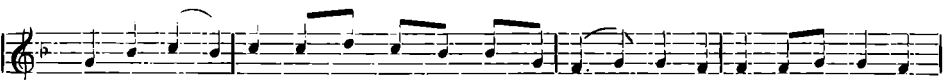
Ce - tan khoncoñ la - tar khon coñ kõe - mar ju - gi da - rae kau: kõe - mar ju - gi



ce - te - te lañ bi - ða - ye? Kõe - mar ju - gi to - a - te lañ



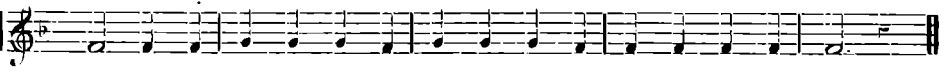
bi - ða - ye. Kõe - mar ju - gi da - he - te lañ bi - ða ha - her - e.



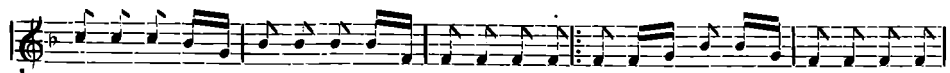
Siñ - gi siñ siñ - gi ñin - ða hās ha - sil cẽ - ðẽ, ðai. kin



ro - ðon a - ka - ða. Do se do se lai - ae - pe, Ja - her ne - ra



lai - ae - pe. Ba - re - a - kin ma - ne - wa - kin nu - pel a - kau - a.



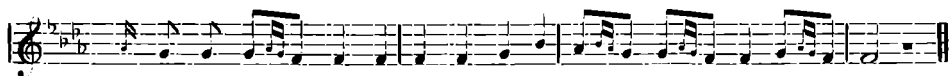
Bu - aň re, na, be - pa - ri, ua, da - ra - ko - kan: Baň do Bu - aň, baň - do be - pa -



ri. Nel - e joň ge sa - nań - a: Baň do Bu - aň, baň - do be - pa - ri.



Ba - re joň ge ji - viń - a, baň do Bu - aň, baň do be - pa - ri.



*Buaň tunes.*



Hae hae, Log - ma bu - ru ce - tan di - som - re do, gu - ru ho,

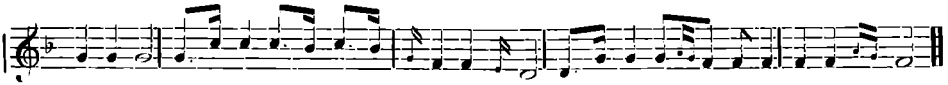


hen - de sim. Cet - ko ka - pi - te do, gu - ru, lań mań - ge - a?

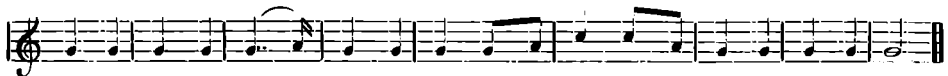


Cet - ko ka - pi - te do, gu - ru, lań ha - le - je - a?





Hae hae, ot ma lo - lo, Kam ru gu - ru. Ser - ma se - toñ,



Bu - an gu - ru, Nu - mi - nan ce - la do lan to - ka - re - ka - ko ?



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BY  
THE REV. P. O. BODDING.

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SANTAL, MEDICINE.

*By* THE REV. P. O. BODDING.

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## SANTAL, MEDICINE.

By THE REV. P. O. BODDING, *Mohulphari, Santal Parganas.*

### *Introductory Remarks.*

#### I.

In the paper called *The Santals and Disease*, the general ideas of the Santals as regards the nature and causation of disease, their superstitions, and their general attitude in connection with disease and death have been stated. The doings of their medicine-men and *ojhas* have also been told, samples of their *mantars* and invocations have been given, and so on. For all such matters the reader is referred to the paper mentioned. Practically nothing has been mentioned in that paper concerning what corresponds to what we understand by medicine. This will be given in the here following pages. Before entering on details some remarks may be called for, as regards the origin of this work and as regards certain sides of the Santal way of practising medicine, and other matters that have not found a place elsewhere.

The writer's interest in the matters here treated of is of a double nature, partly and principally ethnological, and partly 'medicinal.' It should, however, be added that the writer is not a medical man, perhaps the very reason why he has taken up a work like the present one, and he hopes, it will be found that he has nowhere attempted to intrude into the domain of the profession.

To know how an uncivilized people tries to face and fight disease and everything connected therewith, is to know how they try to tackle, or evade tackling, some of life's great problems. Facing disease man often reveals what is otherwise only seldom seen.

As regards their medical practice, the attitude of the Santals may be summed up as being, according to their lights, practical treatment, combined with superstition, resulting in, sometimes, a quite sensible attitude, and sometimes in absurd attempts to gain the victory over the enemy.

Knowledge of their medicine will, within certain limits, show their knowledge of nature, and how they use this knowledge.

It is also of some interest to know what diseases a people like the Santals has, or knows of, and to ascertain their amount of knowledge in this respect. In this respect I have had assistance from properly qualified doctors (from Mrs. Bodding, M.B. & Ch. B. (Edin.) and, at one time, from Dr. B. B. Bögh).

There is just a possibility that in the very large heap of medicinal ingredients made use of by the Santals there may be one or two, the qualities of which it might be advantageous to find out and to test.

When the writer in January, 1890 came out to the Santals, he was from the very first brought into contact with their medicine. It did not take long to be made aware of the Santals having medical treatment and medicines of their own, and of their belief in this. They might doubt the efficacy of certain medicines; but many were affirmed to be 'proved,' as they called it.

It was not seldom to hear them profess to be able to cure what European doctors consider hopeless. In some cases (not hopeless ones) that came to the writer's notice it also seemed to be a fact that they had applied remedies of an efficacious nature.

This possibility that something of value might be found, in connection with ethnological curiosity, made me commence taking down 'prescriptions' of theirs that I happened to come across. I think the first I ever wrote down was one of their remedies for rabies. One of our workers had a large scar at the pit of the stomach. Being asked how he had got this, he told he had once been badly bitten by a mad dog. His grandfather had given him some medicine, and nothing had happened to him, whilst others that had been bitten by the same dog and had got no medicine, all died. Then came a remedy for gravel, another for dysentery, and so on, to be followed by 'medicines' to prevent a wife from running away, and remedies of a similar nature. As will be understood, I got from the very first into the middle of it and was met with examples of what might be sensible, and with examples of rank humbug and superstition.

There is scarcely a grown up Santal man who has not some knowledge of the kind of medicine treated of here, as is only natural considering the lack of real professional help amongst the people; every one has to rely to some extent on himself. One man knows, *e.g.*, a remedy for cough, another for diarrhœa, a third for snake bite, and so on. It is reported to have helped some, then why not others? Some are regular specialists in the treatment of, *e.g.*, tuberculosis or venereal disease, charging specialists' fees. Some persons may have established quite a reputation and are sought by patients from far away.

It might also be mentioned that the Santal young men are supposed to go through a kind of course in *mantars* and medicine among other matters. This has been fully described in the paper entitled *The Santals and Disease*.

Some know remedies for several diseases, and a few have taken up seriously "medicine" as a profession and are all round medicine-men who try to, or profess, to cure all diseases and ills not caused by supernatural agencies, *i.e.*, by *boṅgas* (evil spirits of sorts) or by witches.

It should be mentioned, that there are very few Santals, if any at all, who have "medicine" for their only means of subsistence. For most it is a mode of earning just a little outside the ordinary, a means of getting good food and a drink now and then. For some few it may mean a good income in addition to their agricultural earnings.

It is generally only men who practise. Women may sometimes be found assisting their husbands when they give certain medicines, *e.g.*, to females.

A practising woman would undoubtedly be suspected of being something more than a "doctor"; she would be taken to be a witch very likely. It may, however, happen that a woman "knows" some remedy or other and may make use of such knowledge. I have heard of a very few women practising, all considered 'doubtful,' but also clever "doctors."

As mentioned above, the writer commenced taking down "prescriptions" and other matters connected with Santal medicine some thirty-four years ago, and continued doing so occasionally, so long as people were found who could be "tapped." How many such sources there have been, it might be difficult to say. I shall mention a few of my sources as examples.

At Mohulpahari where the writer has spent most of his time in India and has his home, a Santal, living in the village of the same name was regularly practising. He was one of the most sensible of his class that I have come across. His remedies were all herbs, roots, barks and fruits of sorts, never a large conglomeration of all kinds of stuff (some of them next to impossible to procure, a method offering an easy expedient, although perhaps not often resorted to, of putting the blame for failure on the absence of some of the stuff enumerated). I also saw this man setting a fractured bone very nicely and doing other things which one would not think an uncivilized Santal capable of, and which they, for the matter of that, also generally are unable to do properly.

I prevailed upon this man to sell me his knowledge. He came when he "remembered" something, and some three scores of the "prescriptions" recorded are due to him. He made me promise, that so long as he lived I should not divulge his mode of treatment or any of his secrets to any one here in these parts, in order not to give him competitors and deprive him of certain means of income. He is dead now many years ago. This man did not believe in *ojhaism*, but I have been told, that in order not to lose his practice, and to please his patients he had to affect appeasing the *bongas* by offering sacrifices to them, a significant feature both as regards himself and as regards his patients.

Another Santal from whom I have got a large number of prescriptions is one of our mission-workers now in the Dinajpur district. He had been practising both in this district and in Dinajpur long before he became a Christian, and has continued, although perhaps not to such an extent as formerly. Having heard of his reputation I asked him to write down his "knowledge." Not being much of a calligrapher himself he dictated what he had to tell to a schoolmaster. In many cases he has given also some of the symptoms of the diseases. He apparently has a very strong belief in the efficacy of his medicines. This man is the most "learned" Santal "physician" I have come across. He has collected "prescriptions" from all sides, according to his lights not uncritically, as I have understood him to know of much that he has not put down, because he did not believe in it. Most he has got from other Santals, a few he must have got from Bengali sources.

A third "authority" who might be mentioned is now an old man who has been with the writer for more than thirty years, as a literary helper and ethnological collector.

When he heard about this matter being looked into he became quite excited and forthwith commenced to go round collecting stuff from all he could get hold of. Many "remedies" the essential part of which is based on superstition and belief in magic have been collected by him.

Other people showed a similar interest, when they heard about the prospect of something being published on their own medicine. Several persons came and offered their "knowledge," sometimes for a consideration, but just as often out of interest in the fact that their own medicines were to be brought to the knowledge of others. The large number of contributors made it possible to follow several of these remedies to some common source. There may also be some common forms of treatment, presupposing a kind of 'school,' if such an expression is permitted.

I have to thank my old friend and colleague, the late Mr. H. J. Muston, for having relieved me of the drudgery of transcribing and translating most of the Santali original manuscripts. Wherever possible it has been thought to be of interest to have a literal translation. When there seems to be no doubt on the subject, our names of diseases have been given.

I am sorry I have not been able to get the botanical names of all the plants used in Santal medicine, and I am not quite certain as to the correctness of all the botanical names given. The Santali names are there, and if any one should wish to investigate the nature of the stuffs used it will always be possible to procure the genuine article itself. I have, as to botanical names, drawn freely on Dr. Campbell's dictionary.

It would have been easy to cut the whole down so as to leave only the botanical ingredients of the different "prescriptions." Doing this would, however, have made the present work serve only one of the purposes for which it is written, and that not the essential one, *viz.*, to be of some possible service to medicine. When so much more has been recorded and a literal translation has been given, the great ethnological interest attached to the subject must serve as an explanation and excuse.

## II.

As to the original sources of these 'prescriptions' it is difficult to say anything with certainty; it seems that the bulk of them is indigenous. The ingredients are mostly what is to be found in the forests of the Santal country; the names are mostly Santali ones.

So far as I remember only two are of clear European origin, that of Cod-liver-oil for night-blindness, quite recently received through missionaries, and carbolic acid used against syphilis. This last one they have very likely received from some compounder or other. The use of hot tea for dysuria and constipation is likely a 'discovery' of their own.

A few are easily traced to Indian bazar medicine, *viz.*, those that for ingredients have stuffs bought in the bazars, all having Bengali or Hindi names.

Some may possibly have originally come from one of the Hindu systems of medicine. Those who have studied these will be able to tell whether this is so or

not. I have understood that some Santal *ojhas* have learnt from non-Santal *ojhas*, from some belonging to the *kamar* (blacksmith), *dom* and other castes, also (very rarely) from Paharias and even Jolhas. All this will, however, amount to very little.

It may in this connection not be out of the way to mention, that the traditions of the Santals state, that their ancestors have learnt *ojha* 'science' from *Kamru guru* undoubtedly a non-Santal, very likely a Hindu. With regard to this person the reader is referred to the paper The Santals and Disease. One gets, however, the impression that what the Santal *ojha* has learnt from *Kamru guru*, whoever he may be, is not so much medicine as magic, *mantars*, charms, etc., with which to subdue or drive away the supposed malevolent spirits.

*Kamru guru* has in any case been a teacher of more than medicine. It might be remarked, that his followers, the *ojhas* of the present day, base their reputation as 'doctors' just as much, or perhaps even more, on their supposed ability to deal with the supernatural powers, as on their knowledge of medicine.

The *ojhas* guard their professional secrets with great jealousy.

Whatever there may be of foreign origin, the medicines are now generally 'santalized.'

There are no invocations or *mantars* connected with the collection and preparation of the medicines. The only thing of a similar nature is the *ran jagao*, the 'awakening' or blessing of medicine, at the time of the Santal *Dasâc porob* when the year's course in *ojha* 'science' is finished (see paper The Santals and Disease, where all this has been described); this does not, however, refer to any special ingredient, but to the effectiveness of medicine in general. There are, as will be seen, certain instructions given as to time and mode of collection of certain ingredients; but this is all, so far as I have noticed, and the medicine-men deny the use of invocations. This does not, as is mentioned elsewhere, exclude that *mantars* and invocations, partly combined with sacrifices or sacrificial acts or promises of such, are resorted to by the *ojha* and the patient's relatives. This is part of the *ojha*'s business. All this does not, however, seem to have anything to do with the application of the remedies as such; it is resorted to, not to make the stuff itself efficacious, but as a safeguard, by excluding or preventing the influence of malevolent spirits. The *mantars* muttered when using the oil-oracle, also the 'reading' over oil, salt and such things, might be mentioned; but it is not the efficacy of the remedies that is the primary object.

As to the age of the 'prescriptions' here recorded it is with our present knowledge not possible to say anything. Some of the remedies are of quite recent date, others may be followed back for some generations. They are also very likely adapted to time and locality, 'improved' or otherwise.

How they have got some of their remedies a couple of examples will show.

The writer had many years ago a dog famed for his exploits as a snake-killer. Once during my absence from home this dog was badly bitten by a poisonous snake. His neck, I was afterwards told, swelled up to a large size and all were sure the dog would succumb. Then the dog was seen to go to a place in the compound and there

ate some herb or other, whereupon he recovered. A servant had followed the dog and saw what he did. He and the others were sure the dog had shown an infallible remedy for snake-bite.

Santals are reported to have watched the common lizard or the mongoose and to have seen what these have used for sting of scorpions and scolopenders and for snake-bite. During such encounters lizards and mongooses, it is told, have been seen to eat certain plants or the bark of certain trees, and also to rub themselves against the same trees or plants.

I have heard a story of a couple of men watching an old hanuman monkey treating and curing a couple of young monkeys bitten by a cobra. The old hanuman was acting like a regular doctor, feeling the hands, *i.e.*, the pulse, of the patients. Having in this way ascertained what was the matter he had bitten off the bark of a certain tree, had chewed this, and spitting it into their mouth he had made them eat this whilst he also applied some of the same stuff on the spot bitten. The young monkeys recovered very quickly, whilst before treatment they had been very low.

Now this story is a rather tall one and likely invented to make people believe. But even so, such stories show that the Santals believe in, and are not unwilling to make use of the animal instinct. It should, however, be added that all stories of this kind that I have heard are restricted to the class mentioned, to find an antidote against poison, as is quite natural.

Another remedy was got in the following way: One night a man dreamed that a dead relative of his came and told him about an infallible medicine for *pumi*, atrophy in babes. The remedy was the egg of the humming bird, to be eaten. This is just mentioned because it may be of some psychological interest.

In this connection it may be noted that the Santals have also a belief that a disease may be either caused or cured by some stuff the name of which sounds similar to the name of a disease, or the shape of which may in some way remind one of some of the symptoms.

They say that eating *mandargom* (*Anona squamosa*) will cause *manda*, a cold. They do not, however, seem to heed this much; they are fond of *mandargom*.

The roots of a shrub they call *pet cambra* (*Helicteres Isora*), the fruit of which has a peculiar twisted shape, is believed to be a remedy for colic.

Among the ingredients used for small-pox are the conical prickles of the simol tree (*Bombax malabaricum*, DC.) and the 'warts' found on the leaves of the *Ficus glomerata*, Roxb., both likely reminding a Santal of the small-pox eruptions.

The remedies just mentioned may be classified as belonging to what is called homœopathic magic. They have a fair number of these, especially for the many kinds of what is called *bai*, convulsions, cramps, an involuntary state or movement of the body, or any part of the body, over which one has no control. They distinguish a large number of *bai* according to the symptoms.

For what they call *dhinuk bai*, bow-cramp (something like the convulsions in tetanus), one remedy is the dirt scraped off a bow.



For what is called *halmān bai*, monkey cramp, one remedy is to get the head of a monkey and rub this against a stone and smear on the stuff thus procured.

For *harna bai*, deer cramp, so called because the patient is in trepidation, grinds the teeth and moves the upper lip like a deer when eating, a deer's horn is rubbed against a stone; part is smeared on his forehead, and the patient is to lick it.

For icterus one remedy is as follows: A bit of the bark of the mango tree with a little lime smeared on is given to the patient who is to stand turned towards the sun, when it is rising, with the bark in his hand. The medicine-man then takes a cup of water and pours the water on the patient's hand, whilst somebody else rubs him. In this way all yellowness is supposed to be washed away.

For what is called *jhapni bai*, when the patient is unable to open his eyes, as in coma, they use a remedy consisting of a small plant called *jhapni* by them (the leaves close up at night), and the 'eye' of a peacock's feather; these are ground together, plastered over the whole body, and also licked.

For what is called *kandon bai*, continual crying, especially in children, they use the dirt from a cart axle; the more the cart was squeaking the better; the dirt from a *carakhi*, a machine used to separate the seeds from the cotton, also squeaking, has the same effect.

For other examples of the same kind the reader is, among several, referred to Nos. 130, 134, 135, 140, 141, 143 and 148, in the work itself.

The last one mentioned treats of what is called *suar bai*, pig cramp; the patient foams at the mouth like a pig; he makes a sound like a pig smacking when eating. Here one ingredient is the jaw-bone or the skull of a pig, to be ground together with certain other stuffs, part to be plastered all over the body, part to be eaten. It is 'prescribed' that the pig whose bones are to be used should have been killed by a tiger or leopard; if such is not available the bones of a healthy pig may be substituted. That the bones of a pig killed by a tiger should be more efficacious than those of a pig killed in an ordinary manner touches another Santal belief, that qualities in an agent may be passed on to what has been acted on; in a similar way an implement used with success may be supposed to get special inherent qualities. We shall not follow up these superstitions here; traces are found elsewhere among the Santal remedies.

A couple of other examples of the above mentioned superstition may be referred to.

In diseases in which blood is seen, something of a red colour may be found among some of the remedies. Thus for spitting of blood in phthisis the red *Nymphaea rubra* is used, also a bit of a red woollen blanket (preferably of European make). In menorrhagia similar red-coloured ingredients are applied.

For male impotency one of the ingredients is a male sparrow to be eaten together with certain other stuffs. The sparrow is by the Santals considered to be especially strong in what is here desired, so much so, that 'like a sparrow' may be heard used as an opprobrium.

The remedies resorted to in supposed female barrenness might also be mentioned

(see No. 261). Among the stuffs used is the dried umbilical cord ; some midwives will secure a bit of this, dry it and keep it to be able to give to barren women.

One of the remedies for *aha*, vomiting with diarrhœa, especially in children, believed due to the evil eye, also belongs here. One is to take the kernel or stone of the fruit of *Spondias mangifera*, Pers., that has been sucked and thrown away ; this is to be ground and given to be drunk in water.

For *taru landuþ*, perforating ulcer of the palate, one remedy consists of a hare's excrement, hare's hair, and the stomach or quills of a porcupine. Likely the peculiar movement observed in the nose of the hare has been the origin of this remedy.

To cause mother's milk to dry up, a little milk is buried in a plough-furrow.

For a suppurating breast earth heaped in front of a plough when ploughing is moistened with water and applied.

A number of other 'homœopathic' remedies may be found ; but the reader must be referred to the work itself.

To sum up : As regards the origin of the great bulk of the medicines practically nothing is known ; but one may be justified in supposing that what has been the case with others has also happened with the Santals. They have hit upon something in some way or other and may have thought it efficacious ; they may then have tried the same for other complaints than the one it was originally used for, have found it useless or possible, and have in this way been guided by experience according to their lights.

Sometimes one wonders whether people like the Santals have not more of the primitive instinct left than we have. Certain phenomena of a psychological nature might seem to point this way (so to say 'standard' dreams of theirs are curious, *e.g.*, about coming rain). Any number of vegetable poisons may be found in their forests, but it is very seldom indeed that one hears of a Santal having suffered by mistaking these for something else. To mention a concrete example of something similar : the Santals are very fond of eating some of the edible mushrooms. As is well known, some of the poisonous mushrooms may look very similar to certain edible ones. In Europe mistakes are sometimes heard of ; among the Santals they are very seldom indeed. The writer has never heard of such cases ; but as they have medicines to be used in such cases, they must be happening.

### III.

As may be expected, the diagnosis of disease is a great difficulty with them, as soon as they are confronted with anything different from the common diseases of every day occurrence.

There are few grown up Santals who have not killed or assisted in killing animals and cutting them to pieces ; they have also frequent occasion to see something, *e.g.*, when a dead body is burnt, although their natural feelings will keep them at some distance ; they consequently must have some vague or general idea of the anatomy of their own bodies. They might be thought to get some assistance from this, but apparently do not get much. Bearing in mind how observant of

details a Santal generally is, it is strange that they do not know more of their own bodies and the nature of their ills than they seem to do. Likely their superstitious fears that disease is frequently due to the malevolent influence of evil spirits may have something to do with this.

In this connection attention might be drawn to their names for diseases. Most of these are symptomatic, as will be observed. Exceptions are names borrowed from other races, however, also often symptomatic, and the names of a few diseases of a well known and easily recognized character, or of diseases attributed to some specific action of the spirits or the witches. The name is generally taken from some easily recognized, striking symptom observed. But as several diseases have symptoms in common the same name may be used for different diseases. On the other hand some diseases will show different symptoms at their different stages of development. The same disease may therefore be known by several names.

A few examples will show the position. Take tuberculosis of the lungs. As may be expected, they do not recognize the nature of the disease in its first stages. It is then called cough of some sort, generally getting a name according to the peculiar sound of the coughing or the amount of phlegm expectorated. In its more advanced stages it is mostly called *dhok*; this name is also used for some form of bronchitis. As soon as haemoptysis sets in, all other names are discarded, and it is called *raj rog*, the king-disease, that is, not the disease of kings, but the sovereign disease. I have an impression that the ordinary Santal often thinks that an entirely new disease has taken possession of the patient, when the spitting of blood commences. Tuberculosis in other parts of the body than in the lungs is naturally not recognized as such.

Or take syphilis. To start with, any venereal disease may be called *gurmi*, a name meaning heat and also used for some other quite different ailment. During the later stages when sores break out, these sores have different names according to site and appearance, and are generally considered to be due to different diseases.

A disease like cholera has many names. Their regular name for this is *hawa duk*, lit. air affliction,<sup>1</sup> a name that points to the supposed origin or spreading of the disease. The most common name is, however, *marañ laç oðok*, the great stomach outcoming, any abnormal evacuation being called *laç oðok*, stomach outcoming. Another name is *arhaja*, lit. two and a half, viz., *pohor*, periods of four hours each, "the ten hours." This name refers to the rapid course of fatal cholera.

*Murhuç jom*, leprosy, is often called *marañ rog*, the great disease. *Guti*, small-pox, is frequently referred to as *laçu kasra*, large scabies.

The use of names like these last ones is due to a peculiarity of the Santals: they do not like to name a thing by its proper name, especially if it is something of

<sup>1</sup> It might be noted that the name used by the Santals for an epidemic is *disom duk*. This may be literally translated "country affliction" or "grief." *Duk* means affliction, sorrow, grief. *Duk* alone is often used for separate instances of death, through a fatal disease or otherwise. *Disom duk* is used for what we call an epidemic, provided it is something with a high mortality. Their point of view is the way in which the whole land is affected.

a serious nature or something to be feared. To be bitten by a snake is thus generally referred to as being "hurt by a twig."

#### IV.

The work here published will give some idea as to the occurrence of disease among the Santals. They have at the present day generally speaking the same diseases as are found in the tropics among other races. They tell that they did not have syphilis, tuberculosis and leprosy until after the Santal rebellion, really an attempt to rid themselves of the foreign money-lender, in 1855. This is very probably a too sweeping statement; but this rebellion marks the end of an epoch in the life of the Santal people. Up to that time they were living much more by themselves, in the forests, fairly unexposed to infection from other races, and leading so strenuous a life that likely only the strongest survived, persons who had the power of resistance. In any case the state is now quite different. Venereal disease is fairly common, although not at all to such an extent as it is reported to be found among the surrounding Bengalis and Biharis from whom they have likely acquired the contagion. Tuberculosis is becoming fearfully prevalent among them, in spite of their out-door life. Their lack of understanding the nature and the infectiousness of this disease makes them careless. When the disease has entered a family it generally reaps a fearful harvest. Leprosy was not common among the Santals formerly; during the last generation it has become alarmingly so.

My wife who is a qualified doctor tells me that in her experience malaria is, as to prevalence, far ahead of all other diseases, also among the Santals. Next come skin diseases, such as scabies, eczema, ringworm, etc., and then bowel complaints. Dysentery is very common and often fatal.

Eye diseases are very frequent, and many have lost their sight through sheer ignorance and want of timely treatment. It might be noted that the Santals generally have splendid eyesight; cataract is very common and often seems to afflict people at an earlier age than is usual in our countries.

Pneumonia and pleurisy are of much more frequent occurrence than one would expect in a hot climate; the same may be said of rheumatic complaints; their exposed life and carelessness as to exposure explains this.

Tumours, malignant or otherwise, are not rare. Some of the horrible diseases caused by Filaria, so commonly met with in other parts of India, and also fairly frequently seen amongst Hindus living in the same country, are very rare among the Santals.

As a curiosity it may be mentioned that I have not heard that appendicitis has been met with among the Santals, only one suspected case has come to notice.

Among the so-called infectious diseases common in Europe most occur also among the Santals, with a couple of exceptions. Scarlet fever I have never heard of among them, and so far as I have been able to find out, diphtheria is practically unknown.

Among epidemic diseases the Santals recognize four or five, *viz.*, cholera, small-

pox, measles, plague and chicken-pox. As regards the plague (with a borrowed name called *maha m̄ari*) they have fortunately not had it among themselves and consequently have only vague ideas regarding it; it has, however, been near enough to them to let them know its deadliness.

As regards chicken-pox, it is fairly common among them; this is not, however, classified as *disom duk* on account of its mild character, and medicines are scarcely used. If any one should become very ill or even die from this, it will be thought to be real small-pox with which this disease is often confused by them, and it is then treated accordingly.

Measles are of yearly occurrence and also feared; it is a fact that many children die from the after-effects of this disease, mostly on account of their ignorance of its nature.

Their ideas about cholera have been mentioned elsewhere; they know its dangerous character and are very much afraid of it. It will be found among the 'prescriptions' that some medicine-men warn against in any way touching the patient and against taking food or drinking water in their houses, and the person who takes the medicine to the house is advised to have a quid of ginger and some other stuff in his mouth as a prophylactic. With regard to small-pox they know the seriousness of the disease, its common course and symptoms and they are very much afraid of it.<sup>1</sup>

In this connection some 'prophylactic' measures of theirs might be mentioned, as they specially aim at guarding against small-pox and cholera. Prophylactic must, however, here be taken in a sense different from what is the common meaning of the word with us.

These precautionary measures are of a double nature, on the one hand invocation of the spirits and sacrifices, on the other hand medicines.

In the month of *Magh* (Jan.-Febr., the month when the Santals change from the old into the new year; some customary remnants show that this month must have been the first of their year; now they follow the Bengali or the Christian year) the entire male population of the village, at a day fixed and after the usual preparations and abstinence, at the end of the village street sacrifice a black female kid and a black pullet and bury them there. At the same time they make vows to the spirits of the village boundaries that they will give them certain sacrifices next year, if they remain free from disease during the whole year. This 'precaution' refers to all kinds of disease, both among men and beasts, also against misfortunes and accidents, but especially also to small-pox and cholera. The sacrifices are followed up by giving some pills to every person found in the village. These pills are made by grinding some 46 different kinds of medicinal stuff and

<sup>1</sup> It might be mentioned that what they call *babr̄e tihq*, lit. brahmin vaccination, inoculation with small-pox virus, has now and then been practised by them. I have not heard that it is being done at the present time; but I have met old people who have been through the treatment and even have been practising it themselves in their younger days, now some sixty and more years ago. This inoculation was naturally dangerous, and people died from the thus acquired small-pox. Since the introduction of calf-lymph vaccination this inoculation has gone out of vogue. The name used shows that the Santals have got this vaccination from others. It is not an original practice of theirs.

mixing them with country liquor. Where the sacrifices are performed they are divided into as many portions as there are house-holds in the village, whereupon the *ojha* prepares some rice-water in a leaf-cup. With the whole in a winnowing fan the whole assembly starts for the village, and entering every courtyard, beginning from the village street end, the *ojha* sprinkles the waterpots with the rice-water, whereupon the pills are given. This is thought to secure the inhabitants for the coming year. A full description will be found in No. 244. It may be resorted to even now ; but I have no concrete example to refer to. Cp. the *ran jagao* described in *The Santals and Disease*, p. 72.

A similar proceeding is described in No. 243.

Precautionary measures taken against small-pox alone are of a similar kind. The male members of the village prepare themselves for a sacrificial performance, and a brown female kid is brought. The *ojha* engaged for the specific performance comes with a stick and the bark of *Oroxylon indicum* (called 'bear's winnowing fan' by the Santals) and a stick and the bark of *Callotropis gigantea*. At the entrance to the village street the *ojha* divides the barks into two portions, calling on *Sin bonga* (the sun god) and *Dharti mae* (mother earth), and orders the village men to bury portions of the bark here and there at the end of the village street, whereupon they walk through the village street with the two sticks. Next they take the kid mentioned to the eastern boundary of the village and here let her graze in the name of *Nag Nagin* ; when the kid has grazed they walk round the village boundary with the two sticks and the kid ; returning to the place where she grazed, she is sacrificed. The decapitated kid and the two sticks are left here. If they escape an epidemic, sacrifices are offered next year. If small-pox should appear in the village, some prophylactic medicines are taken by all. A detailed description will be found under No. 191.

It might also be mentioned that the Santals make frequent use of several kinds of amulets, worn in a string round the neck, the waist or at the elbow. The most frequently used form is a *mandoli*, a small hollow metal receptacle ; medicines are put into the receptacle. Another form is what is called *amsam dhiri*, lit. dysentery stone, really ancient stone-beads found buried here and there, believed to act as a charm to keep dysentery away ; these beads are of various colours, some resembling the evacuations of dysentery, and believed, when used as an amulet, to be a charm against the form of the disease, the evacuations of which correspond to the colour. A third form is a bit of a root or a bark tied up with hair (a bear's hair should be there) and kept on the body somewhere. These amulets are intended to keep away disease, and in some cases to keep attacks of a disease at bay (as, e.g., in epilepsy and bronchitis, cough, etc.). They are very commonly used and often tied by mothers on some part of the body of their children.

Going through the list of diseases will show what the Santals have, or rather what they think they have ; but the above-mentioned symptomatic nomenclature with the possibility of wrong diagnosis must be borne in mind, also that they necessarily have diseases not recognized by them, counting them as forms of something else than what they really are.

## V.

There is one matter that might be mentioned in this connection. The Santals have splendid teeth. It is not only that their food is likely less destructive to the teeth than what many other races eat ; it has become a habit with them to keep their mouth clean. They brush and clean their teeth at least once daily. It is the first thing they do in the morning, many refusing even to drink water, until they have had a general teeth and mouth cleaning. It is performed with the help of a short twig of a *sal* branch.

This is chewed at one end, until it becomes something like a brush, and is then vigorously used, whereupon the mouth is rinsed with water. The *sal* contains some resin or juice that may likely be of some assistance in preserving, in any case in cleaning the teeth. The Santal children get accustomed to this mouth cleaning from their infancy, and all look upon it as an absolute necessity. This habit of theirs must to some extent influence their health ; if they did not take such care of their teeth, one would likely hear a good deal more than one does of bowel complaints, remembering what they are treating themselves to in the way of food.

When Santals living in this district go to visit friends settled where *sal* trees are not found, they will always take along with them a good supply of *datquni* (as they call these toothbrush twigs) for their own use and to give to their friends who have difficulty in procuring them ; they know that such gifts are much appreciated. What has been told will show what the Santals think of the preservation of their teeth. Inflammation of the gums is not frequent. Caries of the teeth is, of course, met with ; they believe this to be due to some *tejo*, worms or larvæ, that eat the teeth.

A few words on the sanitary conditions of the people may also find a place here.

The Santals are a jungly people ; they have to be classified as agriculturists ; but they have even now a good deal of the roaming nature of their ancestors in them. They like an open air life, sleep outside, and live more in the open than inside their houses. Their villages are much more sanitary than what one generally sees among the neighbouring races. They are, wherever possible, built on fairly high land, the homesteads lying well apart from each other, on both sides of a fairly broad street. The houses are put up round a courtyard, into which all doors lead. No door leads from the street directly into any house. There is one house for the family, until the sons grow up, when these will generally start a new household in separate houses, often on a separate plot of land. There may be two or three houses for human habitation on the same courtyard, I do not think I have ever seen more. Then there is a cowshed and a shed for goats or sheep. There will thus in time be four houses round the yard, one on each side of it. It is seldom really crowded. The sheds for the cattle are generally open and people often take there their bedsteads to lie on during daytime when the cattle are out. People who are ill are often put there during daytime.

The Santal houses are not sanitary. They have only one door and no windows. They are consequently dark. The roof may permit of some ventilation, but much is

left to be desired here. As a rule they cook their food outside. but always have a fireplace inside. During the cold season they generally, and also sometimes at other seasons, cook their food inside, the result being that the house, especially at night, is suffocatingly full of smoke. This does not, however, seem to affect the Santals much. In the house they store their rice and all other things for which they can find a place. Here the fowls also live at night. It is, of course, not possible to keep such a house clean, even if they tried. They have a regular housecleaning, generally once yearly, all being swept and the whole inside sprinkled with a special kind of clay-earth. It is considered the duty of the housewife or whomever she may put to do it, to sweep the floor and also the courtyard every morning before sunrise or just after, and once weekly, if so often, a Santal wife will clean the floor and often part of the yard with cowdung. This cowdung cleaning seems strange to others, and it may be thought to be a hot-bed for germs, but the Santals feel a house properly plastered in this way to be eminently clean. It keeps down the dust, whatever else it may do.

The Santals have practically no furniture. They have some pieces of wood to sit on and also some low stools, always without a back, and they have bedsteads, a frame on four legs with a woven bottom of string, always their own manufacture. They are never large, generally much too short according to our ideas, but properly made, they are comfortable to lie on. They use them as beds at night, and as seats during daytime; when not in actual use they are raised on one side and put out of the way. They are light and carried without difficulty by one person from one place to another. They may be said to be sanitary, really in this respect as good as any beds. In case of need they also sleep on mats, on straw or on anything.

The above is a very incomplete description of the daily environment of the Santals, but will be sufficient to give an idea of how they are situated. In certain respects the circumstances are good enough, in others they leave much to be desired.

They are fairly clean with their bodies, some scrupulously so, others rather the opposite. Generally speaking, there is room for improvements in this respect. They wash hands and feet whenever there is a need for it, and use oil of sorts to keep their skin soft and cool. Their own women wash their clothes, boiling them with ashes.

As regards food they are scrupulously clean, both when preparing it and when eating. They wash and scour their plates and cups; if they use leaf-cups, and leaf-plates, these are thrown away after use and never used twice. They will not eat what has been touched by others, except by certain near relatives. A wife may eat what has been left by her husband, but not *vice versa*. They may eat what has been touched by their children. Except certain near relatives they will not drink water from the same cup, until it has been thoroughly scoured and washed. They wash their hands and rinse their mouth before eating and always use their right hand to eat with, the left hand being used for certain ablutions, etc., and never for food or the like. What may be said on this point is that they are in ignorance of the necessity of having a 'clean' watersupply, and that they, as a matter of course, do



not know what is essential, and what not, to avoid contamination. When they see that the water is clear, they think it is good.

They may be said to be less careful with what they buy of foodstuffs in the bazars. And they are not careful enough when they handle things. It is strange, they are sensible and careful with their own, but much less so, if at all, careful with things bought in the shops.

It should further be mentioned that they have a good deal of vermin, especially bugs, in their houses.

Whilst the Santals are very careful to go far away from their houses to pay their debt to the old usurer, as they sometimes style it, they are not so careful with passing water, and when anybody suffers from some bowel complaint, they do not always take the proper precautions, especially not with children. They do not know the need of being careful when spitting.

It should be mentioned that the Santal houses as a general rule are cheap structures, built by themselves. When a person has died in a house, especially when death is due to some dreaded infectious disease, it often happens that they let that house stand unused and build a new one, often some distance off. In this way the whole village is sometimes moved to a new site.

## VI.

Apart from the ingredients which are bought in the bazars or from "medicine"-vendors and which are easily spotted by their foreign names, practically all the stuffs used by the Santal medicine-men are such as may be procured in their own villages, or found in their forests.

So far as the writer has been able to judge, the genuine Santal remedies do not consist of a composition of a large number of ingredients. They have in each case one or two that are considered to be the essential ones; one may hear the medicine-men mention these as such; then they have one or more which are considered necessary to bring out the proper qualities of the essential ingredients, or to make it possible to take the medicine. This, of course, refers to internal medicines. Externally applied medicines may need to be mixed with something, but may also be applied pure.

Santal medicine thus also makes use of what is called vehicles. Most of these will not call for any remarks. They represent what they have or use to make a stuff possible of being administered. It is perhaps more the last mentioned consideration than anything else that operates. The Santals do not object to their medicines being bitter or the like to taste; they rather expect it to be "tasty" in this way; then they will more readily believe that it is efficacious. It is not rare to hear them criticize European medicines as only tasteless water and consequently ineffective.

Some ingredients used are of a disgusting nature. I remember an old very respectable Santal who told me in confidence that some medicines of his had helped a large number of people against certain diseases. I do not remember what it was,

and somehow none of this man's remedies have been recorded ; but his great secret was that he in preparing certain medicines made use of *gel bar serma reak ic*, human excrements twelve years old.

There is one household medicinal stuff of the Santals which may be mentioned here ; it is what they call *kaiji dak*, lit. sour water, stale ricewater. When they have emptied the earthenware pots in which they have boiled their rice, they pour in a small quantity of water and let this stand in the pot until just before it is to be used for boiling rice next day. Then the pot is "washed" with this water which is thereupon poured out into a separate pot reserved for the purpose. When they boil their rice, the superfluous water after boiling, a quart or so, is drained off and also poured into the pot mentioned. In a couple of days the stuff will turn sour, if it is not poured into already sour old *kaiji*.

This *kaiji dak* is used as food for pigs and cattle which are said to like it. It is further used to exhibit other medicines and also as a medicine in itself, both for human beings and for cattle. Especially when intended for medicine it may be kept for a long time. The writer has seen some *kaiji dak* which he was informed was five years old, an awfully horrid smelling stuff. It is kept separate in a covered pot, some new *kaiji* being added occasionally to replenish what has evaporated.

## VII.

As regards the collection of Santal medicines the following may be noted :

As mentioned above there are no special ceremonies or religious observances connected with the collecting of the different ingredients, so far as the work of the ordinary medicine-men is concerned. *Ojhas* might be thought to try to copy Hindu medicine-men ; but it is explicitly denied that they use *mantars* or invocations. The 'religious' side of their work comes in, when they are going to apply their remedies. This has been described in detail in the paper *The Santals and Disease*.

Some special precautions taken will be mentioned below (see Sec. IX).

If some of the ingredients are commonly known and no mistake is possible, or they are of the kind that has to be bought in the bazar, the medicine-man may ask those who have called him in, to fetch, or, as the case may be, to buy the stuff wanted. As a rule he will bring all himself ; as might be expected, he will not give much concrete information regarding the stuff he uses, or concerning his way of finding it. It is unnecessary to say more on this point.

An *ojha* or medicine-man will generally procure and keep with him a supply of ingredients that are not easily procurable. Thus, if he happens to come across a rare medicinal tree, shrub or plant he will take some of the bark, or whatever may be used, home with him, and in any case keep in remembrance the exact spot where he has seen it. A Santal is naturally observant of details ; they do not soon forget what they have seen with their own eyes.

The bulk of the Santals has up to the present time been living in parts of the country more or less covered by jungle or forest ; they have generally not far to go to find what they want. With some ingredients there will, of course, be difficulties.

It may be impossible to find the exact stuff. In such cases one ingredient may have to be left out, or something similar substituted. I understand that this is often done. The patient naturally has to pay the cost of the medicines, besides the fee.

The medicines employed are mostly part of trees, shrubs or plants. Sometimes the leaves or the fruits are used ; frequently it is the bark ; or the roots, or the bark of the roots. This last is so much the case that a common name of theirs for their own medicines, as distinguished from other, *e.g.*, European medicines, is *rehel ran*, lit. root medicine. They have an idea, that the roots of a tree, or what is underground, will preserve the inherent qualities better than what is above ground, exposed to all kinds of influences.

The medicine-man who goes to find medicines will carry along a *khonta*, the instrument always used for digging for medicines. A *khonta* is a wooden bar with a flat bit of iron fixed in one end, or it may be simply a bar of hard wood (so was the custom in former times, it is said). In such cases the wood is either *hesel* (*Anogeissus latifolia*, Wall.), reputed to be the hardest wood they have, or *icaḱ* (*Woodfordia floribunda*, Salisb.). This last is common in the forests and often used by the *ojha*, *e.g.*, at the time of *ran jagao*, when the *ojha* shows his disciples some of the most common root medicines (see the paper *The Santals and Disease*, Appendix I).

### VIII.

As regards the preparation and administration of the medicines the following may be mentioned :

Some stuff may be given in its natural form without any special preparation, outside what may be done with foodstuffs or drinks, but will in such cases, if taken in, scarcely be classified as medicine, any more with the Santals than with others. An example of this is the use of *siñjo*, the bael fruit (*Aegle Marmelos*, Correa.)

Some stuffs are macerated in *gotom*, the Santal name for what in North India is generally known as *ghi*, clarified unsalted butter, specially in *gotom* prepared from the milk of cows, not so often from the milk of buffalo cows which is in many cases considered unsuitable for medicinal purposes by the Santals, or even what doctors call contra-indicated. Some stuffs are soaked in mustard oil, others again soaked in water or some other fluid and then strained. Some medicines are boiled, and even boiled down, *e.g.*, to the consistency of molasses. Some are prepared by infusion or by decoction.

Only in chronic cases, or in diseases that are recognized and known to take some time to run their natural course, will they resort to a mode of preparation that requires any length of time. The general custom is to prepare the medicine on the spot for immediate use.

The most common way of preparing medicines is to grind the ingredients on a flat stone with the help of a cylindrical stone called *gurgu*, both found in every Santal household as indispensable utensils, and used for domestic purposes every day, specially to grind turmeric and spices. These two stone implements are, as a matter of course, well cleaned both before and after being used for preparing

medicines, before, to be sure that no foreign particle shall vitiate the medicine, and after the operation to ensure clean food.

The proceedings when using the *gurgu* are so characteristic, that a description may be of interest. When the stones have been properly cleaned, the medicine-man calls for a cup of water and some *sarjom* leaves (*sarjom* is the Santali name for the tree generally known as *sal*, *Shorea robusta*, Gärtn. ; the leaves are fairly large and strong, and otherwise used by the people for making leaf-cups of sorts and plates). He thereupon takes the medicinal ingredients, roots, bark, leaves, or whatever they may be, one by one, and carefully washes them to remove all traces of earth or dirt.

The man takes his first ingredient, washes and crushes the stuff, using one end of the *gurgu* as a hammer, and grinds it by rolling the *gurgu* a sufficient number of times over it. He then adds his next ingredient, treating it in the same way, and so on, until the whole is crushed, ground and mixed. As the process goes on, a little water is sprinkled on by hand.

The medicine-man now takes a small leaf-cup made of one *sarjom* leaf, and squeezing the prepared ingredients in his right hand he lets the water trickle down into the leaf-cup ; one to two ounces of fluid extract will be the result. If a larger dose is wanted, the ingredients may be ground once more with water added and then squeezed anew.

The thus prepared medicine is thereupon taken in the leaf-cup to the patient who drinks the stuff, being instructed to lie quietly down for a while after taking the dose, to prevent vomiting, if there should be any such tendency.

Most internal medicines are administered as described. In some cases the stuff is warmed a little, and if anything else than a cold extract, prepared as described, is wanted, the medicine is boiled, as mentioned above, in water, in mustard oil or in *ghi*.

Internal medicine is preferably given on an empty stomach in the morning, repeated at noon and again in the evening, if deemed necessary.

When there is no immediate danger, consequently no great hurry, and it is understood from the known or supposed nature of the disease that it will take time to run its course, the medicine may be made up into pills and left with the patient with instructions to take them at certain stated times. The same may be done with liquid stuff, specially when the vehicle is some kind of oil, *ghi* or spirits. Some of the medicine-men seem to have a predilection for using this last stuff, something called *phauru*, spirits distilled from the dried *mahua* blossoms. In all such cases the personal presence of the medicine-man is not deemed essential.

It is in this connection of interest to observe, how instructions are given as to dosage. With freshly prepared liquid medicine the amount given is the contents of a one leaf leaf-cup, anything from one to two ounces.<sup>1</sup>

With some preparations the patient is instructed to take as much as will go in a mussel shell, of which they generally distinguish three sizes, a small, a middle-

<sup>1</sup> This cup is made in the following way : a *sal* leaf is taken, the tip is just nipped off, whereupon the two ends of the leaf are folded doubly, a bit of stiff straw being pierced through the folds to keep the ends in position.

sized and a large one, in size equal to a small tea-spoon, a small desert spoon, or a small table spoon, respectively. If larger quantities are to be given at a time, they use either their own different kinds of leaf-cups, made of more than one leaf, as standards, or the common Indian measures for liquids. In the "prescriptions," when measures are specially given, they have generally been reduced to their English equivalents.

When the medicine is given in the form of pills, the size of these vary considerably. The size is given by reference to some well-known natural object of a fairly constant size. It may be a fly's head, a mustard seed, a pea, the excrement of a hare, of a goat or of some other animal, a cross-bow ball, and so on.

It will be observed that the dosage varies considerably. In some cases, perhaps generally, it is not really large; in others it must be called heroic. In such cases, knowing what they are about, they will watch developments and, when necessary, administer counteracting medicines.

If the remedy is for external use, an extract is not considered sufficient; something stronger is wanted. The ingredients are crushed and ground as described, then mixed with a little water as necessary, and placed in a potsherd which is put over some burning charcoal until the whole is sufficiently heated, that is to say, made just warm enough not to burn. The medicine-man then applies the medicine with his left hand.<sup>1</sup>

The plastering on of medicines is sometimes carried to extremes by ignorant persons and may become the cause of serious inconvenience.

When necessary or desirable the plaster or embrocation may be covered by a plantain leaf tied on. Bandages, as we understand the term, are, of course, unknown; rags and strips of old cloth, washed or dirty, have to do service. The plantain leaf is really a good substitute for an oilcloth or the like, and has the advantage of costing them nothing.

In connection with external remedies the following further methods may be noted.

The medicine is sometimes burnt to ashes and then sprinkled on. It may be rubbed on mixed with one's own saliva. Cuts may be first treated by passing water on them and then covering them with lime burnt from mussels.

In certain cases it will be observed that the medicine-man chews the stuff and thereupon spits it out, either in a bit of cloth to be used for the application, or directly on the affected part (such as the eye or the ear). Sometimes a fowl's feather is used for the application of the medicine.

<sup>1</sup> The right hand is not considered proper or felicitous. The left hand is constantly used in their medical practice. Why this should be so, is not so difficult to understand. When they say that it is infelicitous to use the right hand, it may possibly be to have an excuse for obviating the use of this hand. The left hand is otherwise the hand of dishonour, very much more so with the Santals than with us, because it, as remarked above, is used for certain undignified purposes, especially for certain ablutions. To use the left hand for any ceremonial purpose, for handling food, for greeting, or for handing anything to anybody, would be considered grossly insulting in a person who is supposed to know the proprieties. Why the left hand with all this against it, should be propitious for applying external medicine, for this I have never heard an explanation offered.

To reduce *prolapsus recti* they use the foot.

When bandaging bone-fractures splints are used made of cut pieces of *sar* (*Saccharum Sara*, L.), tied together at the ends so as to become stiff lengthways and flexible the other way. They are not unserviceable.

For certain maladies they resort to a kind of medicinal steam-bath. A simple steam-bath seems to be unknown. The ground, or otherwise prepared, ingredients are put in a generally new earthenware pot, the mouth of which is tied over with a leaf-plate. The contents are brought to boiling point, the leaf-plate is pierced to let the steam escape, and the pot is put under a bedstead (with a string bottom), on which the patient lies down covered with cloth that reaches down to the ground all round. The purpose is to make the patient perspire profusely with the help of "medicated" steam.

Another "medicated" steam-bath is given in the following manner: Some medicinal ingredients are ground and mixed with *ghi*. A bit of a shoot of a certain tree (*Zizyphus Jujuba*, Lam.), about six inches long, is covered three fourths of its length with the medicine. This "candle" is stuck in a ball of cowdung, the uncovered bit in the cowdung, the medicine-covered part standing out. The patient is made to sit on a low stool and is covered up with a sheet. The "candle" is lighted and kept under the cloth, until it is burnt down. The patient must not look at the "candle" during the whole operation; otherwise it will not be effective. This steaming is repeated several times, the object being to remove œdema.

In certain cases they make use of a proceeding, the idea of which seems to be to smoke out the *tejos* (worms) that are supposed to be the cause of the malady. It is a ludicrous sight to see when used, *e.g.*, for *rengol'*, as the worms are called that are supposed to cause caries of the teeth, 'eat' the teeth, as they express themselves.

A kind of cupping is sometimes, but very seldom resorted to. My impression is, that very few Santals know anything about this practice; it is used by non-Santal medicine-men.

Surgery is practically unknown among them. They have no implements. They may lance a boil with a red hot iron, or make a puncture with a long thorn. Thorns, or now-a-days mostly needles, are used for puncturing some peculiar nose-trouble, called *simbrā* by the Santals, and very common with them, whatever it may be. Strangely enough it is often women who perform this operation.

The disastrous way of trying to cure cataract by pushing down the lense with a needle I have not heard of any Santal doing; but I have met several Santals who have lost their sight utterly by having this done to them by persons of other races.

As a curiosity it may be mentioned that the writer has heard it told, that they have resorted to making a person dead drunk in order to make him insensible to pain when they have been forced to handle painful accidents.

They may be able to stand pain, but perhaps not more than other people belonging to the same stage. As an example of what they are able to do, the following may serve. Some people were out watching silkworms; then one man was bitten in the foot by a poisonous snake. They had a fire burning, and they took at once a firebrand and applied it, burning the whole out. The man did it himself.

## IX.

What has been stated above is a description of the way in which medicines are ordinarily collected, prepared and administered. There will always be room for departure from the commonly accepted or practised course. In connection with disease many considerations of a personal nature will make themselves felt, combined with the feeling of difficulties caused by their lack of ability and knowledge, by fear and superstition, both with the patient and with the medicine-man. Religion will naturally come in, not to appeal to the goodness or mercy of the spirit world, but to attempt to appease or satisfy the supposed enemies, and to induce some special spirit-powers to keep the supposed acting inimical powers away, or to drive these away, if they are at all able to effect this; also these spirits have to be 'paid' for their services. This matter has been dealt with in the paper 'The Santals and Disease, to which the reader must be referred.

Some of the departures from the ordinary may be of interest ethnologically, and also of interest to the student of human nature.

A fairly large number of remedies are ordered to be given on certain days to be efficacious, especially on a Sunday morning, the very first thing, even before they pay their 'dues' to nature. Sunday is considered a felicitous day, not only for administering medicine, but also for a good many other things.

In some 'prescriptions' instructions are given, that the water to be used for the preparation of the medicine has to be dew. The dew is collected in the following way: a clean piece of cloth is taken out and dragged over the grass in the morning and then squeezed out. The dew is supposed to have certain qualities due to its mysterious appearance.

Similar qualities are attributed to hail-water. Hail stones are sometimes collected and kept in a bottle for future possible medicinal use. That the hail immediately melts does not matter; the supposed quality remains, as the propelling force is supposed to remain in a spent bullet or in a supposed 'thunderbolt'. I cannot remember having heard that rainwater is especially used, as might have been expected.

Considerations of a similar nature are probably underlying certain specific instructions given in connection with some remedies. Certain qualities of purity, that is to say, of being untouched, or unused, or of being unexposed to extraneous influence, are supposed to be necessary for, and to give efficiency, to the medicine. Foreign influence is in certain cases supposed to hinder or vitiate the action of the remedies.

The simplest form this takes is the employment of a new, unused earthenware pot for preparing or administering a remedy. It has likely also something to do with the idea of cleanliness, as we understand it. The idea especially to be compared is, however, that of religious or social contamination. Dirt is objectionable, but may be removed. When a vessel has been handled by anybody for use some undefinable matter or quality or influence of this somebody is supposed to stick to the vessel; it becomes polluted for others, whilst it is quite good for those who have it in use.

When girls who have not been married are mentioned now and then in connec-

tion with certain ingredients, it is probably not so much the idea of virginity that is thought of, as the fact that such a girl has not been exposed to, or is not under the influence of other people than her own family, and perhaps specially of *boŋgas* worshipped by the members of another family than that of her father. To understand this it should be remembered that a Santal woman has no religion of her own: all her regular relations with the supernatural have to go through her male relatives, father, brother, husband, or son, as the case may be. A woman has to keep away from participation in sacrifices. When married she is supposed to be under the influence, or within the sphere, of her husband's *boŋgas*.<sup>1</sup>

The above statement should not be taken as implying that the Santals disregard morality. There is much to be desired in this respect among them: but they really prize chastity in their woman-kind. An unmarried loose character would not in any way be thought proper for the herein mentioned cases.

It will be observed that chastity is expressly demanded in many 'prescriptions'; see remarks at the end of this section. In one 'prescription' it is said: 'You, the medicine-applier, must be chaste and have no intercourse with women, and the patient must remain so also until he is cured' (see No. 90.). Even when applying medicines to cattle this is mentioned (see Vet. No. 2, c.).

Some similar vague idea seems to be underlying the application of the warm dung of a heifer which has not calved (see No. 156, c.).

In one case (for *Tinea tonsurans*) instructions are given that the maternal uncle of a child suffering from this should bathe on a Sunday morning, then come and after wiping his feet wring out the water from his wet towel on the head of his nephew or niece. These relatives (maternal uncle and nephews or nieces) are supposed to show each other particular respect and honour, honour each other like honouring the sun (or Supreme Being), as they express themselves.

In some of the 'prescriptions' it is said that a potsherd of a pot broken by falling down from (the head of) an unmarried girl will be efficacious for certain sores, when rubbed in water and applied. The same is, however, also said about a potsherd that has been turned out of its hole by a certain snake, called *tulvi* (*Eryx conicus*) by the Santals.

One medicine for puerperal fever is to take some leaves of one tree and the roots of another, grind these and mix them with the urine of the woman's husband who is to apply the remedy to her abdomen; he himself must do it, no one else.

In one case it is ordered that the medicine-man must not see the patient for two weeks, but must send the medicine by someone else. The reason for this is not obvious. In another class of 'prescriptions' the applier is warned to keep his breath during the operation. It has to be done *mit satahelte*, in one breathing, the object apparently being to prevent contamination, and thereby

<sup>1</sup> To avoid misunderstanding it might be noted that it is the *boŋgas* a Santal woman is kept away from, that is to say, from all acts through which relations or connection with any *boŋga* are supposed to be established. A woman is free to invoke the Supreme Being: she could not be prevented. If she tried to establish any connection with a *boŋga* through a sacrifice, she would, if discovered, be treated as a witch.



lack of efficiency, by the remedy being exposed to the breath of the person acting. Strangely enough, this applies only during the operation itself, not at any other time.

In connection with this the reader may be referred to what is said about certain proceedings during protracted labour; it is instructive (see No. 270).

In certain cases the patient is instructed to walk home, or to go inside his house, after the application of the remedy, without looking back or anywhere. This is probably something of the same nature as that mentioned above; the patient is to be guarded against extraneous influence, only that it seems as if the object in view here is to prevent the patient from, in some way or other, becoming unsuitable for the effects of the medicine, more than to secure the efficiency of the remedy itself.

Something of the same kind also applies to the *ojha*; in certain circumstances he has to walk away from where the patient is, without looking backwards or to any side. He is taking something dangerous along with him, and this must not get an opportunity of slipping back to the patient. See *The Santals and Disease*, p. 26 s.

There is one more matter to be mentioned in this connection. It will be observed that in some cases it is ordained that those to be treated are to practise what is called *neo dhorom*. It has been translated 'become priests,' an expression that will need some explanation. The Santals have a custom (also met with among other races) strictly adhered to: during the night previous to the performance of any sacrifice all concerned, but especially the sacrificer, sleep on a mat, or on straw, on the floor, and not on a bed, and keep themselves away from women in order not to be polluted. This is what they call *neo dhorom*. As elsewhere remarked the women are kept away from religious observances; they are not fit for them and would pollute. It might also be noted that the Santals speak of sexual intercourse, even between married couples, as *baꝛic kami*, a bad act, an evil doing, that pollutes, the purification from which comes when a child is born. It is unnecessary here further to point out what may be implied by the demand of this precaution. The same is to be observed previous to 'medicine' being administered to cure barrenness in a woman.

## X.

In connection with Santal medicine a few household remedies of theirs are to be mentioned that have not found a place among the prescriptions, or have not been properly described. A medicine-man or an *ojha* may make use of these, or order them to be used; but they are not considered as being inside the special domain of the profession, more than, *e.g.*, a hot-water bottle would be with us.

The household remedies to be mentioned here are four.

In cases of local pain, also when this is combined with some swelling, they resort to what by them is called *tobak*. The point of a sickle (often more than one is heated, so as to enable the operator to work quickly) is made red hot, and the painful or inflamed spot is pricked with this, that is, just touched, the distance between each prick being anything from half an inch to one inch. Before pricking the exact spots are marked with ashes, just a little. The operation is said to be

not very painful. It is often resorted to as a cure for a kind of headache. I remember when I first saw the marks of this on the forehead of a Santal, I thought it must be some kind of tattoo, the marks being quite artistically arranged.

If an infant child is to be treated in this way, a needle is used instead of the sickle. The operation is meant to be what is called a counter-irritant, and is aseptic.

Another counter-irritant of theirs is what they call *soso*. *Soso* is the Santal name for the well-known marking-nut tree (*Semecarpus Anacardium*, L.), very common in their part of the country.<sup>1</sup>

The pericarp contains a juice which the Santals make constant use of for several purposes, especially for blistering. When a blister is wanted, they take the pericarp and cut a small hole in it so as to be able to get at the juice that is found inside. Having wound a little thread or the like round a small bit of wood they insert this into the pericarp and let it be saturated with the juice. With the 'brush' thus prepared the skin is marked where, and to such an extent as, wanted. In a few hours a blister will commence to develop with gradual accumulation of fluid. After a couple of days this is punctured. If careful, there is no suppuration. It is painless. It is extensively used both on human beings and cattle.

It might also be mentioned that the Santals "distil" an oil of the pericarp. This is placed in a small earthenware pot with a small hole in the bottom. The pot is exposed to heat whereby the oil exudes; dropping through the hole mentioned, it is collected in a "bottle". The oil is generally stored in a receptacle which is a buffalo's scrotum. The oil is used medicinally, mostly, however, for lubricating purposes.

The other household remedies referred to are *sekao* and *ishir*, both most excellent when properly applied.

*Sekao* is a kind of fomentation, given in the following way: a large potsherd with live charcoal (what in Santali is called *bursi sen'gel*) is put on the floor close to the person who is to be treated. The part of the body to be fomented is smeared with *ghi*; the hand of the operator is kept over the live coals, till it is as hot as can be borne and thereupon pressed gently down on the affected part and kept there for a short while, until the heat is used up. The operation is then repeated and continued for a shorter or longer period; it is frequently combined with more or less massage.

Sometimes a knot of the leaves of the Ricinus plant is used instead of the hand; the leaves are so tied together that they form a kind of ball with a narrow neck, used as a handle. This may be more pleasant for the operator, but may become too hot for the patient.

*Sekao* is very commonly used and resorted to for all kinds of painful swellings and internal pain. Combined with *ishir* it is what they at once apply when something occurs, before they call in the "doctor".

<sup>1</sup> The flesh (hypocarp) of the fruit is commonly eaten, especially by children, often with disastrous results; if all parts of the pericarp have not been removed from the flesh of the fruit, the result to the eater is extensive blisters and sores round the mouth and in the face generally.

*Iskir* is massage and is given for what is called *hadi* and other complaints of a similar nature. It is very commonly resorted to in order to counteract muscular pain due to over-exertion, rheumatic pains, fatigue, or anything of a similar nature.

To be able to give *sekao* and *iskir* is considered to be a necessary part of a Santal woman's education; a woman unable to give this would not be considered desirable as a wife. Men also know the art. All are naturally not equally expert; some are really excellent and have a natural aptitude, the proper touch; most will be able to do it somehow.

## XI.

For reasons that need not be enumerated the arrangement of the herein following subjects is rather arbitrary. To start with, the sequence followed by a Santal, *viz.*, from the head to the foot-sole, was followed; later on some grouping seemed natural. On account of the uncertainty of the proper equivalents for the Santal names of diseases no attempt has been made of preparing an index of these. The sketchy table of contents given here below will enable anyone interested to find what is wanted. The numbers refer to the sections, not to the pages.

Some veterinary medicines used by the Santals have been recorded at the end of the work. Last of all will be found an Index containing in alphabetical order the Santali names of all ingredients used, so far as possible with the botanical or other equivalents, and in a third column, the numbers referring to the sections where the stuff has been recorded. There are also a very few names of ingredients, known to be used by the Santals, but not recorded in the work itself; such have no numbers. If there should be any disagreement between what is found in the text and in this index, this last one should be taken as what is believed to be correct.



CLASSIFIED LIST OF SANTAL "PRESCRIPTIONS."

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## LIST OF SANTAL "PRESCRIPTIONS."

1. *Uṣ hende ocoe.* To darken grey hair.  
*Medicines:* *Bana ic'*, bears' excrement.  
*Mithi*, *Trigonella Fœnum Græcum*, Willd.  
 Mix and grind these together and rub the mixture into the head on three successive Sundays, and the hair will become black again.  
*N.B.*—This is only applicable for young people prematurely grey, not for old people.
  
2. *Caḍrak (Tak).* Baldness.  
*Symptoms:* This may attack everyone, both children and adults; the hair falls off entirely.  
*Medicines:* (a) *Muṅga chal*, the bark of *Moringa pterygosperma*, Gärtn.  
 Grind and smear on daily.  
 (b) *Bhelāonja*, *Cæsulia axillaris*, Roxb.  
*Ekasira dare chal*, the bark of *Cratæva religiosa*, Forst.  
*Çali chal*, " " " *Morinda exserta*, Roxb. or, *M. tinctoria*, Roxb.  
 Grind, cook in mustard oil and smear on.  
 (c) Anoint the head with *sukri itil*, pigs' fat.  
 (d) *Seṅgel siṅ jo*, the fruit of *Tragia involucreta*, Willd.  
 First rub this on the bald place some three or four days, then mix this fruit with *milhi*, *Trigonella Fœnum Græcum*, and after grinding both together cook in *gai gotom*, melted butter of cow's milk, and apply this oil to the bald spot, when the hair will grow again.  
 Only applicable for young people, not old ones.
  
3. *Ruaṭe potorlen khan.* When the hair falls off owing to fever.  
*Medicines:* *Boṅga sarjom rehet' chal*, the bark of the roots of *Ventilago calyculata*, Tulasne.  
*Gabla darereko toḷok tejo*, the insects found on the leaves of *Acacia arabica*, Willd., including their chrysalis.  
 Grind these together, take a little *gotom*, melted butter, and an equal quantity of oil made from *bagluca*, *Martynia diandra*, *Gloxin*. and after mixing both heat and boil them, and then apply; the hair will grow again.
  
4. *Bhāuri.* Vertigo.  
*Medicines:* (a) *Bhāuri malu*, a vertigo necklace, is worn on the neck, and they touch with the point of a redhot sickle along the edge of the eyebrows; this is enough to effect a cure.

When this malady attacks cattle

(b) Make a mark like a cross on the forehead, or the sign of multiplication, heat some *utii sunum*, mustard oil, and pour it on the back of the neck, which will prove efficacious.

(c) *Gai ghura*, *Polygala chinensis*, L.

*Bhāuri mala*, a vertigo necklace.

Grind these together and make to drink.

5. *Bōhōk khub lolōlen khan, ona rear ocoe*. To make the head cool when it feels very hot.

*Medicines*: (a) First of all twist the arms and legs vigorously and rub the soles of the feet with *eṭko hasa*, the burnt clay from inside the fireplace; then

(b) *Bharbhari sakam*, the leaves of *Ocimum basilicum*, L. or *O. canum*, Sims. Grind these, tie them in a knot in a corner of a garment and give him to smell; then

*Tale baḡra*, the stem of the leaves of *Borassus flabelliformis*, L.

Pound this to shreds, heat at the fire and wring out the juice, then add about the same quantity of *utii sunum*, mustard oil, as you have juice, mix both well together, pour on the head and rub it well in. Do this two or three times and the head will become cool.

6. *Goṭa bōhōk tugum tugum haso*. When the whole head feels heavy.

*Medicines*: (a) *Kohṇḍa jo reak bōk*, the stalk of the fruit of *Cucurbita moschata*, Duchesne.

*Dhubi ghās*, *Cynodon dactylon*, Pers.

II *gol maric*, II black pepper corns.

Grind these three, mix with water, and smear over the whole head.

(b) *Caole maric rehel*, the roots of a kind of capsicum with seed like grains of rice.

*Thoṛa goḷe rehel*, a little of the roots of *Croton oblongifolius*, Roxb.

*Thoṛa janum rehel*, ,, ,, ,, ,, ,, *Zizyphus Jujuba*, Lam.

Grind these three together and rub on the fontanel.

(c) *Joḷo sakam*, the leaves of *Tamarindus indica*, L.

*Mihndi sakam*, ,, ,, ,, *Lawsonia alba*, Lam.

*Datra sakam*, ,, ,, ,, *Datura alba*, Nees. or *D. fastuosa*, Willd.

*Thoṛa buluṅ*, a little salt.

Grind together, make a thin mixture with water, warm in a large potsherd and apply as a plaster along the whole length of the spine; recovery will follow.



7. *Bōhōk haso*. Headache.

Medicines: (a) *Kāhu botke da*, the bulb of *Bryonia lacinosa*, L.

*Karla da*, „ „ „ „ *Momordica dioica*, Roxb.

Grind these and apply as a plaster to the painful part.

(b) *Tale bagṛa daḥ*, the juice of the stem of the leaves of *Borassus flabelliformis*, L.

Squeeze this out, smear some on and give some to drink.

(c) *Chatni chal*, the bark of *Alstonia scholaris*, R. Br.

Grind and apply warm as a plaster, and bandage it tightly.

(d) When the pain begins smear on to the painful part the juice of *peaj*, onions, or *rasun*, garlic.

(e) *Sēngel siñ rehet*, the roots of *Tragia involucrata*, Willd.

Grind and apply as a plaster, and touch the nerve with a red hot iron.

If the patient has *simbrā*, a collection of blood inside the nose, prick it, and take

(f) *Mōṛē gotāñ gol maric*, 5 black pepper corns.

*Jhal maric rehet*, the roots of long capsicum.

*Loñphul*, cloves.

Grind these, strain through a cloth and drop 3 or 4 drops into the nose at whatever time of the day he has the headache.

(g) *Lilkāthi rehet*, the roots of *Polygala crotalarioides*, Buch. and Ham.

*Gol maric*, black pepper.

Grind and squeeze a little into the nose.

(h) *Laṭha ciṣ ciṛiṣ rehet*, the roots of a species of *Achyranthes*.

*Leṇḍet*, an earthworm.

*Bharbhāri jañ*, the seed of *Ocimum basilicum*, L., or *O. canum*, Sims.

Grind and smear or plaster on.

(i) *Sinduvari*, *Vitex Negundo*, L.

*Seta kaṭa reak jantel*, the seed of *Grewia polygama*, Roxb.

Warm and smear on.

(j) *Saṅci maric*, black pepper.

*Andiā dhurup*, *Leucas cephalotes*, Spreng.

*Poṇḍ rasun*, white garlic.

Grind and drop the juice so obtained into the nose.

(k) *Dhubi ghās*, *Cynodon dactylon*, Pers.

*Poṇḍ rasun*, white garlic.

*Adwa caole*, rice that has been husked without boiling.

*Taher sakam*, the leaves of *Cucumis sativus*, L.

Plaster on the forehead.

(l) *Tale ḍaṇḍil*, the leaf stem of *Borassus flabelliformis*, L.

Roast this and take the liquid that exudes, add a little salt, and rub the entire head therewith.

(m) *Adwa caole*, rice made from sundried, not boiled paddy.

*Jeleñ maric*, a long *Capsicum frutescens*, Willd.

*Dhubi ghās*, *Cynodon dactylon*, Pers.

Grind these together and plaster on the forehead.

(n) *Hurhura sakam*, the leaves of *Cleome viscosa*, Willd.

Grind and plaster on the forehead along the edge of the eyebrows.

8. *Kaparjađi bohoĕk haso*. Neuralgia.

*Medicines*: *Lil kađhi reĕet*, the roots of *Polygala crotalaroides*, Buch. and Ham.

*Pĕ gan gol maric*, some 3 black pepper corns.

Grind together, squeeze out and drop into the nose.

9. *Bohoĕk mōĕk*. Swellings of the head.

*Medicines*: (a) *Ghoya lađauri reĕet*, the roots of *Vitis tomentosa*, Heyne.

*Sinduari reĕet*, the roots of *Vitex Negundo*, L.

Grind together, warm slightly and plaster over the whole head.

(b) *Dhurup arak*, *Leucas cephalotes*, Spreng. or, *Leucas Clarkei* Hook.

Get and dry this, grind it to powder, and putting it into a leaf like a cigarette let him inhale the smoke through the nostril on the side that pains.

(c) *Karla sakam*, the leaves of *Momordica dioica*, Roxb.

Rub these into shreds like tobacco, wrap them in a rag and go off to a deep pool, smelling them as you go; on reaching the water immerse yourself or dive in and at the same time throw away the rag and its contents. On coming to the surface go straight home, do not look back or speak to any one till you enter the house, and the pain will cease.

(d) *Caole maric reĕet*, the roots of *capsicum* with fruit like grains of rice.

Grind and apply as a plaster over the part of the forehead where the pain is.

10. *Mendok'*. Ophthalmia, generally conjunctivitis.

*Symptoms*. There is considerable pain with a gritty feeling in the eyes night and day, and a quantity of matter is discharged.

It generally commences in this way:—when rain first falls people wash their face in muddy water or bathe in the same; then they get this disease. Sometimes it commences without any apparent cause. It may become so bad, that the inside of the eye peels off. Some people have become quite blind from this disease. They do not know any medicine, and so on account of the pain they apply the first best root, and so they become blind.

*Medicines*: When the eyes burn much.

(a) *Lorŋphul* 1 *gotĕd*, one clove.

*Bare lore*, the sticky juice of the banyan tree, *Ficus bengalensis*, L.

Grind these two together very fine, and wrapping it in a small piece of cloth, squeeze the juice out into the eyes, when the matter will come out profusely. If the matter has already been discharged, then apply the sticky juice only, and the burning sensation will cease.

(b) The leaves or roots of *piṭṭuṇṇa arak*, *Spermacoce hispida*, L.

To be ground fine, put in a piece of cloth and the liquid squeezed into the eyes for about five days.

(c) *Dak catom arak*, *Marsilia quadrifolia*, L.

To be ground and applied as in (b).

(d) *Tañḍi catom arak*, *Desmodium triflorum*, DC.

*Rokoc dak*, the water of small molluscs or periwinkles.

To be mixed and dropped into the eyes.

(e) *Sahraj bele*, the egg of the Indian crane.

*Batapi sindur*, a preparation of red lead.

*Gotom*, clarified or melted butter.

Grind the first two ingredients together, mix them in the third and anoint the eyes with the mixture.

(f) *Rasun*, garlic.

*Tañḍi catom arak reak sakam*, the leaves of *Desmodium triflorum*, DC.

Grind the garlic and apply as a plaster above the eye-brows; grind the leaves, wrap them in a cloth and squeeze and drop the liquid into the eyes.

(g) *Nanha pusi loa*, *Euphorbia thymifolia*, Burm.

*Ambra chal*, the bark of *Spondias mangifera*, Pers.

*Cun*, shell lime.

Grind all together and apply as a plaster to the eye-brows.

(h) *Ponḍ rasun*, white garlic.

*Sariḷom bhiṭṭuak*, leaf stem of the *sal*, *Shorea robusta*, Gärtn.

Chew both together and blow on to the eyes of the patient.

(i) *Piṭṭuṇṇa arak*, *Spermacoce hispida*, L.

Grind and squeeze into the eyes and they will become cool.

(j) *Barē loye*, the exudation from *Ficus bengalensis*, L.

3 *gan lonphul*, about 3 cloves.

Grind, wrap in a piece of cloth and squeeze into the eyes.

(k) *Bir poraeni rehet*, the roots of

5 *ganda gol maric*, 20 black peppercorns.

*Raepan rehet*, the roots of *Smilax ovalifolia*, Roxb.

Grind together, wrap in a piece of cloth and with some lukewarm water squeeze into the eyes. If the third ingredient is not obtainable, do without it. A cure will follow in ten minutes.

(l) First put 5 *chimbri rasun*, 5 clusters garlic, into your mouth and keep them there, chewing a little. Then make the patient look up at the stars (for this must be done in the evening), address him by name and

blow on him three times. Then he must go straight into the house without looking back. If in the course of that night he does not get well, then next day get

(m) *Nanha pusi loa*, *Euphorbia thymifolia*, Burm.

Grind this and smear on his eyebrows, and drop into his eyes the honey of the *luti* or *dumur*, two kinds of small honey bees.

(n) Rub some *phiŋkiri*, alum, on a stone and drop 2 or 3 drops of it into his eyes once in the morning and again once in the evening.

(o) Wait 2 or 3 days and if not recovered get

*Bir poraeni rehel*, the roots of

Grind and make into pills the size of a grain of Indian corn, adding to the roots  $1\frac{1}{2}$  black pepper corns ground, put into an iron spoonful of hot water; then wrap in a piece of cloth and squeeze it by drops into his eyes.

*For ophthalmia in babies.*

(p) Let the mother squeeze a little of her milk into a mussel shell, add a trifle of *phiŋkiri*, alum, and drop a couple of drops at a time into the child's eyes; this is enough to effect a cure. Give no other medicine, or you will make the child blind for life.

## 11. *Ron kana*. Hazy vision.

*Symptoms*: In this complaint people see dimly in the daytime and are unable to see far.

*Medicines*: (a) *Toyo candbol rehel*, the roots of *Desmodium gangeticum*, DC.  
*Utiŋ sunum*, mustard oil.

Cook the former in the latter and squeeze and drop it into the eyes.

(b) *Garundi arak rehel*, the roots of *Acternanthera sessilis*, R. Br.

Grind fine, strain through a cloth and drop the liquid daily into the eyes till they become bloodshot and painful, when the treatment should cease.

(c) First rub the eye for 3 days with *kucla jan*, the seed of *Strychnos potatorum*, Linn. fil.

Then *rokoč dak thoŋa*, a little of the water of small molluscs or periwinkles.

*Bercl sasaŋ thoŋa*, a little raw turmeric, *Curcuma longa*, Roxb.

*Bilati thamakur thoŋa*, a little imported tobacco.

Grind these together and for three days drop one drop daily into the eyes. Afterwards eat the meat of a *karawat sim*, a fowl whose feathers, bones and skin are black, as a curry or made into hand bread, and in 3 or 4 days clear vision will return.

## 12. *Tirsuŋ* or *Čhani*. Inflammation of the eye.

*Symptoms*: In this complaint the eye runs at first and is at the same time very painful; no matter exudes. It may be present with headache or fever.

In the beginning the eye feels gritty as if a particle of dust were in it and waters freely and continuously. The eye will gradually get quite red

and the entire eyelid become bare; and if no medicine is applied the eye will turn white, and when the pupil is destroyed, there you are, blind.

*Medicines*: (a) *Rol jō*, the fruit of *Terminalia Chebula*, Retz.

This fruit to be rubbed and the eyebrows anointed therewith. The patient is sure to get well in 3 or 4 days.

(b) The ears or fruit of *hati sunḍa*, *Heliotropium indicum*, Willd., to be ground, wrapped in a piece of cloth and the juice squeezed out into the eye. A cure will follow in some 5 days.

(c) *Peaj*, onions, to be slightly roasted and the juice to be squeezed into the eye, then it will get well.

(d) Leaves of *piṭua arak*, *Spermacoce hispida*, Linn.

Bark of *dare piṇḍa*, *Randia uliginosa*, DC.

Mix and grind these, wrap in a piece of cloth and squeeze out the juice into the eye. Also mix above leaves with genuine pure red lead, grind the mixture and smear it on the eyebrows.

(e) *Hati sunḍa arak sakam*, the leaves of *Heliotropium indicum*, Willd.

Squeeze out their juice into the eyes.

(f) *Suruḷ mukhi ghās arak rehet*, the roots of *Helianthus annuus*, L.

*Ṭaṇḍi catom arak rehet*, the roots of *Desmodium triflorum*, DC.

*Daḷ catom arak*, *Marsilia quadrifolia*, L.

Mix these three and squeeze the juice from them into the eye; a certain cure.

(g) *Mahadeb jaṭa rehet*, the roots of a certain variety of the rice plant, or of a small shrub so called,

Chew this well and spit on a piece of cloth and then apply to the eye. The real medicine is mingled with the saliva. Do this in the morning, and in the evening drop in some *ṭrom rasa*, honey of *Apis florea*; the white on the eye will disappear.

(h) *Sinduqari sakam*, the leaves of *Vitex Negundo*, L.

*Berel sasan*, raw turmeric, *Curcuma longa*, Roxb.

Grind together and apply from the middle of the head down to the forehead covering with a leaf of the plantain. Do so daily for 3 or 4 days. Cover the eye too with a cloth dipped and wetted in the turmeric water. Apply also some *mare jojo amṭha*, old inspissated juice of the tamarind, *Tamarindus indicus*, L. to the eyebrows, and drop *baṛe loṛe*, the exudation from *Ficus bengalensis*, L., both of which will cool the eye.

(i) *Piṭua ghās rehet*, the roots of *Spermacoce hispida*, L.

Grind, wrap in the hem end of a cloth, add a little water, and squeeze it out into the eye. Do this for a couple of days.

(j) *Khandadhar rehel*, the roots of.

Cook this in *gotem sunum*, melted butter, and let him drop it into the eye from time to time as well as foment the eye with it.

13. *Mēt dak jorok*. Watering of the eyes.

*Medicines*: *Dare banki sakam*, the leaves of the large Vanda Roxburghii, R. Br.

*Rangu*,

Grind and drop into the eye, the watering and pain will both cease.

14. *Tōkē*. Sty in the eye. Chalazion, Hordeolum.

*Symptoms*. This begins with a small pimple on the eyelid that itches and grows in size from day to day, so that if you do not apply medicine quickly it will increase to such a size as to put the eye out of action.

*Medicines*: (a) *Ul chal se bhituak rasa*, the juice of the bark or leaf stem of *Mangifera indica*, L.

To be applied on the sty.

(b) Rub the finger on the hand till it is warm and apply to the sty, which will cure it.

(c) Point at the highest hill near you and as you do so say three times, "You, such and such a hill, my sty is higher than you," and then pretend to pinch or nip. Do this early in the morning and you will come home all right.

15. *Tesra*. Leucoma. White spot on the eye.

*Symptoms*: This complaint results from disease of the eye or watering of the eye and so it becomes white.

*Medicines*: (a) *Sankha rapul*, fragment of a shell bracelet.

*Sim ic, hendē lchērak rokawaak*, the fresh black thin excrement of a fowl

*Lali gur*, refuse of molasses.

Rub the fragment of a shell bracelet, and mix what comes off with the other two ingredients, and apply daily to the eye, inside as well; he will get well. This is efficacious with cattle also.

(b) *Capol*, *Desmodium cephalotes* (?).

Chew the leaves or roots of this very small and spit into the eye. He will certainly be all right in three or four days.

Applicable also to cattle.

16. *Joka rog*. Pterygium.

*Symptoms*. Some people call this *mēt pila* or eye spleen. Spreading somewhat like the moving of a leech (*jōk*); something grows out of the corner of the eye and spreads over the middle and covers the whole eye.

*Medicines*: There is a small nerve extending from the corner of the eye to the ear. You can see this when one is eating food that it pulsates from

the cheek bone below the the ear up to the corner of the eye. Follow this nerve accurately and apply in little spots the fruit of *sosq*, *Semecarpus Anacardium*, L. The patient will certainly get well.

17. *Jharao jharaote mēt kāṛālenre*. Blindness resulting from the watering of the eye.

*Symptoms*: The eye turns white from continued watering. This we call *chani* (see No. 12). Many people become perfectly blind from this complaint, and unless medicine is applied the eye will be entirely ruined.

*Medicines*: (a) *Terom rasa*, the honey of the *Apis florea*.

*Nanha toyo canābol*, or *Mahadeb jāta*.

Apply the honey in the morning, and in the evening, chew the roots of one of the two others to fragments, and after spitting in a piece of clean cloth put in these fragments and squeeze the juice into the eye. This treatment daily will remove the white.

- (b) *Bare lore*, the sticky juice of the banyan tree, *Ficus bengalensis*, L.

*Loṅphul*, cloves.

*Korpur*, camphor.

*Suruḷ mukhi arak rehet*, roots of *Helianthus annuus*, L.

Grind the cloves and roots together, then mix the sticky juice and camphor and squeeze into the eye, i.e., the drops; or, the application of the sticky juice and camphor only will have the same effect.

- (c) The root of *piṭṭa arak*, *Spermacoce hispida*, L. may also be applied.

- (d) If above are unsuccessful, then on a Saturday evening procure the roots of *toyo sagak* grass and soak them in water in a brass plate or such. Very early on Sunday morning before going outside, moisten with your saliva the vein of the neck where it meets the end of the shoulder on the same side as the affected eye, or spit on the medicine and rub; then the white will disappear.

18. *Kāṛā mēt'*. Blindness.

*Medicines*: *Bir porani rehet*, the roots of

*Kulai tarop rehet*, " " "

Grind together, wrap in a clean cloth and squeeze into the eye daily.

19. *Mēt' pondlen khan*. When the eye turns white.

*Symptoms*: This is the result of protracted fever or ophthalmia, and if the pupil becomes white, blindness follows.

*Medicines*: (a) *Lcher sim ic*, the thin excrement of a fowl.

Apply a little at a time to the eye daily and the white will gradually disappear.

(b) *Mahadeb jaṭa*

Chew this thoroughly and after putting it into a cloth and spitting on it squeeze the juice into the eye ; in the evening when retiring drop into the eye *terom rasa*, the honey of *Apis florea*.

(c) *Nanha catom arak rehel*, the roots of *Desmodium triflorum*, DC.

*Seta kaṭa rehel*, the roots of *Gynandropsia pentaphylla*, L.

*Seta anḍga rehel*, ,, ,, ,, *Grewia polygama*, Roxb.

Grind these two together and squeeze out about 2 or 3 drops into the eye and then

*Dhurup arak rehel ar sakam*, the roots and leaves of *Leucas cephalotes*, Spreng.

Grind both these together and drop two drops at a time into the eye.

20. *Mēṭ thu totak baisqu*. To set an eye which has "burst out."

*Medicines*: *Baye loye*, the exudation from *Ficus bengalensis*, L.

*Nanha pusi toa rehel*, the roots of *Euphorbia thymifolia*, Burm.

Grind and squeeze out the latter into a leaf cup, pour in and mix the former, and wrapping it in a piece of cloth squeeze into the eye, and in the evening foment it with *gotom sunum*, melted butter.

21. *Andhūa* or *Rat kana*. Night blindness.

*Symptoms*: People are unable to see at all at night, but in the day time can do so perfectly well.

One 'authority' says: This may begin of its own accord, i.e., without any known reason, sometimes it is due to the head being heated, and sometimes it follows the eating of rice or curry cooked in an iron vessel.

*Medicines*: (a) *Nanha dudhi loṭa rehel*, the roots of *Ichnocarpus frutescens*, R. Br.

Grind these fine, wrap in a cloth, squeeze and drop the liquid into the eyes.

(b) *Karanat sim*, a fowl whose feathers, bone and skin are black.

Let the patient eat the meat of such a fowl as curry or fried with flour and he will assuredly get well.

The gall of a black goat, fowl or buffalo or such animal should be roasted and eaten by the patient and from that very night he will be able to see. This has been proved to be efficacious.

(c) *Berel sasan*, raw turmeric, *Curcuma longa*, L.

*Thamakur*, tobacco.

*Rokoc dak*, the water of small molluscs or periwinkles.

Grind the turmeric and tobacco together, wrap in a cloth and drop the liquid into the eyes. Afterwards pour in above water and he will recover.

(d) *Raṅgāini jaṇum rehel*, the roots of *Solanum Jacquini*, Willd.

*Meṛom reak harhat sisir*, the gall of a goat.



Grind the first fine, mix with the second, and after roasting let the patient eat it.

- (e) *Rangaini janum rehet*, the roots of *Solanum Jacquini*, Willd.  
*Garundi rehet*, the roots of *Acternanthera sessilis*, R. Br.  
*Gai ghura rehet*, the roots of *Polygala chinensis*, L.  
*Maric rehet*, the roots of *Capsicum frutescens*, Willd.  
*Mare malhan rehet*, the roots of an old *Dolichos Lablab*, L.,  
 a little.  
*Mcrom se gai reak hayhat sisir*, the gall of a goat or cow.  
*Thora im*, a little liver.

Cook all well together, and let the patient eat it one day in the evening.

- (f) 3 *gan bher bherko acurok dak uru*, some 3 water beetles that revolve.

Grind, mix with his curry and let him eat for about three days.

Grind *kawel rehet*, the roots of *Abrus precatorius*, L. and make into pills which cover with *gur*, molasses, and give to eat; he will surely get well.

- (g) *Hako itil sunum*, cod liver oil; sufferers for 10 years have been cured.  
 (h) Take the *hayhat sisir*, gall, of any animal and some meat, wrapt in leaves, and roast in the fire, then add bits of the meat raw and let him eat the whole after dark; an immediate cure will follow.  
 (i) *Tandi catom arak rehet*, the roots of *Desmodium triflorum*, DC.  
*Barangom rehet*, the roots of *Vernonia cineria*, Less., or *Glossogyne pinnatifida*, DC.  
*Caole maric rehet*, the roots of a kind of capsicum, fruit resembling grains of rice.  
*Hayhat sisir*, gall.

Mix all together, cook and give to eat or drink.

- (j) *Pusi awar*, a cat's afterbirth.  
*Bir poraeni rehet*, the roots of

Grind, wrap in a piece of cloth and squeeze drops into the eyes.

- (k) *Karanat sim reak im*, the liver of a fowl with black feathers, bones and skin, extracted before singing the feathers.  
*Karam pepret*, the tips of the leaves of *Adina cordifolia*, H. F. and B.  
*Gore pepret*, the tips of *Stephegyne parviflora*, Korth.  
*Bonga sarjom chal*, the bark of *Ventilago calyculata*, Tulasne.  
*Icak darereko tolok tejo*, the caterpillars found on *Woodfordia floribunda*, Salib.

Grind the last four together and thoroughly mix the first therewith, make the whole into a ball, wrap up in leaves and roast in the fire. Then in the

evening take the patient, and also a cup of water, along with you to the gate leading from the courtyard of his house into the street, and there make him eat up all the mixture of medicine and liver that you have cooked, looking up at the stars all the time. Then make him wash his face in the cup of water, and after turning him round three or four times tell him, "Now go straight into the house and don't look round, otherwise your complaint will return." If he does this he will be completely cured. If this remedy should be inefficacious, then,

(m) after three days drop *sisir daḥ*, dew, into the eyes, make him rub them well and wash the face again in water and then in the evening he will see. If not, then the next day administer as above again and he will be cured entirely at once.

22. *Lutur kalaḥ*. Deafness.

*Medicines*: (a) *Biñ dimbu*.

Pound and crush some of the roots and leaves of this, squeeze the fluid out into a leaf cup or something similar, warm this on the fire and drop into the ear.

(b) *Eṭheḥ sakam*, the leaves of *Euphorbia antiquorum*, Linn.

Warm these at a fire, squeeze out the fluid that exudes and drop this daily into the ear.

(c) *Haṇḍi kuṇḍi rehet*, the roots of *Physalis minima*, Linn.

Grind these, warm them and drop the liquid in the ear.

23. *Lutur beleḥ*. Otitis media suppurativa.

*Medicines*: (a) *Bōṅga sarjōm nāyī*, a tendril of *Ventilago calyculata*, Tulasne.

Cut off about a span length of this, blow out the water from it and pour it into the ear.

(b) *Hesaḥ sakam*, the leaves of *Ficus religiosa*, Willd.

Pound these, warm the resultant juice, and pour into the ear.

(c) *Araḥ sindur*, genuine red lead.

Mix with oil and pour into the ear.

(d) *Phuṭia kaṇḍi cum*, the lime obtained from the small shells used in India as money.

*Oṛaḥ saṣimre janamōḥ kana araḥ*, *Commelyna bengalensis*, L., that grows on the roofs of houses.

Grind these two with water, wrap in a piece of cloth and squeeze into the ear.

(e) *Kulāi lutur*, *Emilia sonchifolia*, DC.

*Daṭra sakam*, the leaves of *Datura alba*, Willd., or *D. fastuosa*, Willd.

Grind and squeeze out into the ear.

- (f) *Pitua arak̄ rehel*, the roots of *Spermacoce hispida*, L.  
*Qhōc̄ arak̄ rehel*, the roots of *Boerhaavia repens*, L.  
*Dare p̄inda chal*, the bark of *Randia uliginosa*, DC.  
*Bin̄ kañcur*, the slough of a snake.

Collect these and cook them in pure mustard oil, which should be dropped into the ear and is sure to cure.

- (g) Grind the mushroom that grows on a bullock's horn and squeeze it into the ear.  
 (h) *Hor̄ rapak̄ mun̄dhatre arak̄ge janamok̄ ot*, grind the red mushroom that grows on a log that has been used for cremating a corpse, and squeeze it into the ear.  
 (i) *Rohoc̄ kundri sakam se rehel*, the leaves or roots of the cultivated *Zehneria umbellata*, Thew.

Cook in *utiñ sunum*, mustard oil, and when cooled down pour into the ear.

- (j) *Hor̄ rapak̄ mun̄dhatre janamok̄ ot*, a mushroom that has grown on a log left after cremating a human being.

Cook this in *utiñ sunum* mustard oil, and while the oil is hot throw in a live *kidiñ katkom*, scorpion, and when this is cooked take it out, and then pour the oil into the ear, and a cure will follow.

24. *Toa jorote lutur bele*. Ear suppuration from the entry of milk.

This arises from the carelessness of the mother while suckling the baby; some suckle while lying down and the milk dripping into the ear causes the mischief.

*Medicines*: (a) Make a leaf cup of the leaves of a shrub growing by the wayside, on which dogs have urinated. Let the milk drip into that cup and then pour it into the ear.

- (b) *Ato kundri rehel*, the roots of a cultivated *Zehneria umbellata*, Thew.

Grind and without cooking pour into the ear.

25. *Lutur haso*. Ear-ache.

*Medicines*: (a) Squeeze the juice out of *dimbu baha sakam*, the leaves of *Ocimum Bascilicum*, var. *thyrsiflorum*, L. into the ear.

- (b) Roast *dare bāñki*, *Vanda Roxburghii*, R. Br., squeeze out the juice, and after drawing this off pour into the ear.

- (c) Proceed in the same way with *tale bagra*, the crushed leaf stems of *Borassus flabelliformis*, L.

- (d) Grind and pour in *caole maric*, capsicum resembling grains of rice.

- (e) If there is pus take *dhāi arak̄ rehel*, the roots of *Grislea tomentosa*, Willd., cook in mustard oil and pour into the ear.

(f) Grind *ato piṅḍa*, *Amorphophallus campanulatus*, Blume, and pour into the ear.

(g) *Kidiṅ katkōm*, a scorpion.

*Mundḥaḥ ot*, a certain mushroom.

Cook in mustard oil and pour the oil into the ear.

(h) *Piṭuḡ ghās araḥ*, *Spermacoe hispida*, L.

Grind small, put in a piece of cloth, squeeze and drop into the ear.

(i) *Tale ḍar*, a leaf-stem of *Borassus flabelliformis*, L.

Pound and fry, foment and drop into the ear.

(j) *Kaḥ ot*, an edible fungus that grows on wood.

*Tale sakam reak' rōs*, the juice of the leaves of *Borassus flabelliformis*, L.

Pour into the ear.

(k) *Malhan sakam*, the leaves of *Dolichos Lablab*, L.

*Piṭuḡ reḥeḥ'*, the roots of *Spermacoe hispida*, L.

*Kaskōm reḥeḥ'*, ,, ,, ,, *Gossypium arboreum*, L.

Grind these together and squeeze the juice into the ear.

(l) *Kundri sakam*, the leaves of the *Zehneria umbellata*, Thew.

*Batapi sindur*, a preparation of red lead.

Sprinkle the latter thinly on the former and half roast them, or wrap them in a leaf and roast them, and then squeezing out the juice into a leaf cup, pour this warm into the ear.

26. *Kanoḗre lutur ghao*. Ear sore.

*Medicines*: Get a caterpillar found on either *gabla dare*, *Acacia arabica*, Willd. or *icaḥ goḥe dare*.

Grind and cook in *utiṅ sunum*, mustard oil, and let him apply this oil daily with a feather.

*N.B.*—This remedy is also good for *Uru ghao*.

27. *Kankōtra*. (To extract) an earwig.

*Medicines*: *Garuṅḍi araḥ*, *Acternanthera sessilis*, R. Br.

*Muḥ araḥ*, *Polygonum plebejum*, Br.

Grind and pour into the ear.

28. *Simbrā bohōk haso*. Headache caused by blood congestion in the nasal concha.

*Symptoms*. As in *Kaparjaḍi* there is pain on one side of the head, which occurs either in the forenoon or afternoon, and by this it may be known.

*Medicines*: When the pain is on, look inside the nose and you will see something like a blister. Prick and burst this and blood will at once come away. Then apply the seed of *soḥo*, *Semecarpus Anacardium*, L. in two places under the eyebrows, in one place on the nose, in one place on the cheek bone and in two places on the nerve (*sir*) of the nape of the neck, and do nothing more that day. Then next day repeat the whole operation and he will recover.

29. *Mū māyāmoḥ*. Bleeding of the nose.

*Medicines*: (a) Get quickly some *kaḍa guric*, buffalo dung, make it into a ball and give him to smell, when the bleeding will soon stop.

(b) *Hoṛo bhoḥ*, the head of a tortoise.

Roast to burning point, mix in mustard oil and let him sniff it up the nose when the bleeding will stop.

(c) *Naksvi baha*, the flower of

*Bonkapsi jañ*, the seed of *Thespesia Lampas*, Benth. & Hook. f.

*Suruḥ mukhi araḥ rehet*, the roots of *Helianthus annuus*, Willd.

Boil these together in mustard oil, let him sniff some up the nose and smear some on the head.

(d) *Khet pipra araḥ rehet*, the roots of *Urtica pentandra*, Roxb. (?), growing in rice-fields.

Boil in water and drop a little on the head ; also grind, squeeze out the juice and pour a little into the nose.

This is efficacious in bleeding of the nose in both human beings and cattle.

30. *Dātrisi*. Bleeding of the gums.

*Medicines*: (a) *Kulai ic*, hares' excrement.

*Sekra chal*, the bark of *Zizyphus rugosa*, Lamk.

*Edel rongā*, the knots on *Bombax malabaricum*, DC.

*Nanha dudhi loṭa*, *Ichnocarpus frutescens*, R. Br.

Cook in mustard oil and give to eat.

(b) *Terel cetē*, the thin skin on the bark of *Diospyros tomentosa*, Roxb.

Grind small and cook in *gai gotom*, melted butter of cows' milk, and let him rub the gums with this for three days.

(c) *Loṅphul*, cloves.

*Kaliā jira*, *Nigella indica*, Roxb.

Grind these to a powder, and some to be eaten daily.

31. *Reṅgol jom*. Caries of the teeth with toothache.

*Symptoms*. A kind of worms develop at the neck of the teeth which they eat, and if medicine is not given all the teeth will fall out. When they are at work the teeth ache intensely, and the whole cheek may swell up.

*Medicines*: (a) *Sosṣ sunum*, the oil obtained by distilling the seeds of *Semecarpus Anacardium*, L. var. *cuneifolia*.

Heat this and drop it into the cavity ; it will burn, but effect a cure.

(b) *Kanṭhar dare kaṭic dhompo*, little lumps on the *Artocarpus integrifolia*, L.

Bring these on a Sunday morning, pound slightly and tie them on to the patient's ear.

(c) *Man saru*, a certain variety of Lasia.

Grind this fine, cook in mustard oil and apply to the affected parts.

(d) *Hesel rehel*, the roots of *Anogeissus latifolia*, Wall.

Heat in mustard oil and apply.

(e) *Akaona loye*, the milky exudation of *Calotropis gigantea*, R. Br.

Smear a piece of cotton with this and insert in the cavity.

(f) *Lilkaṭhi rehel*, the roots of *Polygala crotolarioides*, Buch. and Ham.

Grind, extract the juice and drop this into the ear on the effected side.

(g) *Edel rongatel*, the knots on *Bombax malabaricum*, DC.

Tie on his ear on a Sunday morning before you go to relieve nature in any way.

(h) *Bengar betahel jo*, the fruit of *Solanum stramonifolium*, Jacq.

Grind, wrap in a piece of cloth, dip in oil and tie on to a piece of stick. Set fire to it and let the patient keep the smoke in his mouth, or make a leaf into a funnel and blow the smoke through this.

(i) *Hehel rehel*, the roots of *Millettia auriculata*, Baker.

Chew small, dip into hot mustard oil, and putting it into the tooth set fire to it.

(j) *Ciṣ cirīṣ rehel*, the roots of *Achyranthes aspera*, L.

*Saṇyi ghās rehel*, „ „ *Heteropogon contortus*, R. & S.

Apply to the cavity on Sunday.

(k) *Meral dareren tejo*, the insect or caterpillar found on *Phyllanthus Emblica*, L.

Find and bring this secretly ; then go to the patient on Sunday, ask him for some *utii sunum*, mustard oil, in a leaf cup, and after putting the caterpillar quietly into it pour it quickly into the ear on the side where the pain is, and catching the oil again into the cup as it comes out of the ear show him the caterpillar. If on seeing it he is astonished the pain will cease there and then, and next day the swelling will subside. If he is not astonished or does not believe, then this means will not cure him and something else is necessary.

(l) *Raṅgāini jaṇum rehel*, the roots of *Solanum Jacquini*, Willd.

Dry these and grind to a powder, and putting it into the bowl of a leaf pipe let him draw the smoke in to the painful spot and he will be cured.

(m) Saturate a bit of cloth in oil and wrap it round a bit of stick and plaster on it *raṅgāini jaṇum jaṇ*, the seed of *Solanum Jacquini*, Willd. ; then resting it on a leaf pottle and applying the flame of a lamp blow the smoke in ; let the caterpillars fall into a cup of water and show them to him saying, 'Look at them.' And if he believes it he will be all right.

The whole thing depends on the credulity of the patient.

Another way of "smoking the worms out" is, as follows: The medicine man finds a fairly large potsherd ; on this is placed dried cowdung which is

set fire to. This produces a good deal of smoke. To guide the smoke a kind of leaf-chimney is put on the smoking cow-dung, a large leaf being twisted into a conical shape, wide at the bottom with only a small opening at top. The patient is made to sit down and to keep the potsherd in his hands. The operator sits in front, orders the sufferer to gape as much as he can, and using the hollow stem of a plant as a a blow-pipe he blows the smoke into the mouth of the poor fellow. It is a sight to see.

32. *Sonpat*. Inflammation of the gums.

One "authority" says: The gums are painful and all the teeth get loosened. If you do not apply medicine quickly, all the teeth will fall out, and then it will be difficult to eat meat or anything parched. It is when you have teeth you can make a satisfactory meal, while if you have only the gums you turn the food from side to side and then swallow it. Therefore lose no time in applying medicine.

*Medicines*: (a) *Sondhaeni*, *Tylophora longifolia*, Wight.

*Totnopak chal*, the bark of *Eugenia operculata* Roxb.

Cook in melted butter; to be kept in the mouth by the patient.

(b) *Dater manjon*, (tooth powder).

Rub the teeth with this, it is very advantageous.

(c) *Pond kawet rchet*, the roots of the white fruited *Abrus precatorius*, Willd.

Grind and apply as a plaster to the painful part and squeeze out a little into the ear.

(d) *Sinjō banda*, the parasitical plant found on *Ægle Marmelos*, Correa.

*Khijur rchet*, the roots of *Phoenix sylvestris*, Roxb.

Grind, cook in mustard oil and pour into the ear. If the pain does not cease, then,

(e) *Tandi pitua rchet*, the roots of *Spermacoce hispida*, L.

Grind with water and after warming slightly pour into the ear.

(f) *Bokom chal*, the bark of *Melia Azaderach*, L.

*Mathom chal*, the bark of *Bassia latifolia*, Roxb.

Boil in water and with that let the patient wash out his mouth.

(g) *Tarop chal*, the bark of *Buchanania latifolia*, Roxb.

*Sakra chal*, the bark of *Zizyphus rugosa*, Lamk.

To be pounded a little and kept in the mouth like a quid of tobacco.

(h) *Raj baha sakam*, the leaves of *Nerium odorum*, Soland.

Boil in a brass-cupful of water, then take the leaves out and throw them away, and boil the water down till there is only enough to fill a 4-anna brass cup; then take it off the fire, and with that water rub the teeth every night on going to bed by dipping the finger in it.

33. *Jari phutaŋk*. Ulcerated tongue.

*Symptoms*. In this sores appear on the tongue of both children and adults.

*Medicines*: (a) *Bay chal*, the bark of *Mimusops Elengi*, L.

Boil in water and let him wash the mouth out with that water until recovery; no salt to be eaten for three days.

(b) *Aŋkir rehel*, the roots of *Smilax ovalifolia*, Roxb.

*Kadar nāri rehel*, the roots of *Asparagus racemosus*, Willd.

*Barsapakor rehel*, the roots of *Grewia sapida*, Roxb.

Mix and grind these and give to drink.

(c) *Campa rehel*, the roots of *Michelia champaca*, L.

*Nanha dudhi loŋa rehel*, the roots of *Ichnocarpus frutescens*, R. Br.

Grind these two with dust and after cooking in mustard oil give to eat.

(d) Grind fine a mushroom that is red like red lead and has grown on wood or something like that, and after cooking it in melted butter give to eat.

(e) *Sekra chal*, the bark of *Zizyphus rugosa*, Lamk.

*Ul chal*, the bark of *Mangifera indica*, L.

*Nanha dudhi loŋa rehel*, the roots of *Ichnocarpus frutescens*, R. Br.

*Turam da*, the bulb of

Grind together, cook in mustard oil and give to eat.

(f) *Bhiḍi toa*, sheeps' milk.

To be drunk and smeared on the tongue.

(g) *Serwan rehel*, the roots of *Vigna vexillata*, Benth.

*Nanha dudhi loŋa rehel*, the roots of *Ichnocarpus frutescens*, R. Br.

To be cooked in melted butter of cows' milk and then eaten.

34. *Alan potagoŋk se paŋagoŋk*. *Rhagades lingueae*.

*Medicines*: *Sekra chal*, the bark of *Zizyphus rugosa*, Lamk.

To be kept in the mouth like a quid of tobacco and given an occasional chew. Some more of it to be boiled in water and every morning the mouth to be rinsed out with this water until cured.

35. *Moca ghao*. Sores in the mouth.

*Medicines*: (a) *Nanha dudhi loŋa rehel*, the roots of *Ichnocarpus frutescens*, R. Br.

*Kujri rehel*, the roots of *Celastrus paniculatus*, Willd.

Grind these together, cook in mustard oil and apply to the affected part.

(b) *Koḇḇeni da*, the bulb of *Eriosema chinensis*, Voq.

*Sekra chal*, the bark of *Zizyphus rugosa*, Lamk.

*Utri dudhi loŋa rehel*, the roots of *Cryptolepis Buchanani*, R. & S.



Grind these fine, cook in melted butter and smear on the sores.

- (c) *Sekra chal*, the bark of *Zizyphus rugosa*, Lamk.  
*Khayar chal* „ „ „ *Acacia Catechu*, L.

Let him chew either of these.

- (d) Let him keep *bhiḍi toa*, sheep's milk, in the mouth: he will soon get well.
- (e) *Sekra chal*, the bark of *Zizyphus rugosa*, Lamk.  
*Sekrēc̣ chal*, „ „ „ *Lagerstroemia parviflora*, Roxb.  
*Datra rēhēl sē jō*, the roots or fruit of *Datura alba*, Willd. or *D. fastuosa*, Willd.  
*Rol chal*, the bark of *Terminalia Chebula*, Retz.  
*Atnaḱ chal*, the bark of *Terminalia tomentosa*, W. and A.

Grind together and apply both inside and outside the teeth.

Take *ēḍel roṅga*, the knots on *Bombax malabaricum*, DC. and after rubbing off the thorns, make a hole and hang on to the ear of the side that pains him, on Sunday.

- (f) *Sirom rēhēl*, the roots of *Andropogon muricatus*, Retz.  
*Nanha dudhi loṭa rēhēl*, the roots of *Ichnocarpus frutescens*, R. Br.

Grind these, cook in melted butter of cows' milk and give to eat and he will get well at once. Also smear on the lips the milky exudation of *bir saru*, *Lasia heterophylla*, Schott. which will heal the sores on the lips.

- (g) *Baye chal*, the bark of *Ficus bengalensis*, L.  
*Hesak chal*, „ „ „ *Ficus religiosa*, Willd.  
*Pakare chal*, the bark of *Ficus infectoria*, Willd.  
*Nim chal*, „ „ „ *Melia Azadirachta*, L.  
*Hati iḱ*, elephant's excrement.

Get all these, cook in mustard oil and apply.

- (h) *Latha ciḅ ciḅ jō sē jaṅ*, the fruit or seed of  
*Māṅjurjhuṭi rēhēl*, the roots of

Grind these together and cook in *utiṅ sunum*, mustard oil, and apply daily with a feather.

- (i) *Nanha dudhi loṭa rēhēl*, the roots of *Ichnocarpus frutescens*, R. Br.  
*Akar baha*, *Limnophila Roxburghiana*, G. Don.  
*Nanha catom arak*, *Desmodium triflorum*, DC.  
*Jhik poṭa*, a porcupine's stomach.  
*Bhernda loṛe*, the juice of *Jatropha Curcas*, L.

Grind these together, cook in *utiṅ sunum*, mustard oil, and apply with a feather. If the back of the mouth has sores:

- (j) *Nanha dudhi loṭa rēhēl*, the roots of *Ichnocarpus frutescens*, R. Br.

*Baṛ baha chal*, the bark of *Mimusops Elengi*, L.

*Sirom reḥeḥ*, the roots of *Andropogon muricatus*, Retz.

Grind these together, cook in *gai gotom*, melted butter of cows' milk ; to be eaten three times a day.

36. *Nulikor hōr*.

*Symptoms*. In this there are sores in the throat.

*Medicines* : *Sasañ baha*, the flower of *Curcuma longa*, Roxb.

*Muṅga chal*, the bark of *Moringa pterygosperma*, Gärtn.

*Gol maṛic*, black pepper.

*Piska da*, the tuber of *Dioscorea oppositifolia* L.

*Tumba ot'*, an edible form of mushroom.

*Sukri ḍhumbak'*, pig's excrement.

Grind these together and give to drink.

37. *Piṭkiri haso*. Angina.

*Symptoms* : There is pain in the neck under the jaw, and a choking sensation when swallowing the saliva.

*Medicines* : Every morning rub it with your own saliva, and then get a *raṇu guli*, ball of the ferment used in brewing rice beer, grind this, mix saliva with it and apply it over the painful spot. This to be done during the day time only after the morning rubbing.

38. *Gola kaṇṭa*.

*Symptoms*. This attacks the throat which swells up, so that if medicine is not applied it may stop the breathing and prove fatal.

*Medicines* : (a) *Gol maṛic ḡ caole maṛic*, black pepper or a kind of capsicum, resembling grains of rice.

Grind and give to drink.

(b) *Ato piṇḍa*, *Amorphophallus campanulatus*, Blume.

Grind and give to drink.

(c) *Kasmar chal*, the bark of *Gnelina arborea*, Roxb.

*Raṣun*, garlic.

Grind and give to drink, and foment externally with melted butter.

(d) *Caole maṛic reḥeḥ*, the roots of a kind of capsicum resembling grains of rice.

*Malhan sakam*, the leaves of *Dolichos Lablab*, L.

Grind these together and give to drink ; and apply externally a mixture of *Phuṭiā kaḍi cun*, lime made from the shells used as money in India.

*Batapi sindur*, a preparation of red lead.

39. *Kom kom.* Mumps.

*Medicines:* First of all foment the parts, and if this does not suffice, then  
*Daṭṭa jō*, the fruit of *Datura alba*, Willd. or *D. fastuosa*,  
 Willd.

*Raṅgāini jānum*, *Solanum Jacquini*, Willd., leaves included.

Grind together and after warming in a leaf cup apply as a plaster over the swollen parts and recovery will follow in two or three days.

40. *Aṅgur buḍhi.* Whitlow.

*Symptoms.* This may appear on any of the fingers or toes. At the commencement there is a pimple, reddish in appearance, that itches very much, and later on a burning pain.

*Medicines:* (a) *Turaṃ reḥeḥ*, the roots of

*Suruḥ mukhi arāk reḥeḥ se jōtoge*, the roots of, or the entire  
*Helianthus annuus*, L.

Grind and plaster on, wrapping a bandage over and then soaking the whole well in mustard oil; the pain will cease shortly.

(b) *Kolo da*, the bulb of *Dioscorea daemonum*, Roxb.

*Raṅgāini reḥeḥ*, the roots of *Solanum Jacquini*, Willd.

*Sarjōm chal thora*, a little of the bark of *Shorea robusta*, Gärtn.

Grind these together and apply, wrapping a bandage around.

When the sore breaks:

(c) *Maṭha arāk reḥeḥ*, the roots of *Antidesma diandrum*, Tulas.

*Turaṃ reḥeḥ*, the roots of

*Bhidi jānateḥ reḥeḥ* the roots of *Urena sinuata*, L. or *Triumfetta rhomboidea*, Jac.

Mix all these and apply.

At the very beginning, (d) if the milky juice of *bheruḍa*, *Jatropha Curcas*, L., is applied the pain will cease.

(e) *Eṭkeḥ dar*, branch of *Euphorbia antiquorum*, L.

Hollow this out and put it on like a ring over the painful spot.

(f) *Eṭkeḥ*, *Euphorbia antiquorum*, L.

Cut off a branch of this square and making a hole in it put it on the affected member. After being on for 24 hours take it off, get some *ṭaṇḍi catōm arāk*, *Desmodium triflorum*, DC., which grind and apply as a plaster.

(g) *Raṅgāini reḥeḥ*, the roots of *Solanum Jacquini*, Willd.

*Joka sakam*, the leaves of *Sida humilis*, Willd.

Grind together and apply as a plaster.

(h) *Turaṃ reḥeḥ*, the roots of

*Suruḥ mukhi reḥeḥ*, the roots of *Helianthus annuus*, L.

*Sim kaṭa arāk reḥeḥ*, the roots of *Vitex peduncularis*.

Grind these together and apply as an ointment; then wrap in a bandage and pour on mustard oil till it is saturated; immediate alleviation will follow.

- (i) *Raṅgāini rehet*, the roots of *Solanum Jacquini*, Willd.  
*Bilāti thamakur*, imported tobacco.  
*Kolo da*, the bulb of *Dioscorea daemonum*, Roxb.  
*Sarjom chal*, the bark of *Shorea robusta*, Gärtn.

Grind these together fine and apply.

- (j) At the commencement: *kaḍa guric'*, buffalo dung.

Make this into a ball, burn it in the fire and stick it on like a thimble.

- (k) If several days have elapsed, then

*Lātha ciṣ ciṣ rehet*, the roots of  
*Raṅgāini janum rehet*, the roots of *Solanum Jacquini*, Willd.  
*Joka sakam*, the leaves of *Sida humilis*, Willd.

Grind these fine and plaster on.

#### 41. *Khēṛkhōc*.

*Symptoms.* This sore occurs on the palm or back of the hand or under the wrist. There are white pimples which ripen white and cause intense pain, and inside the sores there is a cup-like formation as in boils.

*Medicines:* (a) *Turam rehet*, the roots of  
*Suruḷ mukhi arak rehet*, the roots of *Helianthus annuus*, L.  
*Bhidi janateṣ rehet*, the roots of *Urena sinuata*, L. or *Triumfetta rhomboidea*, Jac.

Grind these three and apply.

- (b) *Kolo da*, the bulb of *Dioscorea daemonum*, Roxb.  
*Maṭha arak rehet*, the roots of *Antidesma diandrum*, Tulas.  
*Raṅgāini janum rehet*, the roots of *Solanum Jacquini*, Willd.  
*Etka rehet*, the roots of *Mucuna pruriens*, DC.  
*Seṅget sii rehet*, the roots of *Tragia involucrata*, Willd.

Grind these and apply.

#### 42. *Hoṛ khura*.

*Symptoms.* A "sore" appears on the sole of the foot as in *ras bat ghao*.

*Medicines:* (a) *Nanha jelaṇ rokōc*, a thin long mollusc or periwinkle.  
*Kauha chal*, the bark of *Terminalia Arjuna*, Roxb.  
*Phutiā kauḍi*, the small shell used in India as money.

Grind these together, boil in mustard oil and anoint the sore therewith.

- (b) *Dare piṇḍa jo*, the fruit of *Randia uliginosa*, DC.  
*Loṭo jo*, the fruit of *Randia dumetorum*, Lam.

Grind together, boil in mustard oil and apply to the sore.

#### 43. *Jāṅga se idi paṛagoḷ*. Rhagades.

This is something which affects only some people.

*Medicines:* Throw a nut of *Areca Catechu*, L. into *sasaṇ dak*, turmeric (*Curcuma longa*, Roxb.) water, and on Saturday evening take it and put it down at the roots of a *teḷhēc* (*Sterculia urens*, Roxb.) tree, and in doing so address it thus:

Make me a pair of shoes meanwhile ; I shall come to-morrow morning. Having said this return home. On Sunday morning without relieving nature or passing urine go back there again and greet that tree ; then sitting down kick it once with each foot and in doing so say : Here, take the worn out shoes, give me my good ones. Then go straight home without looking back, and from next year your feet will not crack.

44. *Jaṅga kaṭuṣṭha*. Sores on the toes.

*Medicines* : (a) *Icaḅ reḅeḅ*, the roots of *Woodfordia floribunda*, Salisb.

*Mare naṅgle*, an old leathern thong for fastening the yoke.

Take the first and chop them to the size of the stems of the tobacco plant ; then boil them in about 2 or 3 pints of water, till their juice has been extracted ; then take out and throw away the roots, and boil the water down to about 8 oz. Then roast the thong to burning point, grind it and strew it on the water, and mix well. Apply this mixture.

(b) *Joka sakam*, the leaves of *Sida humilis*, Willd.

Grind and apply of the consistency of porridge.

45. *Jaṅ ruli*. (Osteo-mylitis.)

*Symptoms*. In this there is an intense aching and burning pain day and night all the way from the sole of the foot up the shin to the thigh bone.

*Medicines* : (a) *Bhuku chata*, a termites' nest.

Warm slightly and apply some three or four days.

(b) *Chaṭni chal*, the bark of *Alstonia scholaris*, R. Br.

Warm and apply daily.

(c) *Akaona reḅeḅ*, the roots of *Calotropis gigantea*, R. Br.

Warm and apply daily.

(d) *Bir eraḅom*, the wild *Ricinus*.

Apply daily without warming.

(e) *Bumum bhuku chata*, a termites' nest from the anthill.

Heat and apply ; this is enough for a cure.

(f) *Daḅ ghoya lada*, *Vitis tomentosa*, Heyne.

*Kaḅa bhosam*, the first stomach of a buffalo.

*Kesari da*, the tuber of *Lathyrus sativus*, L.

Mix and apply these warm.

(g) *Eḅel maṅj*, the heart of *Bombax malabaricum*, DC.

*Bir hoṅeḅ*, *Atyllosia scarabædois*, Benth.

*Dare cetan reaḅ kaṅkom jaṅga*, *Viscum attenuatum*, DC.

Grind all these together and after warming slightly plaster it over where it pains him and he will recover. If there is pus, *i.e.* if it is ripe, burn a hole with a red hot iron.

One " authority " says : This is the same as *uri*, commences like that and pains in the same way. This is said to burst from the bone and is therefore styled *ruli*. First apply what is prescribed for *uri*, and if inefficacious, then

you know it is *ruli*. This complaint appears mostly on the thigh joint, thigh or knee, and therefore some people call it also *jañ uri*.

46. *Jañ rapudok*. Fractured bones.

*Medicines* : *Khodę baha rēhet*, the roots of  
*Bōd lar rēhet*, the roots of *Vitis adnata*, Wall.  
*Kamraj rēhet*, ,, ,, ,, *Buettneria herbacea*, Roxb.  
*Hađ jora nāritet*, the tendrils of *Cissus quadrangularis*, Willd.  
 Grind, apply as a plaster, and affix splints.

47. *Eklam seklam ruq*. Ague.

*Medicines* : *Orsoyeñ rēhet*, the roots of *Zingiber Cassumunar*, R. (?)  
*Kāhu botke rēhet*, the roots of *Bryonia lacinosa*, L.  
 Grind and plaster the patient therewith.

48. *Ti jañga se jañ bhitri haso*. Pain in the limbs or bones.

*Medicines* : *Bonkapsi da*, the bulb of *Thespesia Lampas*, Benth. & Hook. f.  
*Kadar nāri rēhet*, the roots of *Asparagus racemosus*, Willd.  
*Atkir rēhet*, the roots of *Smilax ovalifolia*, Roxb.  
*Bir campā rēhet*, the roots of *Ochna squarrosa*, L.

Grind with water, and after squeezing the water out give about eight ounces of it to drink for three or four days.

49. *Ruqateye kalhalenre*. Subnormal temperature after fever.

*Medicines* : *Pařo da*, the tuber of *Curcuma angustifolia*, Roxb.  
*Berel sasañ*, raw turmeric, *Curcuma longa*, Roxb.  
 Grind together and plaster the body therewith.

50. *Pali ruq*. Intermittent fever (malaria).

*Symptoms*. In this the fever is not in evidence every day, but returns after an interval of one day or it may be two.

*Medicines* : (a) *Añđiq moron arak rēhet*, the roots of *Gymnema hirsutus*, W. & A., var. *Decaisneanum*, Wight.

*Nanhađudhilołarēhet*, the roots of *Ichnocarpus frutescens*, R.Br.

Take a little of each of these and tie on the patient with thread.

(b) *Bare baha rēhet*, the roots of *Pentapetes phoenicia*, L.

*Datauni ger phodlotet*, the frayed portion of a Santal tooth brush.

*Pio il*, the feathers of the *Oriolus melanocephalus*.

*Sakri patya carec, pe senak*, the leaf stem pins from three sides of a used leaf plate.

*Bardüruc ulawak*, the rejections from the mouth of a bat.

*Bana uř*, a bear's hair.

*Taruř uř*, a leopard's hair.

Tie these together and hang on to the patient's neck.

(c) *Ratcora*, *Locusta viridissima*.

*Baye baha*, *Pentapetes phoenicia*, L.

*Suruḡ mukhi rehēt*, the roots of *Helianthus annuus*, L.

*Catom arāk rehēt*, „ „ „ *Marsilia quadrifolia*, L.

*Sirom rehēt*, the roots of *Andropogon muricatus*, Retz.

*Daḡani reaḡ toḡoḡ phodlotet*, the chewed part of a Santal tooth brush.

Tie with a thread and hang on the neck. This must be done on a Sunday morning.

(d) *Tejo mala rehēt*, the roots of *Cissampelos Pareira*, L.

Pound and give to drink; also

*Dare cetanre omḡoḡ laḡa ciḡ ciḡiḡ rehēt*,

*Arāk garuḡdi rehēt*, the roots of the red *Acternanthera sessilis*, R. Br.

Put a thread out in the dew on Saturday, then on Sunday morning tie these with that thread and then hang them on his neck. Or the following may be tied and hung on him in the same way :

(e) *Bana uḡ*, a bear's hair.

*Pio il*, the feathers of the *Oriolus melanocephalus*, L.

*Pitua ḡhās*, *Spermacoce hispida*, L.

*Sirom rehēt*, the roots of *Andropogon muricatus*, Retz.

*Baye baha rehēt*, the roots of *Pentapetes phoenicia*, L.

The leaf stem of *Bassia latifolia*, Roxb., that falls at night.

### 51. *Emne ruḡ*. Various fevers.

*Medicines*: (a) At the commencement of fever, when it is uncertain of what kind it is :

*Tejo mala rehēt*, the roots of *Diospyros tomentosa*, Roxb.

Grind and give to drink.

(b) *Caulia*, *Ruellia suffruticosa*, Roxb.

*Damka ḡura*,

*Ranu ran*, the ferment used to make rice beer.

*Mḡiḡurjḡuti rehēt*, the roots of

*Kadar nḡiḡi rehēt*, the roots of *Asparagus racemosus*, Willd.

*Atkir rehēt*, the roots of *Smilax ovalifolia*, Roxb.

*Hund baha rehēt*, the roots of *Jasminum arborescens*, Roxb.

Grind these all together and give to drink.

(c) *Bḡnkḡpsi rehēt*, the roots of *Thespesia Lampas*, Benth. and Hook. f.

Grind and give to drink.

(d) *Haḡ chal*, the bark of *Holarrhena antidysenterica*, Wall.

*Laḡa ciḡ ciḡiḡ*,

Grind together, strain and give to drink.

*If the fever is persistent :*

- (e) *Akar baha*, *Linnophila Roxburghiana*, G. Don.  
*Meral sakam*, the leaves of *Phyllanthus Emblica*, L.  
*Heṅsagor*, *Cotyledon laciniata*, Willd.

Grind the first two and give to drink, and plaster with the last.

- (f) *Haṭ chal*, the bark of *Holarrhena antidysenterica*, Wall.  
*Ləpəñ chal*, the bark of *Terminalia bellerica*, Roxb.  
*Badgocak*, *Lygodium flexuosum*, Sw.  
*Baru rehet*, the roots of *Schleichera trijuga*, Willd.  
*Nāyī god rehet*, the roots of *Aristolochia indica*, Willd.

Grind and give to drink.

- (g) *Mañjurjhuti rehet*, the roots of  
*Cero rehet*, the roots of *Imperata arundinacea*, Cyr.  
*Duṇḍukil rehet*, the roots of *Gardenia turgida*, Roxb.  
*Sarjom rehet*, the roots of *Shorea robusta*, Gärtn.

Pound these and give to drink.

- (h) *Gote rehet*, the roots of *Croton oblongifolius*, Roxb.  
*Nanha dudhi lota rehet*, the roots of *Ichnocarpus frutescens*,  
 R. Br.  
*Paṛo*, *Curcuma angustifolia*, Roxb.

Grind all these together and besmear therewith.

- (i) *Lag jor*,  
*Gōṛē chal*, the bark of *Stephegyne parvifolia*, Korth.

Grind together and rub in, and give some also to drink.

- (j) *Haṭ chal*, the bark of *Holarrhena antidysenterica*, Wall.  
*Adra ciṣ ciṛiṣ rehet*, the roots of

Grind, strain through a cloth and give to drink.

- (k) *Badgocak*, *Lygodium flexuosum*, Sw.  
*Bonkapsi*, *Thespesia Lampas*, Benth. & Hook. f.  
*Saram lulur rehet*, the roots of *Clerodendron serratum*, Spreng.  
*Bir campā*, *Ochna squarrosa*, Willd.  
*Ləpəñ chal*, the bark of *Terminalia bellerica*, Roxb.  
*Sarjom chal*, the bark of *Shorea robusta*, Gärtn.  
*Ranu ran*, the ferment used to make rice beer.

52. *Akal sakal ruq.* Ardent fever.

*Medicines :* *Orsəyēn rehet*, the roots of *Zingiber Cassumunar*, R. (?)  
*Kahu botke rehet*, the roots of *Bryonia lacinosa*, L.  
 Grind and plaster therewith.

53. *Gum gumi ruq.* Low fever.

*Medicines :* *Patal kohṇḍa*, *Pueraria tuberosa*, DC.  
*Eḍḍel poha*, a seedling of *Bombax malabaricum*, DC.  
*Tursi sakam thoṛa*, a few leaves of *Ocimum sanctum*, Willd.

Mix and grind these and give to drink.



54. *Bhalki ruā*. High fever.

*Medicines*: (a) *Hemsagor da*, the bulb of *Cotyledon laciniata*, Willd.

Grind and give to drink as well as plaster therewith.

(b) *Susurbañ chata*, a wasps' nest.

*Bana uṣ*, bear's hair.

*Okoe tejo haḍḍeteke benao orak onko tejoak haḍḍe*, the sticks with which certain insects make their house.

*Bardūrūc phākṛāk il*, the 'feathers' of a bat's wing.

*Ḍatauni kaṭiç*, a small tooth brush, i.e. a twig of *Shorea robusta*, Gärtn.

*Barç joro dog ar rehet*, the tip and root of the aerial root of *Ficus bengalensis*, L.

*Pio il*, the feathers of *Oriolus melanocephalus*.

Tie a little of each of these together and tie them on his neck.

(c) *Kadar nāyī rehet*, the roots of *Asparagus racemosus*, Willd.

*Tāmpur çāli rehet*, the roots of *Morinda tinctoria*, Roxb.

*Badgocak rehet*, the roots of *Lygodium flexuosum*, Sw.

*Sauri rehet*, the roots of *Heteropogon contortus*, R. and S.

*Jom janum rehet*, the roots of *Zizyphus Jujuba*, Lamk.

*Bonga sarjom rehet*, the roots of *Ventilago calyculata*, Tulasne.

*Bana haṭak chal*, the bark of *Oroxylon indicum*, Benth.

Mix a little of these and give to drink.

(d) *Horō roṅgo*, burnt paddy.

*Hemsagor da*, the bulb of *Cotyledon laciniata*, Willd.

Grind together and smear over the whole body. Afterwards if he becomes cold, grind together *sunum muç*, a species of black ant, *bindi*, spiders, and smear on, when he will become warm again.

55. *Bañ chuṭank ruā*. Remittent or continued fever.

*Medicines*: (a) *Khet pīpra arak*, *Oldenlandia biflora*, Roxb.

Grind and plaster over the whole body.

(b) *Oroṣ da*, the bulb of *Costus speciosa*, Sm.

Plaster the whole body with this and give some to drink.

(c) *Ul chal*, the bark of *Mangifera indica*, L.

*Buc chal*, ,, ,, ,, *Cordia Myxa*, L.

Boil in water and wash the patient therewith from the elbows downwards and from the knees downwards; the fever will assuredly leave.

(d) *Gaḍa terel chal*, the bark of *Diospyros montana*, Roxb.

*Hemsagor da*, the bulb of *Cotyledon laciniata*, Willd.

Grind these two together and besmear the body therewith.

(e) *Oroṣ da*, the bulb of *Costus speciosa*, Sm.

*Khet pīpra*, *Oldenlandia biflora*, Roxb.

Grind these together and plaster over the whole body.

If the temperature is very high :—

(f) *Hemsagor*, *Cotyledon laciniata*, Willd.

Grind and apply a thin plaster of it over the whole body ; plastering thickly would be dangerous.

In high fever :—

(g) *Goḷe rehel*, the roots of *Croton oblongifolius*, Roxb.

*Nanha dudhi loṭa rehel*, the roots of *Ichnocarpus frutescens*,  
R. Br.

*Hemsagor rehel*, the roots of *Cotyledon laciniata*, Willd.

Plaster with these for 3 or 4 days.

56. *Jaro ruṭa*.

*Medicines* : (a) *Etka rehel*, the roots of *Mucuna pruriens*, DC.

25—26 *goṭeḥ mutha da*, 25 to 26 bulbs of *Fimbristylis monostachya*, Hassk.

*Nanṅraṅṅa rehel*, the roots of *Nardostachys jatamansi*, DC.

Grind these together and smear on the head either so, or after cooking in mustard oil.

57. *Hoṛṃo jaljalaok*. Ardor of the body.

*Symptoms* : When there is some kind of fever, the body gets weak and the blood sluggish ; there is no thirst, but owing to great weakness the body dries up internally.

*Medicines* : (a) *Oroḷ da*, the tuber of *Costus speciosa*, Sm.

Extract the juice of this and give the patient to drink with sugar three times or so, and the body will cool down at once.

(b) *Kadar rehel*, the roots of *Asparagus racemosus*, Willd.

*Nanha dudhi loṭa rehel*, the roots of *Ichnocarpus frutescens*,  
R. Br.

Soak both of these well and after mixing with sugar give the patient to drink daily until recovery.

(c) *Nanha pusi loa*, *Euphorbia thymifolia*, Burm.

Make a liquid preparation of this, keep it in a bottle and adding sugar let the patient drink of it daily for about a fortnight, and he will get well.

58. *Koṛam jaljalaok*. Burning sensation in the chest.

*Symptoms* : When there is a burning sensation in the chest with intense thirst during fever apply this.

*Medicines* : *Korkoṭ rehel*, the roots of *Dillenia indica*, L.

*Sarjōm dak se chalge*, the water or bark of *Shorea robusta*,  
Gärtn.

*Bhorkond rehel*, the roots of *Hymenodictyon excelsum*, Wall.

Grind all these together, mix thoroughly with *cini*, sugar, and give to drink. After that give some *dumur rasa*, honey of the small honey-bee, to drink, and

after grinding *merləc sakam*, the leaves of *Flacourtia Ramontchi*, L. 'Herit. warm them slightly and plaster on the chest.

59. *Kořam layao*. (lit. moving of the breast).

*Medicines* : (a) *Gai ghura*, *Polygala chinensis*, L.

*Küs rehet*, the roots of *Themuda gigantea*, Haskel.

*Jhankare rehet*, the roots of *Thysanolaena acarifera*, Nees.

Grind together and give to drink.

60. *Kořam haso*. Pain in the chest.

*Medicines* : (a) First rub melted butter on and foment with hot sand.

(b) Grind *sekra chal*, the bark of *Zizyphus rugosa*, Lamk., warm it a little and apply as a plaster to the chest.

(c) Grind *kauha chal*, the bark of *Terminalia Arjuna*, Bedd., warm it a little and plaster it on.

(d) Pound *datra rehet se sakam*, the roots or leaves of *Datura alba*, Willd. or *D. fastuosa*, Willd., and extract 4 ounces of the juice, mix therewith 4 ounces *akaona lore*, the milky exudation of *Calotropis gigantea*, R. Br., and 4 annas (four pence) worth of *aphim*, opium, stir all together and warm it somewhat in the sun, and then smear it over the seat of the pain.

(e) *Ghořa lađauri rehet*, the roots of *Vitis tomentosa*, Heyne.

Grind fine and apply to the place where the pain is.

(f) *Dhalka hatkan da*, the bulb of *Leea macrophylla*, Roxb.

Grind fine, warm slightly and apply.

(g) *Khayar chal*, the bark of *Acacia Catechu*, L.

*Ruhen chal*, the bark of *Soymida febrifuga*, Juss.

Grind and give some to drink and smear some on the chest.

61. *Ťan ruā*. Continuous fever.

*Symptoms*. If one walks about or works in the sun the limbs ache, the lower extremities are benumbed and locomotion unsteady, the body feels weak and tired and the urine is highly coloured.

*Medicines* : (a) *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Mañüt se lañi guř*, either of two kinds of molasses refuse.

Mix the juice extracted from the former with the latter and let the patient drink this for some five days ; he will assuredly recover.

(b) *Sega rehet*, the roots of *Mimosa rubicaulis*, Lamk.

*Badgocak rehet*, the roots of *Lygodium flexuosum*, Sw.

*Nanha dudhi loña rehet*, the roots of *Ichnocarpus frutescens*, R. Br.

Soak all these together and let the patient drink it daily.

(c) *Bonkapsi rehet*, the roots of *Thespesia Lampas*, Benth. & Hook. f.

Grind these fresh daily and give the patient to drink, and he will recover. Tested and used.

- (d) *Lopon chal*, the bark of *Terminalia bellerica*, Roxb.  
*Mahūt gur*, molasses refuse.

Take the juice of the former, mix it with the latter and make the patient drink it, and he will certainly get well.

- (e) *Tarop chal ros*, the juice of the bark of *Buchanania latifolia*, Roxb.

The patient to drink this for about five days and the aching of the limbs will cease.

- (f) *Mathom chal*, the bark of *Bassia latifolia*, Roxb.  
*Adwa caole*, rice made from sun-dried, not boiled paddy.

Mix these, soak them and let the patient drink the infusion daily ; he will get well.

- (g) *Nim sakam*, the leaves of *Melia Azadirachta*, Linn.  
*Mahūt gur*, molasses refuse.

Boil the former well, drain the water off and let the patient drink it hot mixed with the latter.

- (h) *Kaḍa beṅjaḅ reḥeḷ*, the roots of  
*Nanha cauliḅ reḥeḷ*, the fine big and little roots of *Ruellia suffruticosa*, Roxb.  
*Maṅjurjhuḷi reḥeḷ*, the roots of

Grind all these together, boil them and let the patient drink it mixed with sugar.

When the fever is somewhat reduced :

- (i) *Bonkapsi reḥeḷ*, the roots of *Thespesia Lampas*, Benth. & Hook. f.  
*Mahūt gur*, molasses refuse.

Mix these two and give the patient to drink.

- (j) *Kadam chal*, the bark of *Anthocephalus Cadamba*, Benth. & Hook. f.  
*Baru chal*, „ „ „ *Schleichera trijuga*, Willd.  
*Sarjom chal*, „ „ „ *Shorea robusta*, Gärtn.  
*Hesak chal*, „ „ „ *Ficus religiosa*, Willd.  
*Tejo mala reḥeḷ*, the roots of *Cissampelos Pareira*, Linn.  
*Saram lutur reḥeḷ*, „ „ „ *Clerodendron serratum*, Spreng.

Grind whichever of these you please and give him to drink.

- (k) *Kadar reḥeḷ*, the roots of *Asparagus racemosus*, Willd.  
*Mahūt gur*, molasses refuse.

Mix the two and give him to drink.

- (l) *Tejo mala reḥeḷ*, the roots of *Cissampelos Pareira*, Linn.  
*Nanha dudhi loḅa reḥeḷ*, the roots of *Ichnocarpus frutescens*, R. Br.

Grind these together and let him drink it with *mahūt gur*, molasses refuse.

- (m) *Kadar rehet*, the roots of *Asparagus racemosus*, Willd.  
*Atkir rehet*, „ „ „ *Smilax ovalifolia*, Roxb.  
*Edel poha*, seedling of *Bombax malabaricum*, DC.

The first two to be ground, the last cut into round slices, and the whole to be drunk with sugar.

- (n) *Ul chal*, the bark of *Mangifera indica*, L.  
*Kadam chal*, „ „ „ *Anthocephalus Cadamba*, Benth. &  
 Hook. f.  
*Corco chal*, „ „ „ *Casearea tomentosa*, Roxb.

Grind these together and give the patient to drink with *mahūt gur*, molasses refuse.

- (o) *Bonkapsi rehet*, the roots of *Thespesia Lampas*, Benth. &  
 Hook. f.

To be drunk daily.

When there is fever at night :

- (p) *Bonkapsi rehet*, the roots of *Thespesia Lampas*, Benth. &  
 Hook. f.  
*Atkir rehet*, the roots of *Smilax ovalifolia*, Roxb.  
*Badgocak rehet*, the roots of *Lygodium flexuosum*, Sw.  
*Matkom chal*, the bark of *Bassia latifolia*, Roxb.

Grind a little of these together and let the patient drink about a tumbler full.

- (q) *Campa rehet*, the roots of *Michelia champaca*, L.

To be ground and drunk.

- (r) *Badgocak rehet*, the roots of *Lygodium flexuosum*, Sw.  
*Atkir rehet*, the roots of *Smilax ovalifolia*, Roxb.  
*Ninda nurok matkom chal*, the bark of *Bassia latifolia*, Roxb.  
 whose flowers fall at night.  
*Bharbhari rehet*, the roots of *Ocimum basilicum*, Linn. or *Oci-*  
*mum canum*, Sims.

A little of these to be ground and drunk.

- (s) *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

To be ground and drunk.

- (t) *Tan dare rehet*, the roots of  
*Sarjom dak*, the water of *Shorea robusta*, Gärtn.  
*Atnak chal*, the bark of *Terminalia tomentosa*, W. and A.  
*Bonkapsi rehet*, the roots of *Thespesia Lampas*, Benth. &  
 Hook. f.  
*Saram lutur rehet*, the roots of *Clerodendron serratum*, Spreng.  
*Sikuar rehet*, the roots of

Pound all together and give to drink for three days.

- (u) *Kadam chal*, the bark of *Anthocephalus Cadamba*, Benth. &  
 Hook. f.  
*Ambra chal*, „ „ „ *Spondias mangifera*, Pers.

*Ul chal*, the bark of *Mangifera indica*, L.

*Pañjet sakam*, the leaves of *Clerodendron phlomoides*, Willd.

*Sinjō sakam*, the leaves of *Aegle Marmelos*, Correa.

*Gol maric*, black pepper.

*Kaliā jira*, *Nigella indica*, Roxb.

*Merleç sakam*, the leaves of *Flacourtia Ramontchi*, L' Herit.

Grind together, stir in water and give to drink.

(v) *Nanha dudhi lotā rehet*, the roots of *Ichnocarpus frutescens*, R. Br.

*Kadar rehet*, the roots of *Bonnaya veronicaefolia*, Spreng.

Grind together and give to drink.

(w) *Bir campā rehet se baha*, the roots or flower of *Ochna squarrosa*, Willd.

*Sarjom chal*, the bark of *Shorea robusta*, Gärtn.

*Goṭe rehet*, the roots of *Croton oblongifolius*, Roxb.

*Bonkaṭsi rehet*, the roots of *Thespesia Lampas*, Benth. & Hook. f.

*Matkom ḍar reaḱ bhitrī gabetel*, the pith of a branch of *Bassia latifolia*, Roxb.

Grind with water, squeeze out the water and give 6 to 8 ounces to drink for three or four days.

(x) *Sarjom chal*, the bark of *Shorea robusta*, Gärtn.

*Ul chal*, the bark of *Mangifera indica*, L.

*Kadam chal*, the bark of *Anthocephalus Cadamba*, Benth. & Hook. f.

*Corco chal*, the bark of *Casearea tomentosa*, Roxb.

*Hesaḱ chal*, the bark of *Ficus religiosa*, Willd.

Pound all, steep in water and give to drink.

(y) *Bir hoṛeç*, *Atylosia scarabaedois*, Benth.

Boil and give to drink with sugar.

(z) *Kada beñjaḱ rehet*, the roots of

*Mañjurjhuṭi rehet*, the roots of

*Caulia rehet*, the roots of *Ruellia suffruticosa*, Roxb.

*Damka ḍura rehet*, the roots of

*Kadar rehet*, the roots of *Bonnaya veronicaefolia*, Spreng.

*Aṭkir rehet*, the roots of *Smilax ovalifolia*, Roxb.

Steep all together in water, boil and give to drink with *maḥūt gur*, molasses refuse.

(aa) *Tejo mala rehet*, the roots of *Cissampelos Pareira*, L.

*Nanha dudhi lotā rehet*, the roots of *Ichnocarpus frutescens*, R. Br.

*Campa rehet*, the roots of *Michelia champaca*, L.

*Loṇṇōn chal*, the bark of *Terminalia bellerica*, Roxb.

Grind all these together, soak in water and give to drink daily.

(bb) *Bonkaṃṣi rehel*, the roots of *Thespesia Lampas*, Benth. & Hook. f.

*Terel chal*, the bark of *Diospyros tomentosa*, Roxb.

Mix and extract the juice, which give to drink daily.

(cc) *Baru chal*, the bark of *Schleichera trijuga*, Willd.

*Mathom chal*, the bark of *Bassia latifolia*, Roxb.

*Caole ata roṅgo*, rice fried to burning point.

Soak in water and give to drink morning and evening.

(dd) *Boṅga sarjəm chal*, the bark of *Ventilago calyculata*, Tulasne

*Goṭe chal*, the bark of *Croton oblongifolius*, Roxb.

*Nāyī muruṣ chal*, the bark of *Butea superba*, Roxb.

Pound all these together, squeeze out the juice and give about 8 ounces to drink for some three days. To be taken on an empty stomach.

(ee) *Lolo haṅḍi*, hot rice beer.

Get this from the liquor vendor and give to drink ; if inefficacious, then

(ff) *Terel chal*, the bark of *Diospyros tomentosa*, Roxb.

*Kaḍa beṅjaḱ*,

*Mañjurjhuti*,

*Caulia*, *Ruellia suffruticosa*, Roxb.

*Tompar*,

*Kadam chal*, the bark of *Anthocephalus Cadamba*, Benth. & Hook. f.

*Athir*, *Smilax ovalifolia*, Roxb.

Boil and soak these, to be drunk daily with *mahūt gur*, refuse of moiasses.

(gg) *Duriā haṭkaṅ*, *Leea hirta*, Herb. Banks.

*Uḍal chal*, the bark of *Sterculia villosa*, Roxb.

*Sarjəm chal*, the bark of *Shorea robusta*, Gärtn.

*Ul chal*, „ „ „ *Mangifera indica*, L.

*Kadam chal*, „ „ „ *Anthocephalus Cadamba*, Benth. & Hook. f.

*Corco chal*, „ „ „ *Casearea tomentosa*, Roxb.

*Hesaḱ chal*, „ „ „ *Ficus religiosa*, Willd.

*Bir hoṛçç*, *Atylosia scarabædois*, Benth.

Soak all these and give to drink with *cini*, sugar.

(hh) *Haḍpaṅḅla*,

*Badgocaḱ*, *Lygodium flexuosum*, Sw.

*Içḱḱ*, *Woodfordia floribunda*, Salisb.

*Sarjəm chal*, the bark of *Shorea robusta*, Gärtn.

*Atnaḱ chal*, „ „ „ *Terminalia tomentosa*, W. and A.

*Sosḱ chal*, „ „ „ *Semecarpus Anacardium*, L.

*Hund baha vçhel*, the roots of *Jasminum aborescens*, Roxb.

Pound all these together and give to drink, and his urine will be as clear as a goat's, the pains will cease and complete recovery follow.

62. *Tamba band* (palsy or pain supposed to be caused by a witch's charm).

*Medicines*: (a) *Asariā rehet*, the roots of *Capparis horrida*, L. f.

*Jhīngur rehet thora*, a little of the roots of *Arum campanulatum*, Roxb.

*Akaona rehet*, the roots of *Calotropis gigantea*, R. Br.

Grind together, soak in a small earthen jar and smear on daily.

(b) *Asariā rehet*, the roots of *Capparis horrida*, L. f.

*Bando rehet*, " " " *Spatholobus Roxburghii*, Benth.

*Tihon rehet*, " " " *Canavalia ensiformis*, DC.

Grind together and plaster over the whole body for 3 or 4 days.

63. *Lahor sitka*. Lahore fever.

*Symptoms*. This is something that affects both men and women. They have slight fever, then the saliva dries up and there is intense thirst. This is *lahor sitka*.

*Medicines*: (a) *Soso chal*, the bark of *Semecarpus Anacardium*, L.

*Mañjurjhuti rehet*, the roots of

*Nanha caulīa rehet*, " " " *Ruellia suffruticosa*, Roxb.

Grind these three and let the patient drink the juice three days and he will get well.

(b) *Gargaḍi rehet*, the roots of *Coix lachryma*, Willd.

*Daḥ içaḥ rehet*, the roots of *Jussiaea suffruticosa*, Linn.

*Rali rehet*, the roots of *Piper longum*, Willd.

*Jithimond rehet*, the roots of *Clerodendron Siphonanthus*, R. Br.

*Darcini rehet*, the roots of *Laurus cinnamomum*, Willd.

Grind these together and let the patient drink it.

(c) *Kadar rehet*, the roots of *Asparagus racemosus*, Willd.

*Oroṣ da*, the bulb of *Costus speciosa*, Sm.

*Misri cini*, sugar-candy.

Mix the first two with the third, let the patient drink it and the temperature will become normal.

(d) *Daḥ içaḥ rehet*, the roots of *Jussiaea suffruticosa*, L.

*Gargaḍi rehet*, the roots of *Coix lachryma*, Willd.

*Dare içaḥ rehet*, the roots of *Woodfordia floribunda*, Salisb.

Grind these together and give to drink with sugar.

(e) *Thora soso chal*, a little of the bark of *Semecarpus Anacardium*, L.

*Caulīa rehet*, the roots of *Ruellia suffruticosa*, Roxb.

Grind, take the juice and give to drink with sugar for three days.

64. *Pila*. Spleen.

*Medicines*: (a) *Kitauri rehet se sakam*, the roots or leaves of *Plumbago Zeylanica*, Willd.



Grind and mix with fowls' flesh, make into hand bread and give to eat.

(b) *Dahu*, *Artocarpus Lakoocha*, Roxb.

Rub the sticky exudation over the spleen, and after grinding the bark give it to drink.

(c) *Selep samanom*, *Gloriosa superba*, L.

*Batapi sindur*, a preparation of red lead.

First apply the latter and over that smear the former as a plaster.

(d) If a patient has been suffering for from 3 to 5 years and no other remedy has proved efficacious, then the following may be tried, but with great care, as it is a poison, and an over-dose will prove fatal, viz., *tutia*, sulphate of copper. For patients over 16 years of age give a piece the size of *rambra jan*, a seed of *Phaeseolus Muugo*, var. *Radiatus*, L.

Cover this with *gai chale*, the cream of cow's milk and let him swallow it entire; it will melt gradually in the stomach and agitate it, and, as it were, knead the spleen thoroughly. The patient will burn and perspire profusely, and ease the bowels once or twice. When you see this let him take *gai toa jojo dahe mil pawa*, 8 ounces of sour curds of cows' milk, and he will feel relief. Give younger people in proportion.

65. *Kat Pila*. (lit. Wood-spleen).

One "authority" says: This variety is similar to *potea pila* (66); the whole stomach is hard and distended as after a full meal; they can eat an enormous amount of rice and the stomach never subsides.

Medicines: (a) *Hin*, *Ferrula asafoetida*, Willd.

*Huka dak*, hookah water.

*Sim bele*, a hen's egg.

Mix together, roast and give to eat.

(b) *Corco chal*, the bark of *Casearia tomentosa*, Roxb.

*Dhania*, *Coriandrum sativum*, L.

Boil and give to eat.

(c) *Teke caole mil pawa ataeme*, fry a pound of rice make from boiled paddy.

7 *goten soso jan*, half roast 7 seeds of *Semecarpus Anacardium*, L.

*Nim sakam ataeme*, fry the leaves of *Melia Azadirachta*, L.

Pound these together fine, and give 3 spoonfuls every morning to eat.

(d) *Ghora ladquri rehcl*, the roots of *Vitis tomentosa*, Heyne.

*Bana hatak rehcl*, the roots of *Oroxylon indicum*, Benth.

*Barangom rehcl*, the roots of *Vernonia cineria*, Less., or *Glossogyne pinnatifida*, DC.

*Aphim*, opium.

*Raimat lendon*, a kind of very large centipede.

*Gegeteren*, young centipedes.

Grind all these together, mix in *phuli paura daḥ*, neat spirit, and make into pills, five of which to be taken every morning. If this does not cure, then burn him as described in *Lar pīla*, No. 70.

66. *Potea pīla*. Kala-Azar, or spleen permagnum.

One "authority" says: In this the stomach grows so as to look like a drum while the buttocks diminish in size; however much rice they may eat they are not satisfied, and whatever diet may be prohibited, that there is a great craving for.

*Medicines*: (a) *Phutiḡ kauḍi cun*, lime made from the small shells used in India as money.

*Berdor̄ r̄heḥēl*, the roots of *Combretum nanum*, Hamilt.

Mix and give to drink.

*Akaona lore*, the milky exudation of *Calotropis gigantea*, R. Br.

*Sindur*, red lead.

Mix and smear over the spleen.

(b) *Kalmeg r̄heḥēl*, the roots of *Andrographis paniculata*, Nees.

*Thora aphim*, a little opium.

Mix and give to drink.

(c) *Kitauri r̄heḥēl*, the roots of *Plumbago Zeylanica*, Willd.

*Kaḍa beṇṇjak̄ r̄heḥēl*, the roots of

*Haṭ r̄heḥēl*, the roots of *Holarrheua antidysenterica*, Wail.

*Aphim*, opium.

Grind and make into 8 pills, one to be taken daily for eight days.

(d) *Jhingur da*, the tuber of *Arum campanulatum*, Roxb.

Heat and apply as an ointment over the spleen.

(e) *Hin*, the size of a fly's head of *Ferrula asafoetida*, Willd.

*Rasun bohok̄ mil̄ chimbri*, one clove of a garlic.

Grind together and give to drink for eight days, and apply some as an ointment over the spleen until it softens. Scratch over the spleen with *kūs ghās*, *Themuda gigantea*, Haskel, so that the blood oozes into the scratches and then smear over them *akaona lore*, the milky exudation or *Calotropis gigantea*, R. Br.

(f) *Araḥ sindur*, genuine red lead.

Apply this and he will recover completely.

(g) *Bir but̄ r̄heḥēl̄ khudri*, a little bit of the roots of *Flemingia congesta*, Roxb.

*Sohga*, borax.

*Rol̄ jaṇ*, the seed of *Terminalia Chebula*, Retz.

Scrub the two former with the last so that some of the last is also intermingled, give a little to drink and smear some also over the spleen.

(h) *Raimat̄ l̄c̄nd̄on̄*, a kind of very large centipede.

*Kitauri r̄heḥēl*, the roots of *Plumbago Zeylanica*, Willd.

*Mit'taṅ soso jaṅ*, a seed of Semecarpus Anacardium, L.  
*Kaḍa beṅjaḅ rehel*, the roots of  
*Kalmeg*, *Andrographis paniculata*, Nees.  
*Adaḡathia ghās da*, the bulb of *Panicum repens*, L.  
*Thoṛa aḡhim* a little opium.

Mix these together, make into pills and give to eat.

(i) *Dabha*, *Citrus aurantium*, Willd.

*Phutiḡa kaḡdi cun*, lime made of the shells used in India as money.

Grind and mix both, then mix with *paṛa*, spirits, and let him drink some every morning, or if inefficacious add a little *cua soso*, distilled Semecarpus Anacardium, L. and drink.

67. *Puni pila*. Spleen in atrophied infants.

*Medicines* : (a) *Akaona rehel*, the roots of *Calotropis gigantea*, R. Br.

*Pea gol maric*, 3 black peppercorns.

*Thoṛa goṭe rehel*, a little of the roots of *Croton oblongifolius*, Roxb.

*Thoṛa haṭ rehel*, a little of the roots of *Holarrhena antidysenterica*, Wall.

Grind these together, make into pills and give daily to take.

68. *Khapra pila*. (See also No. 66) Spleen permagnum.

One 'authority' says : When this affection of the spleen begins there is pain, for the spleen is under the ribs, and when there is pain, it spreads to the whole stomach ; when the spleen reaches up to the navel the pain is intense ; if you then feel or press at the navel, you will find it slip away, and by this you will know it is *khapra pila*.

*Medicines* : (a) *Kaskom jaṅ*, cotton seed.

*Kaṭiḅ talaṅ soso*, a little Semecarpus Anacardium, L.

*Karḡani hoṛo*, a variety of black paddy.

*Kunam da*, the bulb of

Grind and make into hand bread.

(b) *Ghoṛa laḡaṛi da*, the bulb of *Vitis tomentosa*, Heyne.

Warm and give to drink, and apply some as an ointment over the spleen—an excellent remedy.

(c) *Bana haṭaḅ chal*, the bark of *Oroxylon indicum*, Benth.

*Baraṅgom rehel*, the roots of *Vernonia cineria*, Less., or *Glossogyne pinnatifida*, DC.

*Thoṛa aḡhim*, a little opium.

*Raimaṭ leṅḡoṅ*, a kind of very large centipede.

*Geḡeteṛeṅ*, young ones of above appearing in clusters.

Grind together, make into pills and give to eat ; he will surely recover.

If it is a case of ordinary spleen disease,

(d) first trace the vein by feeling and then apply *soso*, the seed of *Semecarpus Anacardium*, L.

to the vein, the back and all the nails on a Sunday; if you have correctly followed the vein this will effect a cure.

(e) *Hehēl rehel*, the roots of *Millettia auriculata*, Baker.

*Corco rehel*, „ „ „, *Casearea tomentosa*, Roxb.

Grind these together, cook in *gai golom*, melted butter of cows' milk, and give to drink, and after drinking it let him drink some cow's milk. For some time subsequently he must avoid eating the meat of buffaloes and rams, fish, plantains, jackfruit, milk and parched rice.

(f) *Corra chal*, the bark of

*Kitauri rehel*, the roots of *Plumbago Zeylanica*, Willd.

*Cun*, lime burned from mussels.

First apply the lime externally, then after grinding the other two together smear over that; wait three days and then if there is no improvement,

(g) *Ghoya lada rehel*, the roots of *Vitis tomentosa*, Heyne.

Grind, warm slightly and give some to drink and plaster some over the spleen. Do so for three days; then if there is no amelioration,

(h) take the bark and two kinds of roots last mentioned, grind all together and after slightly warming smear over the spleen.

(i) *Buru ghoya ladauri*, *Vitis tomentosa*, Heyne, growing on hills.

Give the patient a little to drink, and after grinding some make it lukewarm and apply as a plaster over the spleen; he will get well.

(j) *Aphim*, opium.

*Kalmeg*, *Andrographis paniculata*, Nees.

*Kitauri rehel*, *Plumbago Zeylanica*, Willd., the roots.

*Kada beinjak rehel*, the roots of

Grind these and make them into balls the size of sheeps' or goats' excrement; then let the patient take these for 7 days, not more, as this medicine will work for a month.

(k) *Kitauri rehel*, the roots of *Plumbago Zeylanica*, Willd.

*Lendon*, a very large centipede, *Spirocystus cilycylindricus*.

*2 gan soso jan*, a couple of the seeds of *Semecarpus Anacardium*, L.

Take a little of the first of these and about three of the second, and grind all three together; make pills thereof and let him take these daily.

(l) *Kada beinjak rehel*, the roots of

*Kalmeg 3 tusa*, 3 tips of *Andrographis paniculata*, Nees.

*Jioti ghās dog thora*, a little of the tips of a certain grass, *Sesbania ægyptiaca*, Pers.

About 8 oz. of the urine of a heifer.

*Paura*, spirits.

*Hin*, *Ferrula asafætida*, Willd.

Grind the first four with spirits and add asafætida as much as the size of a grain of *rambrya*, *Phaeseolus Mungo*, var. *Radiatus*, Linn., and make him drink it; afterwards give him the rest of the remedy without the asafætida, the one dose of which will have its effects for about a month.

(m) *Haṭ rēhēḷ*, the roots of *Holarrhena antidysenterica*, Wall.

*Goṭer rēhēḷ*, „ „ „ „ *Croton oblongifolius* Roxb.

*Paḷaḷa laṭha ciṭṭi cīṭiṭ rēhēḷ*, the roots of

*Leṇḍoṇ*, *Spirocystus cilicylindricus*.

25 *ganḍa gol maric*, 100 black peppercorns.

Mix and make into pills, to be taken daily until recovery.

(n) *Nawa sim bele*, new laid hen's egg.

*Kitauri rēhēḷ*, the roots of *Plumbago Zeylanica*, Willd.

The former to be boiled with the latter and eaten daily.

(o) *Kitauri*, *Plumbago Zeylanica*, Willd.

*Leṇḍoṇ*, *Spirocystus cilicylindricus*.

*Hopon macha sim*, a smallish chicken.

The meat of the third to be cooked with the first two and eaten.

(p) *Kitauri rēhēḷ*, the roots of *Plumbago Zeylanica*, Willd.

*Miṭ soṣo jaṇ*, one seed of *Semecarpus Anacardium*, Linn.

*Thoṛa hēṇḍē tilmiṇ*, a little of the black variety of *Sesamum orientale*, Willd.

*Caole ata*, roasted rice.

Grind all these together and make into pills to be eaten daily.

For small children: (p̄p) *Akaona rēhēḷ*, the roots of *Calotropis gigantea*, R. Br.

To be ground mixed with rice flour, made into hand bread and eaten.

For adults: make about two oz. into a juice and add ten black peppercorns, and let them drink this daily until recovery.

As an unguent when the spleen is hard:—

(q) *Akaona*, *Calotropis gigantea*, R. Br.

*Aphim*, opium.

Take about as much opium as the size of a grain of *rambrya*, *Phaeseolus Mungo*, var. *Radiatus*, Linn., and about an ounce of the milk of the former, mix the two well together and apply externally to the spleen which will contract and get well.

(r) *Bir buṭ rēhēḷ*, the roots of *Flemingia congesta*, Roxb.

*Roḷ jo*, the fruit of *Terminalia Chebula*, Retz.

*Sohga*, borax.

*Simbrit*, shoots of *Bombax malabaricum*, DC.

First rub the first of above and take some of the juice; then rub the second with the third; then rub the last also, and mix the liquid of all together; give the patient some of this to drink and with some anoint over the spleen; recovery is sure.

(s) *Dhalka haṭkaṇ*, *Leea macrophylla*, Roxb.

After grinding mix it with rice flour, make into hand bread and give it to a child to eat ; but an adult should drink it ; the same remedy should be smeared daily over the spleen.

If an infant has *dud pīlā*,

(t) *Ṭaṇḍi catom araḅ*, *Desmodium triflorum*, DC.

*Sim kaṭa araḅ*, *Vitex peduncularis*.

*Piṭṭa araḅ*, *Spermacoce hispida*, Linn.

Grind all these, smear him with some and let him drink a little.

(u) *Sim kaṭa araḅ rehet*, the roots of *Vitex peduncularis*.

*Ṭaṇḍi catom araḅ*, *Desmodium triflorum*, DC.

*Suruḷ mukhi araḅ rehet*, the roots of *Helianthus annuus*, Willd.

*Thora muṅga*, a little *Moringa pterygosperma*, Gärtn.

Mix all these together and smear daily over the spleen, he will get well.

(v) *Ḷom ḷanum ḍog pēa*, 3 shoots of *Zizyphus Jujuba*, Lamk.

*Ṭaṇḍi catom araḅ ḍog*, ,, ,, *Desmodium triflorum*, DC.

Take these and rub them fine (like tobacco) with dew and make into seven pills, and give them daily to a half grown child, one every day, to be swallowed with stale water.

(w) *Corco rehet*, the roots of *Casearea tomentosa*, Roxb.

*Icaḅ rehet*, ,, ,, ,, *Woodfordia floribunda*, Salisb.

Grind together and give to drink.

(x) *Dudhiṇi rehet*, the roots of *Asclepias rosea*, Roxb.

Cook and give to eat. If this is not successful, reduce to glowing coals *nim dare ḍar goḅaḅ*, the dead branch of a *Melia Azadirachta*, L. tree, and placing a brass cup on the spleen apply these glowing coals.

(y) *Ḷom ḷanum ḍog*, a shoot of *Zizyphus Jujuba*, Lamk.

*Caṭm araḅ*, *Marsilia quadrifolia*, L.

Grind these together and wet them with dew, add a little salt, make into pills and administer immediately.

#### 69. *Jaro pīlā*.

*Symptoms.* This is what we call the phase of spleen complaint, when a man has suffered for a long time from spleen and a number of our *oḷhas* have given medicines till they are tired of it, without effecting a cure ; the patient's arms and legs have become as thin as a rope, in fact only life is left.

*Medicines :* (a) First of all on Sunday morning smear his head well with *sasaṅ*, turmeric, *Curcuma longa*, Roxb., all over, for a couple of days ; after that grind

*Kitṭuri rehet*, the roots of *Plumbago Zeylanica*, Willd.

and make it into pills the size of goats' dung and mix therewith

*Mil pawa moeda hoḷoṅ*, 8 oz. wheat flour.

*Miṭṭaṅ sim bele*, a hen's egg.

and make the whole into hand bread in leaves, put in the dew, and then give to eat in the morning. In 3 or 4 days he will be quite cured and put on flesh again.

70. *Lar pila.*

*Symptoms.* In this the spleen becomes enlarged under the ribs, where there is pain, and the patient shivers with cold as in *bhalki ruā* (54); it is not to be diagnosed by feeling; the fit of ague lasts a short time and then ceases.

*Medicines:* (a) *Akaona rehel*, the roots of *Calotropis gigantea*, R. Br. or *C. procera*, R. Br.

*Kahu botke*, *Bryonia lacinosa*, L.

*Karla da*, the tuber of *Momordica dioica*, Roxb.

*Dhela chal*, the bark of *Alangium Lamarckii*, Thurs.

*Phutiā kaudī cun*, lime made of the small shells used in India as money.

Grind all these together, squeeze out and after mixing with *paura*, spirits, give to drink.

Should the skin becomes darkened in colour (*angaura* supervene), then

(b) *Condon kaṭi kaṭ*, a bit of the wood of *Santalum album*, L.

Rub on a stone and give what comes away to drink. If there should be dropsical symptoms

(c) *Dudhi lotā rehel*, the roots of *Ichnocarpus frutescens*, R. Br.

Grind and give to drink.

This may also be given in cases of *kaṭ pila*.

(d) *Pea akaona sakam*, 3 leaves of *Calotropis gigantea*, R. Br. or *C. procera*, R. Br.

*Mittān jiveṭ coḍgoḥ hako*, a live fish, *Ophiocephalus gachua*.

Proceed as follows on a Sunday morning: First foment him once with each of the three leaves separately; then make the patient stand inside at the threshold of the door and you at the outside; let him feign to be bitten over the spleen by the fish three or five times; then after stringing the three leaves and the fish on a piece of string hang the whole up over the heat of the fireplace. In five days he will recover if this remedy acts; if not, then

(e) *Malhan sakam*, the leaves of *Dolichos Lablab*, L.

Lay these over the spleen, and spread over them a wet *dhuti* eight fold and over this again put a thin layer of *mal bitī*, shredded bamboo, and set fire to these with *hesṣl angra*, live coals of *Anogeissus latifolia*, Wall. Another man is to sit on the ground and stab with a stick a *hotol*, *Cucurbita lagenaria*, purposelessly all the while until the patient feels pain, when all over the spleen is to be thrown away, and a blister will appear over the spleen, and he will recover.

71. *Banmara.*

*Symptoms.* Ascites with thin legs and pains in the joints of the legs.

*Medicines*: (a) *Goç dare reak banda*, a parasitical plant found on a dead tree.  
*Kaṭṭom jaṅga rehet*, the roots of *Viscum attenuatum*, DC.  
*Lag jora*, *Vanda Teres* (?).  
*Gōṛē chal*, the bark of *Stephegyne parviflora*, Korth.

Grind these together and smear on.

72. *Abhua*.

*Symptoms*. In this they swell up on one side and the other side remains normal.

*Medicines*: *Asariā*, *Capparis horrida*, L. f.  
*Lilkathi*, *Polygala crotalarioides*, Buch. and Ham.  
*Sealom*, lichen.

Grind these together and plaster over the swollen part and invoke the spirit *Gosāe era*.

73. *Ruā jaraokate mēlāhāko bharao akan khaṇ*. Facial œdema after long fever.

*Medicines*: (a) *Mithi*, *Trigonella Fænumgraecum*, Willd.

Grind and mix with *utiñ sunum*, mustard oil, and let him anoint his face daily with this oil; then

(b) *Lag jor*, *Vanda Teres* (?).  
*Gōṛē chal*, the bark of *Stephegyne parviflora*, Korth.

Grind these two together and give a beer-leaf-cup full to drink, and plaster the remainder over the whole body.

(c) On Sunday morning make him cook some hot rice, make this into three balls and have a small earthenware pot full of water; then take the patient to the end of the village street and make him stand facing the sunrise; pour the pot of water over him and make him eat there two of the balls of rice while he puts down the third ball; then let him go straight home without looking back. If he acts thus this remedy will cure him.

74. *Mōk reak*. Swellings.

*Medicines*: *Cala bulā*,  
*Bod lay poha rehet*, the roots of a shoot of *Vitis adnata*, Wall.

Grind and smear on.

75. *Udri*. Ascites, Dropsy and Anasarca.

*Symptoms*. This commences in the abdomen. It becomes thick at the navel and swells up puffily. Afterwards it spreads and the whole body distends like a drum.

*Medicines*: (a) *Bir malhan rehet*, the roots of *Atyllosia mollis*, Bth.  
*Seṅgel siñ rehet*, „ „ „ *Tragia involucrata*, Jacq.  
*Etka rehet*, „ „ „ *Mucuna pruriens*, DC.  
*Datra rehet*, „ „ „ *Datura alba*, Willd. or D.  
*fastuosa*, Willd.



*Andia moron arak rehel*, the roots of *Gymnema hirsutus*, W. and A., var. *Decaisneanum*, Wight.

*Utri dudhi lota rehel*, the roots of *Cryptolepis Buchanani*, R. and S.

*Andia kongal rehel*, the roots of *Dregia volubilis*, Benth.

Take and mix equal quantities of all these, cook them in two pounds of mustard oil and anoint him therewith daily. Very early in the morning tie the first named on him.

*An aperient: (b) Datra rehel*, the roots of *Datura alba*, Willd. or *D. fastuosa*, Willd.

2 ounces of the juice to be extracted.

5 *ganḍa gol maric*, 20 black peppercorns.

Grind these and stir into two ounces of water; then add above two ounces of juice, strain and give to drink. A short time afterwards his bowels will begin to be moved; let him have some four motions, and if they do not then cease, mix some *jojo*, tamarinds, *Tamarindus indica*, L., and give about eight ounces to drink, when the evacuations will cease. He will become quite drunk and the eyes get bloodshot.

Then give *Kasmar chal*, the bark of *Gmelina arborea*, Roxb., and a little

*Siñ arak chal*, the bark of *Bauhinia purpurea*, L.

Grind small, mix with stale rice water and give about 8 ounces to drink. The other medicines to be smeared on the body. The aperient to be administered at intervals of ten to fifteen days until recovery.

(c) *Seṅgel siñ rehel*, the roots of *Tragia involucrata*, Jacq.

*Etka rehel*, the roots of *Mucuna pruriens*, DC.

*Andia moron arak rehel*, the roots of *Gymnema hirsutus*, W. and A. var. *Decaisneanum*, Wight.

*Datra rehel*, the roots of *Datura alba*, Willd. or *D. fastuosa*, Willd.

*Kukrucut baha rehel*, the roots of *Amaranthus frumentaceus*, Buch.

*Eraḍom rehel*, the roots *Ricinus communis*, L.

*Utri dudhi lota rehel*, the roots of *Cryptolepis Buchanani*, R. and S.

*Kārwāl rehel*, the roots of *Carissa Carandas*, L.

Pound all these together with dew, to be obtained by drawing a clean cloth over the grass and squeezing it out. Plaster the entire body with the mixture until recovery.

*Aperient to be given: (d) Eraḍom ḍal*, the kernel of *Ricinus communis*, L.

Grind and make into balls half the size of those used in a cross-bow, and after stirring in eight ounces of hot water give to drink. If he has more than four motions mix tamarinds in stale rice water and give him four ounces to drink, which will bind him, and then let him bathe in cold water.

*Various aperients*: (e) *Bhernda*, *Jatropha Curcas*, L.

Grind six of the fruits and stirring them in eight ounces of hot water give to drink. For children of 7 or 8 years old use only two of the fruits.

(f) *Kundo phol*,

is an excellent aperient. For adults break one up into four ounces of water and give to drink. If he has more than four motions mix *jojo*, tamarinds, *Tamarindus indica*, L., in stale rice water and give to drink.

(g) *Eṭkeḍ ḍar*, a branch of *Euphorbia antiquorum*, L.

Pound and bruise this, toast it at the fire and squeeze out the water and after mixing 3 *ganda gol maric*, 12 black peppercorns, make him drink four ounces hot. If the motions exceed four, give him sour curds of cow's milk.

(h) *Dhela chal*, the bark of *Alangium Lamarckii*, Thurs.

Extract the juice in eight ounces of water, add 12 black peppercorns and give to drink. To check the motions mix tamarinds in stale rice water, eight ounces, or give curds of cow's milk.

(i) *Jojo*, tamarinds, *Tamarindus indica*, L.

Draw off four ounces of very hot water, stir the tamarinds in this and give to drink; very shortly afterwards the bowels will begin to be moved. After some four motions give to drink *thoṛa saḥya chal*, the bark of *Streblus asper*, Lour., and sour curds of cow's milk.

*Steaming remedy*: (j) *Akaona rehel*, the roots of *Calotropis gigantea*, R. Br.

*Kārwāl rehel*, the roots of *Carissa Carandas*, L.

*Ḍaṭra sakam*, the leaves of *Datura alba*, Willd. or *D. fastuosa*, Willd.

*Bir hoṛeḍ*, *Atyllosia scarabædois*, Benth.

*Sinduvari sakam*, the leaves of *Vitex Negundo*, L.

*Tursi sakam*, the leaves of *Ocimum sanctum*, Willd.

*Bharbhari sakam*, the leaves of *Ocimum basilicum*, L. or *O. canum*, Sims.

*Bana haṭaḱ chal*, the bark of *Oroxylon indicum*, Benth.

*Kaera rehel*, the roots of *Musa paradisiaca*, L.

*Seṅgel sūn rehel*, the roots of *Tragia involucrata*, Jacq.

*Eṭka rehel*, the roots of *Mucuna pruriens*, DC.

*Ul chal*, the bark of *Mangifera indica*, L.

*Buc chal*, ,, ,, ,, *Cordia Myxa*, L.

*Pojo chal*, ,, ,, ,, *Tetranthera monopetala*, Roxb.

*Saram lutur rehel*, the roots of *Clerodendron serratum*, Spreng.

*Çāli chal*, the bark of *Morinda exserta*, Roxb.

*Hemca araḱ*, *Enhydra fluctuans*.

*Pani phol*, *Trapa bispinosa*, Roxb.

*Kaḍa bhosam*, *Oldenlandia paniculata* (?).

*Daḱ ghora lada rehel*, the roots of *Vitis tomentosa*, Heyne.

*Kūs rehel*, the roots of *Themuda gigantea*, Haskel.

Put all these into a new earthen pot and boil well. Make the patient lie down on a bed, cover him with a cloth which should hang down to the ground all round. Then putting the boiling water under the bed, steam him well until the perspiration drops from his body, when the swelling will subside.

- (k) *Andiā moron arak rehet*, the roots of *Gymnema hirsutus*, W. and A., var *Decaisneanum*, Wight.  
*Səngel siū rehet*, the roots of *Tragia involucrata*, Jacq.  
*Etka rehet*, the roots of *Mucuna pruriens*, DC.  
*Soso jañ bareage*, two seeds of *Semecarpus Anacardium*, L.

Grind these together, make into pills and give to eat.

- (l) *Koṅga*, *Agave americana*, L. } to be smeared  
*Utri dudhi*, *Cryptolepis Buchanani*, R. and S. } on.  
*Baṛ baha*, the flower of *Mimusops Elengi*, L., to be drunk.  
*Bir malhan da*, the bulb of *Atyllosia mollis*, Bth., to be hung on.  
(m) *Bidhanta chal*, the bark of *Entada scandens*, Benth.  
*Pio cēyē il*, the feathers of the *Oriolus melanocephalus*.  
*Kuṇam da*, the bulb of  
*Harhat hotot rehet*, the roots of a bitter *Cucurbita lagenaria*.  
*Arak sutam*, red thread.

Grind to the consistency of porridge and plaster over the whole body. Some also to be drunk.

- (n) *Oroṣ da*, the tuber of *Costus speciosa*, Sm.  
*Maṭha arak rehet*, the roots of *Antidesma diandrum*, Tulas.

Grind, heat and smear on.

*Toṭnopāk chal*, the bark of *Eugenia operculata*, Roxb.

Grind and give to drink.

- (o) Plaster him with *god*, *Aristolochia indica*, Willd.  
(p) *Toṭnopāk chal*, the bark of *Eugenia operculata*, Roxb.  
*Akaona sakam*, the leaves of *Calotropis gigantea*, R. Br.

Put into an earthen pot, boil and steam the patient therewith.

- (q) The same ingredients as in this No. 75 (a) with the addition of  
*Alagjari rehet*, the roots of *Cuscuta chinensis*, Lamk.  
*Sinduqari sakam*, the leaves of *Vitex Negundo*, L.

but omitting *Andiā koṅgat rehet*. Grind these together and boil in two pounds of mustard oil; anoint therewith the whole body from the face downwards and in three days the swelling will subside.

- (r) The following or any one of them may be tied on the patient :  
*Bir malhan rehet*, the roots of *Atyllosia mollis*, R. Br.  
*Etka rehet*, the roots of *Mucuna pruriens*, DC.  
*Səngel siū rehet*, the roots of *Tragia involucrata*, Jacq.  
*Kaera rehet*, the roots of *Musa paradisiaca*, L.

- (s) *Sengel siñ rehet*, the roots of *Tragia involucrata*, Jacq.  
*Etka rehet*, the roots of *Mucuna pruriens*, DC.  
*Kukrycul baha rehet*, the roots of *Amaranthus frumentacens*,  
 Benth.

*Eraḍom rehet*, the roots of *Ricinus communis*, L.

Wring out a cloth wet with dew into a cup. With some of this water grind the above, then stir in the water and let all remain in the cup, and smear the patient with its contents.

- (t) *Alagjari nāri*, *Cassytha filiformis*, Roxb.

*Sinduqari sakam*, the leaves of *Vitex Negundo*, L.

Boil well in water, give a little to drink, and smear the rest of it over the whole body, when the swelling will at once subside.

- (u) *Ul chal*, the bark of *Mangifera indica*, L.

*Sengel siñ rehet*, the roots of *Tragia involucrata*, Jacq.

*Etka rehet*, the roots of *Mucuna pruriens*, DC.

*Akaona rehet*, the roots of *Calotropis gigantea*, R. Br. or *C. procera*, R. Br.

*Dak reak kaḍa bhosam arak*, *Oldenlandia paniculata* (?).

*Pani phol*, *Trapa bispinosa*, Roxb.

Grind these and put them in a new earthen pot and after covering this with a leaf plate, boil them well and steam the patient while lying on a bed until he perspires.

- (v) *Soso jan 3 gan se mittan*, 1 to 3 seeds of *Semecarpus Anacardium*, L.

*Sengel siñ rehet*, the roots of *Tragia involucrata*, Jacq.

*Etka rehet*, the roots of *Mucuna pruriens*, DC.

Grind and make into pills, to be eaten daily ; he will soon get well.

- (w) *Bir malhan rehet*, the roots of *Atylosia mollis*, Bth.

Grind and plaster over the whole body, and on Sunday tie the bass thereof on to his limbs.

*When it begins in the face (Paṇḍul udri)*,

- (x) *Ghōra laḍquri rehet*, the roots of *Vitis tomentosa*, Heyne.

Grind, warm and smear over the whole body ; rub a *taruṣ alan*, leopard's tongue, on a stone and give him to drink.

*When it begins at the navel*,

- (y) *Oroṣ da*, the tuber of *Costus speciosa*, Sm.

*Toṭṭopak chal*, the bark of *Eugenia operculata*, Roxb.

*Orsoreñ*, *Zingiber Cassumunar*, Roxb. (?).

*Dura san*, *Dioscorea pentafylla*, Willd.

Grind these together and smear on, and in three or four days he will get well.

One "authority" says: This follows after one is much reduced by fever ; first the feet swell up, and afterwards the entire body swells up like a drum : it begins sometimes in the face or at the navel.

76. *Beraeti*. Ascites, or spleen (?).

*Symptoms*: In this the abdomen grows larger and the legs and arms become emaciated.

*Medicines*: (a) *Gađa kasmar rēhet se chal*, the roots of bark of *Gmelina arborea*, Roxb.

Grind, smear well with catgut or tie under the armpit.

*Rāli rēhet*, the roots of *Piper longum*, L.

Grind and give to drink.

*Bhuku chata*, a termites' nest.

*Dahe*, curds

Mix and smear on daily.

77. *Hōrmo umbrāu ocoetako*.

This is to make lean people who eat well put on flesh.

*Medicines*: (a) *Mota sega*, the thick *Mimosa rubicaulis*, Lamk.

*Mota atkiv*, „ „ „ *Smilax ovalifolia*, Roxb.

*Bhorkond manij*, the heart of *Hymenodictyon excelsum*, Wall.

*Dhiri katkom*, a crab found under stones.

Grind these together, cook in *utiñ sunum*, mustard oil, and give to eat; in five days he will be stout.

78. *Tan dhat calak*. Slow pulse.

*Medicines*: *Dumur rasa*, the honey of the small honey bee.

*Bhābri chal*, the bark of *Embelia robusta*, Roxb.

*Cini*, sugar.

*Sahra chal*, the bark of *Streblus asper*, Lour.

*Saparom dare dak*, the water from *Nyctanthes Arbor-tristis*, L.

*Mare nangle rapak rongo*, an old leathern yoke roasted to burning point.

*Ato kundri datel*, the bulb of *Cephalandra indica*, Nand.

Mix these up together and give to drink for two or three days.

79. *Tatka rog*. Disease without premonitory symptoms.

*Medicines*: (a) *Mahūt gur*  $\frac{1}{2}$  *powa*, 4 oz. refuse of molasses.

*Sinjo sakam*, 1 *powa*, 8 oz. leaves of *Ægle Marmelos*, Correa.

*Gitil kada* 3 se 4, 3 or 4 *Gryllus monstrosus*.

Grind together and give to drink for a couple of days or so.

80. *Konka kunkik*. Madness.

This may be due to many causes. Sometimes from fever, or from hard thinking the brain gets confused, or from demon possession, epilepsy or other causes.

One "authority" says: Those who are thus afflicted feel immensely strong, sometimes they run about, sometimes they walk about in a silly way and speak incoherently.

*Medicines: External administration:—*

- (a) *Kārṃwāl rehet*, the roots of *Carissa Carandas*, L.  
*Ğabur rehet*, „ „ „ *Acacia Farnesiana*, Willd.  
*Daṭra rehet*, „ „ „ *Datura alba*, Willd. or *D. fastuosa*,  
 Willd.  
*Bonga bari rehet*, „ „ „ *Typha angustifolia* (?).  
*Sinduqari sakam*, the leaves of *Vitex Negundo*, L.  
*Muṅga chal*, the bark of *Moringa pterygosperma*, Gärtn.  
*Naṅgrauta rehet*, the roots of *Nardostachys jatamansi*, DC.  
*Bana haṭak chal*, the bark of *Oroxylon indicum*, Benth.

Get equal weights of all these, save more of the first named (for if the others are unobtainable this alone will prove serviceable), cook in mustard oil or preferably melted butter, and smear on daily.

*Internal administration:—*

- (b) *Eṭka rehet*, the roots of *Mucuna pruriens*, DC.  
*Seṅgel siñ rehet*, the roots of *Tragia involucrata*, Jacq.  
*Goṭe rehet*, the roots of *Croton oblongifolius*, Roxb.

Grind these three together, make into pills and give daily and apply the above (a) externally.

*Superior remedy:—*

- (c) *Mittan carorin*, one longicorn beetle.  
*3 gurli jo reak jañ*, the kernel of three fruits of

Grind these two small together, make into three pills and dry them. To be administered thus: For persons over 20 years of age one of these pills to be mixed in 1 *choṭak paura*, two ounces of spirits, and drunk; for those of 12 to 16 years old half a pill in 1 oz. of spirits; of 10 years old one third of a pill in 1 oz. of spirits; of 7 to 9 years one fourth of a pill in 1 oz. of spirits; of 5 and 6 years one fifth of a pill in 1 oz. of spirits. This is a very poisonous remedy, and if too large a dose be given it may prove fatal. Patients will pass blood with their urine. Let them do so three or four times and then give some very sour curds of cows' milk. This will kill the poison in the medicine; mad people feel very hot in the body.

If after taking this medicine there are roaring or humming sounds in the ears, then

- (c) *Raṅgāini janum jo jantet*, the kernel of the fruit of *Solanum Jacquini*, Willd.

Grind, cook in mustard oil and give to eat, when he will be all right.

- (d) *Hund nārī chal*, the bark of *Jasminum arborescens*, Roxb.  
*Bando nārī chal*, the bark of *Spatholobus Roxburghii*, Benth.  
*Kismis jo*, raisins.

Pound and crush the two barks and boil all with sugar, and give this daily.

- (e) *Ğai ghura arak*, *Polygala chinensis*, L.

Grind the entire plant, boil in mustard oil and anoint the face daily therewith.

- (f) *Bayan da*, the bulb of *Dioscorea crispata*, Roxb.  
*Etkā jo*, the fruit of *Mucuna pruriens*, DC.  
*Səngel siii rehet*, the roots of *Tragia involucrata*, Jacq.  
*Hin*, *Ferrula asafoetida*, Willd.  
*Jhinga jo*, the fruit of *Luffa acutangula*, Roxb.

To be smeared on.

- (g) *Borlom dare rehet*, the roots of  
*Joro bare reak dog tet*, a shoot of *Ficus bengalensis*, L.  
*Pan bhituak*, the leaf stem of *Piper Betle*, L.  
*Cini*, sugar.

First grind together *Gabur baha*, the flower of *Acacia Farnesiana*, Willd., and *mēphēl ic*, some iron rust, and put it in a metal-locket; make a rope of the tail tuft of a black cow and tie this locket on to the rope. Then on Sunday morning before relieving nature in any way make him eat the medicine with the rust and whip him some five times as hard as you like with the rope.

- (h) *Hoy ic*, human excrement.  
*Bir sukri ic*, a wild pig's excrement.  
*Lumam tol tejo*, a silkworm in its chrysalis stage.  
*Taruṣ jom sadom khura*, the hoof of a horse killed by a leopard.

Grind the first three and mix the fourth, and then give to drink. Let him neither speak nor run about, but stay perfectly still for some four hours.

- (i) *Daṭra rehet*, the roots of *Datura alba*, Willd. or *D. fastuosa*, Willd.

*Thoṛa aphim*, a little opium.

3 se 4 *ganḍa gan gol maric*, 12 to 16 black peppercorns.

Grind all these together, and give to drink.

- (j) *Kashom rehet*, the roots of *Gossypium arboreum*, L.  
*Carorini*, the longicorn beetle.  
*Goc hoy khapri reak*, a bit of the skull of a dead man.  
*Toyo ic*, jackals' excrement.  
*Mare nanḡle rapak rongō kate*, an old leathern yoke thong, roasted to burning point.  
*Dangra jan*, the bone of a bullock, }  
*Sukri dhumbak*, pigs' excrement, } to be half roasted.

Grind all these together; smear *guriç*, cowdung, on the courtyard in front of the house, and on that offer this medicine to the spirits, naming them *Duriabarḍo* and *Nason Caṇḍi*, make some parallel lines with *sindur*, red lead, and after mixing in *dahe*, curds, give to drink, and he will get well.

81. *Rohoy nanijom*. Atrophy, emaciation or cachexy. Believed by the Santals to be due to the action of witches.

*Symptoms*. In this a person without being ill gradually wastes away.

One "authority" says: In this the body will not get into good condition or fat, and even if they eat rice they continue to become emaciated.

*Medicines*: (a) *Sega rehel*, the roots of *Mimosa rubicaulis*, Lam.

*Badgocak rehel*, the roots of *Lygodium flexuosum*, Sw.

*Nanha dudhi lota rehel*, the roots of *Ichnocarpus frutescens*,  
R. Br.

Grind and give to drink daily.

(b) *Katkom carec*, *Rottboellia perforata*, Corom. pl.

*Kita manj*, the heart of *Phœnix acaulis*, Buch.

*Gada sura*, *Cyperus tegetum*, Roxb.

*Icak rehel*, the roots of *Woodfordia floribunda*, Salisb.

Grind and give to drink daily.

(c) *Cae cirola*, *Gentiana cherayta*, Roxb.

*Jithimond*, *Clerodendron Siphonanthus*, R. Br.

Soak in water over night and in the morning after straining off the water give it to drink mixed with *misri cini*, sugar-candy. Scoop out a *saru*, *Celocasia antiquorum*, Schott., and put in some *posta dana*, the seed of the opium poppy, and steam this. Then grind this and make into pills, some of the above water to be drunk with each pill.

(d) *Katkom carec rehel*, the roots of *Rottboellia perforata*, Corom. pl.

*Sega janum rehel*, the roots of *Mimosa rubicaulis*, Lam.

*Sauri rehel*, the roots of *Heteropogon contortus*, R. and S.

Take a little of each of these, mix, grind and give to drink.

(e) *Serwan rehel*, the roots of *Vigna vexillata*, Benth.

*Kangqini janum rehel*, the roots of *Solanum Jacquini*, Willd.

Grind together and give to drink.

(f) *Badgocak rehel*, the roots of *Lygodium flexuosum*, Sw.

*Hesak joro dog*, tip of the aerial root of *Ficus religiosa*, Willd.

*Bare joro dog*, tip of the aerial root of *Ficus bengalensis*, L.

Grind and mix these and give to drink.

(g) *Hati ic*, elephant's excrement.

*Sasan*, turmeric.

*Buluñ*, salt.

Grind and mix these and plaster therewith.

(h) *Caulia*, the roots of *Ruellia suffruticosa*, Roxb.

*Badgocak*, „ „, *Lygodium flexuosum*, Sw.

*Kada mcl rehel*, the roots of *Premna herbacea*, Roxb.

*Kus rehel*, the roots of *Themuda gigantea*, Haskel.

Grind together and give to drink.

(i) the same as No. 208 (d).

(j) *Janhe naujom*, *Polycarpæa corymbosa*, Lamk.



- Bonga sarjom daĕ*, the water of *Ventilago calyculata*, Tulasne.
- Mathom rehel reak daĕ*, the water of the roots of *Bassia latifolia*, Roxb.
- Katkom janga, terel reak*, the *Viscum attenuatum*, DC., found on the *terel*, *Diospyros tomentosa*, Roxb.
- (h) *Icaĕ rehel*, the roots of *Woodfordia floribunda*, Salisb.
- Gaĕa sura rehel*, the roots of *Cyperus tegetum*, Roxb.
- Katkom careĕ rehel*, the roots of *Rottboellia perforata*, Corom. pl.
- Kita mañj cetanre omonok cip cipiĕ rehel*, the roots of *Achyranthes aspera*, L., growing from the heart of *Phoenix acaulis*, Buch.

Mix all these and give to drink with early success (a proved remedy).

- (l) *Cae cirola*, *Gentiana cheryta*, Roxb.
- Misri*, sugar candy.
- Kaliĕ jira*, *Nigella indica*, Roxb.
- Jawan jira*, *Carum Ajowan*, DC.
- Lubui jira*,

Put all these in a cup of water at night, and in the morning after pounding them a little, strain, add the sugar-candy and give to drink. Previously cook some *posta dana*, seeds of the opium poppy, grind them and make into pills, and whenever one of these is taken let him drink some of the above preparation. By following this course he will both be cured and regain strength.

This remedy is also good for *jaro rua*, vide No. 56.

- (m) The 3 ingredients specified in (a) above and
- Icaĕ chal*, the bark of *Woodfordia floribunda*, Salisb.
- Dodhar*, *Adiantum lunulatum*, Burm. or *A. concinnum*.
- Saparom rehel*, the roots of *Nyctanthes Arbor-tristis*, L.
- Edel mañj*, the heart of *Bombax malabaricum*, DC.

Grind together and give to drink for a week.

82. *Bandorgali*. Cancer in the face.

*Symptoms*. This disease generally attacks the lower lip, cheeks or chin, and there is a profuse discharge of saliva. When the disease begins the lip or chin gradually continues to split, and if medicine is not quickly applied the sore will break out and in that case recovery is very doubtful.

One "authority" says: This begins like a pimple in the cheek, and later on develops into a sore that penetrates from outside to inside.

*Medicines*: (a) *Bir son*, wild hemp.

*Alagjari*, *Cuscuta chinensis*, Lamk.

Grind the leaves of both of these and spread them over the spot and recovery will ensue.

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(b) *Sirauna* or *gukla*, *Hygrophila spinosa*, T. Anders.

Grind the bulb of this and apply it without heating. This may be used in both the early and the advanced stages of the sore.

(c) *Mqsobor*, Barbadoes aloes.

Grind and apply this before the part swells or a sore breaks out.

(d) The earth with which the male bird imprisons the *camacakor* female (the black and white or grey hornbill) in its nest in a tree hollow, or a part of its body.

The root of *etka*, *Mucuna pruriens*, DC.

The root of *seŋgel sin*, *Tragia involucrata*, Jacq.

The root of *dare japaċ*, *Scindapsus officinalis*, Schott.

The kernel of the fruit of *bidhanta*, *Entada scandens*, Benth.

Grind all these together and apply on the sore.

(e) *Qt banat*, lichen (on a stone).

The scraped husk of *saparom*, *Nyctanthes Arbor-tristis*, Linn.

Grind these together and sprinkle on the spot, and if it has burst inwardly stick a piece of paper on this.

(f) *Khayar manj*, the pith or heart of *Acacia Catechu*, Willd.

Boil this down to the consistency of molasses and smear on the sore.

(g) *Dare japaċ rehel*, the roots of *Scindapsus officinalis*, Schott.

*S<sub>o</sub> jolet*, the fruit of *Eugenia Jambolana*, Lamk.

Grind together and apply to the sore.

(h) *Dhūrā*, resin of *Shorea robusta*, Gärtn.

Grind till it is like red lead, mix in a leaf cup of melted butter and add enough water rubbing all the time until it turns white like cream. Apply this to the sore.

(i) *Camacakor tuqa*, the nest of the Hornbill bird.

*Hęsęl toroċ*, the ashes of *Anogeissus latifolia*, Wall.

*Sarijom jo*, the fruit of *Shorea robusta*, Gärtn.

Grind these to a powder, sprinkle on the sore and cover with paper, and then

(j) *God*, *Aristolochia indica*, Willd.

*Nūrūċ jo reak dāl*, the kernel of the fruit of *Cassia Fistula*, L.

*Sealom*, lichen.

Grind these with dew, no other water will do, and plaster on the sore. This remedy is applied after calling on the medicine man's goddess.

(k) The real specific for this disease is

*Sahra banda*, the parasitical air plant found on *Streblus asper*, Lour.

Two applications of this will result in a speedy cure.

83. *Doko*. Tumours.

*Medicines*: (a) To soften: *nim sakam*, the leaves of *Melia Azadirachta*, L.  
Grind fine, heat, wrap in a piece of cloth and tie firmly on to the tumour.

(b) *Gai gotom*, melted butter of cows' milk.

*Dhūrā*, resin of *Shorea robusta*, Gärtn.

*Nirbis*, *Kyllingia monocephala*, L.

*Seleṣ samanom*, *Gloriosa superba*, Willd.

*Terel dare reak katkom jānga*, *Viscum attenuatum*, DC., found  
on *Diospyros tomentosa*, Roxb.

*Atkura*, *Wrightia tomentosa*, R. and S.

*Buluṅ*, salt.

Grind together, cook in melted butter of cows' milk, and apply externally.

After softening pus will form, and to make it burst:

(c) *Mare daṅgra jaṅ*, an old bullock bone.

*Hoṛeč*, *Dolichos biflorus*, L.

*Parwa ič*, pigeons' dung.

*Buluṅ*, salt.

Grind together, plaster on the tumour; and it will soon burst.

84. *Ojo*. Boils.

One "authority" says: This usually begins like a pimple on the posterior, grows gradually to a large size and is painful.

*Medicines*: (a) Put fire to a piece of string used for the bottom of a bedstead and touch the head of the boil with this piece of burning string.

(b) Smear *loa loṛe*, the juice exuded from incision of the bark of  
*Ficus glomerata*, Roxb., on the swollen part.

(c) Grind *pojo chal*, the bark of *Tetranthera monopetala*, Roxb.  
and plaster it on.

(d) *Kolo da*, the bulb of *Dioscorea dæmonum*, Roxb.

*Akaona loṛe*, the exudation of *Calotropis gigantea*, R. Br.

To be smeared on.

(e) *Siraṃ rehet*, the roots of *Andropogon muricatus*, Retz.

*Daṅgra jambc data*, the jaw tooth of a bullock.

Grind the former, rub the latter on a stone, mix both and apply as a plaster. It will burst.

(f) *Gotom sunum*, melted butter.

If the boil will not burst then smear this on and it will cause it to do so. Then apply *jokha sakam*, the leaves of *Sida humilis*, Willd., when the pus may be squeezed out.

(g) When in the incipient stage apply (b) as above, which will check its growth; then

- (h) Just touch the top once with a drop from *soso*, the seed of *Semecarpus Anacardium*, L.
- (i) When ripe prick a hole in the top and smear *jokha sakam*, the leaves of *Sida humilis*, Willd., all round and all the matter will be expelled.

85. *Bispher*. Carbuncle.

*Symptoms*. This may appear on any part of the body, usually on the thigh or shin. At first small pimples appear, and afterwards it spreads all round, something hard arises from inside, it is very painful and there is a core within.

One "authority" says: This begins at first like a boil in the nape of the neck or middle of the back, and grows into a large sore which itches and causes a burning pain.

*Medicines*: (a) Smear *gotom*, melted butter, on, which will ripen it.

(b) *Gangit cun*, the lime obtained from nodular limestone.

*Jhinuk cun*, shell lime.

*Thora bulun*, a little salt.

Mix and smear on.

(c) *Turam rehcl*, the roots of

*Bhidi janatep rehcl*, the roots of *Urena sinuata*, L. or *Triumfetta rhomboidea*, Jac.

*Matha arak rehcl*, the roots of *Antidesma diandrum*, Tulas.

Grind these and plaster on, the sore will heal.

(d) *Kuclq jan*, the seeds of *Strychnos potatorum*, Lin. f.

Grind and apply so that it may burst.

After bursting

(e) *Joka sakam*, the leaves of *Sida humilis*, Willd.

*Pojq chal*, the bark of *Tetranthera monopetala*, Roxb.

Grind and apply as a plaster.

(f) *Ambaitar jan*, the bones of the snake *Daboia Russellii*, to burst it.

*Bhorkond baklak*, the bark of *Hymenodictyon excelsum*, Wall.

Grind and dry, and making it into a powder dust it on.

(g) Get a piece of a waterpot that has been broken by an unmarried girl, rub it on a stone and apply what comes off with a feather to the sore, and see for three days whether it is drying up. If there is an increase of pus,

(h) *Merlec chal*, the bark of *Flacourtia Ramontchi*, L'Herit.

Grind this fine to a powder and sprinkle on the sore, and it will check the discharge; and rub some of this also on the sore.

(i) *Akar baha*, *Limnophila Roxburghiana*, G. Don.

*Bhernda lore*, the exudation from *Jatropha Curcas*, L.

Grind the former, put some of the latter on it and grind a little more, and then smear the preparation on the sore ; if there is pus wash it with *kañji daḥ*, stale rice water, and adding a little water to the preparation squeeze it out into the cavity and in three days a cure will be effected.

(j) *Tejo mala rehet*, the roots of *Cissampelos Pareira*, L.

*Baklaḥ*, the bark of trees that certain large caterpillars boring in trees cause to fall down.

*Gābur rehet chal*, the bark of the roots of *Acacia Farnesiana*, Willd.

*Gitil gārī*, an insect that burrows in the sand in river beds.

Grind these together and boil in pure mustard oil. Clean the place, apply with a feather morning and evening.

### 86. *Haṃus*. Anæmia.

*Symptoms*. When one has suffered a long time from spleen, the blood in the body dries up causing the body to become pale.

*Medicines* : (a) Plaster him with *bir paṇ dare chal*, the bark of *Monochoria plantaginea*, Kunth.

(b) *Kadam*, *Anthocephalus Cadamba*, Bth. and Hook.

*Kujri chal*, the bark of *Celastrus paniculatus*, Willd.

Grind together and plaster therewith.

(c) *Kod sakam*, the leaves of *Eugenia Jambolana*, Lamk.

Cook in mustard oil, and anoint with that oil.

(d) *Orsorīñ da*, the bulb of *Zingiber Cassumunar*, Roxb. (?).

*Kul jom gai jañ*, the bone of a cow killed by a tiger.

*Bir hoṛeḥ*, *Atyllosia scarabædois*, Benth.

The patient to be smeared with the first ; the other two to be boiled and some of the water to be drunk.

(e) *Bana hatak chal*, the bark of *Oroxylon indicum*, Benth.

*Kaṇḥa chal*, the bark of *Terminalia Arjuna*, Bedd.

*Ambra chal*, ,, ,, ,, *Spondias mangifera*, Pers.

*Taruḥ jom gai jañ*, the bone of cow killed by a leopard.

Boil the last in water and in that water mix the barks after grinding, and then the patient to drink some of it.

(f) *Araḥ meral sakam*, the leaves of *Phyllanthus Emblica*, L. which bears a red flower.

*Bitkil cand rehet*, the roots of *Porana paniculata*, Roxb.

Grind and smear over the whole body.

(g) *Taruḥ jomiḥ reak jañ*, the bone of an animal killed by a leopard.

*Haṭ jḇ*, the fruit of *Holarrhena antidysenterica*, Wall.

*Harhal hoṭoṭ*, a bitter *Curcubita lagenaria*, Willd.

*Bārīā kaṇḍhum jḇ*, the fruit of *Phyllanthus lanceolarius*, Mull-Arg.

(h) *Taruṣ jom gai jan*, the bone of a cow killed by a leopard.

Boil this in water and with that water bathe him from head to foot, then  
*Kadam chal*, the bark of *Anthocephalus Cadamba*, Benth. and  
Hook.

*Ul chal*, the bark of *Mangifera indica*, L.

*Soso chal*, ,, ,, ,, *Semecarpus Anacardium*, L.

Grind together and smear over the whole body.

87. *Dorod*. Pain in any part of the body.

*Medicines*: (a) *Halim*, *Lepidium sativum*, L.

*Dhalka hatkan*, *Leea macrophylla*, Roxb.

Grind these and give a leaf cup full to drink and apply some to the seat of the pain.

(b) *Dhalka hatkan*, *Leea macrophylla*, Roxb.

*Duriq hatkan*, *Leea hirta*, Herb. Banks.

*Atnak chal*, the bark of *Terminalia tomentosa*, W. and A.

*Baru chal*, ,, ,, ,, *Schleichera trijuga*, Willd.

*Jioti dog*, a sprout of *Sesbania ægyptiaca*, Pers.

Grind these together very fine and after warming slightly plaster on to the seat of pain. Some two or three applications will cause the pain to cease.

88. *Haḍi dorod*. Muscular pain from over-exertion.

*Symptoms*. If a man should work beyond his strength or lift anything very heavy, then he will get this, *i.e.* his limbs and whole body will ache.

One "authority" says: This commences in the neck. If one carries anything heavy on the head or shoulders a vein is strained or gets stiff. Then the body begins first to shiver and feel out of sorts, *i.e.* feverish. Then two or three days later one feels shooting pains in the limbs. Then there is pain in the neck, and if you are not soon rubbed it will become stiff. Then from this various complaints may result, *e.g.* *sagak* (q.v.), *betha* (q.v.), cough, spleen, convulsions, back-pain, intermittent fever, in fact all kinds of disorders may ensue. Therefore they call this the forerunner. And this is quite true. If the thick vein in the back gets *haḍi* and it extends to the neck, there is headache, and if it extends downwards there is pain in the loins. Again, there is a small vein in the small of the back that runs to the stomach. If this gets *haḍi* there is a feeling of repletion first and the food is not digested. Then follow diarrhœa and dysentery. Further, there is another small vein extending through the ribs to the spleen, and if this gets *haḍi* spleen disease ensues. On this account they apply *soso*, the fruit of *Semecarpus Anacardium*, L. var. *cuneifolia*. There is also a vein between the scapulæ crossing to the chest, and if this gets *haḍi*, *betha* (q.v.) will follow. There is also a small vein branching off from the big one in the lungs. If this gets *haḍi* a cough

will follow. Therefore many *ojhas* use *sqsq* extensively. They employ it too in cases of cough. They look at the neck of the patient while he is coughing and apply *sqsq* to the veins which they see swell up then. All these disorders are due to congestion of the blood. The blood courses continually through the veins, and if the flow of the blood in the veins is impeded disorder will ensue.

*Medicines*: (a) *Suruḡ mukhi araḡ*, *Helianthus annuus*, Willd.

*Sim kata araḡ*, *Vitex peduncularis*.

*Caṭom araḡ*, *Marsilia quadrifolia*, L.

Grind these three and after warming a little plaster the whole body therewith. He will get well in some four days.

(b) *Mihndi sakam*, the leaves of *Lawsonia alba*, Lam.

*Joḡo sakam*, „ „ „ *Tamarindus indica*, L.

*Kawel sakam*, „ „ „ *Abrus precatorius*, Willd.

Grind these, add a little salt, boil a little and plaster the whole body therewith.

(c) *Maṭha araḡ reḡel*, the roots of *Antidesma diandrum*, Tulas.

Grind and plaster the whole body therewith.

(d) *Joḡo jaṇ*, the seeds of *Tamarindus indica*, L.

Split, grind and apply after warming.

(e) Rub the whole body with *eraḡom sunum*, castor oil, and if the legs are contracted, mix a little salt with *loa loḡe*, the sticky juice exuded by *Ficus glomerata*, Roxb., and smear it on.

(f) *Akaona reḡel*, the roots of *Calotropis gigantea*, R. Br.

Grind, warm a little and plaster therewith.

(g) *Ic ewer reḡel*, the roots of *Vitis latifolia*, Roxb.

Grind to a very thin consistence, warm and apply to the painful parts: all pain will cease.

(h) *Dhonantori reḡel ar sakam*, the roots and leaves of

Grind small, mix in water and let it drip over the whole body, when the pain will cease.

(i) *Joḡo sakam se dal*, the leaves or the fruit kernel of *Tamarindus indica*, L.

Grind, warm and plaster this on.

(j) Add *bir jhunka*, *Crotolaria calycina*, Shrank., to the ingredients in (a) above and apply in same way.

(k) Mix some *isabgul*, *Plantago ispaghala*, R. Fleming, with the milk of a black goat, grind and apply.

(l) Grind, warm and apply *halim*, *Lepidium sativum*, L.

(m) *Iskirem*, first of all massage the patient; if this does not suffice, then

(n) *Tobaḱ*, prick with a red hot iron; if this does not answer then apply

(o) *Sḡsḡ*, blister with the juice of the seeds of *Semecarpus Anacardium*, L. var. *cuneifolia*.

If this too is inefficacious, then

(p) *Joḡo sakam sḡ dal*, the leaves or kernel of the seed of *Tamarindus indica*, L.

*Mihndi*, *Lawsonia alba*, Lam.

*Akaona chal*, the bark of *Calotropis gigantea*, R. Br. or *C. procera*, R. Br.

*Suruḡ mukhi*, *Helianthus annuus*, L.

*Araḱ sim kaṭa*, the red *Vitis peduncularis*.

*Bir jhūṅka*, *Crotalaria calycina*, Shrank.

*Dhalka catom araḱ*,

*Ḥalim*, *Lepidium sativum*, L.

Grind these separately, mix together, equal quantities of each, heat or warm in a potsherd and plaster the whole body therewith, otherwise convulsions, paralysis of the tongue or hiccough may ensue, and there is an end of him.

### 89. *Sagaḱ*.

*Symptoms*. This is like *ḥaḍi* (No. 88), results from that, and on feeling the pulse the indications are the same. They say, "There is poison in him or they have administered poison to him; how are we to get that out? then first the medicine will act.?"

*Medicines*: (a) First of all they bite them, or smear cowdung over the whole body, then after pronouncing spells and incantations they expel the poison, and then give

(b) *Sauri reḥet*, the roots of *Heteropogon contortus*, R. and S.

*Kaṭkom careḱ reḥet*, the roots of *Rottboellia perforata*, Roxb.

*Icaḱ reḥet*, the roots of *Woodfordia floribunda*, Salisb.

*Doḡhar reḥet*, the roots of *Adiantum lunulatum*, Burm. or *A. concinnum*.

*Kuril rama reḥet*, the roots of *Zizyphus Oenoplia*, Mill.

Grind these together and give to drink.

(c) *Maṛic reḥet*, the roots of *Capsicum frutescens*, Willd.

*Lopon araḱ reḥet*, the roots of *Terminalia bellerica*, Roxb.

Put these in a leaf-cup with oil and pronounce incantations and then anoint the neck therewith; and holding a bit of the former of the above in the mouth, repeat incantations and blow on him, when the poison will come up. You must praise the *bongas* or spirits *Bisa rangi* and *Rokot kūāri* while blowing on him, and the poison will come up.



90. *Bāslī rog.*

*Symptoms.* This causes pain similar to rheumatism; they ache night and day. It begins in the limbs and gradually spreads through the whole body. There are 18 varieties of this. In one, if it begins in an arm or leg, they tremble outright. In others it takes some 3,5,10,15, or 20 days to be fully developed. The limbs draw the whole body awry, or they are obliged to lie down with a thud.

*Medicines:* (a) *Bin leāk gai gotom nāinu*, unmelted butter of cows' milk.  
*Tursi sakam mōrē ganḍa*, 20 leaves of *Ocymum sanctum*, Willd.

Grind the latter and mix with the former and rub daily with this. This will increase the pain, and after this take

*Kaḍa beñjak rēhel*, the roots of  
*Adhē*, ginger, *Zingiber officinale*, Roscoe.

Grind these together and mix; plaster all the joints and cover with *kaera sakam*, the leaves of *Musa paradisiaca*, L., and wrap the whole in bandages.

(b) *Adagathia ghās da*, the bulbs of *Panicum repens*, L.  
*Berēl sasañ*, raw turmeric, *Curcuma longa*, L.

Grind these together and plaster the whole of the arms and legs therewith.

(c) *Aphim*, opium.  
*Dhūrā*, resin of *Shorea robusta*, Gärtn.  
*Hin*, *Ferrula asafætida*, Willd.

Grind these together and smear all the limbs therewith.

(d) *Datra*, *Datura alba*, Willd. or *D. fastuosa*, Willd.  
*Kaḍa beñjak*,  
*Adagathia ghās da*, the bulbs of *Panicum repens*, L.

Grind these together and extract about two ounces of juice, which mix with two ounces of *paura*, spirits, and give to drink. If stupefaction should follow then mix

*Kasmar chal*, the bark of *Gmelina arborea*, Roxb.  
*Siñ aṣak chal*, ,, ,, ,, *Bauhinia purpurea*, L.  
*Kañji daḱ*, stale rice water

and give to drink.

(e) *Gai dahe urul oḍok nāinu*, the butter obtained by churning curds of cows' milk.

*Mil goḷē tursi sakam*, one leaf of *Ocymum sanctum*, Willd.

Put some of the former on the latter and let the patient eat this first. The butter must be unmelted. Then grind 12 of the same leaves, mix with the butter and smear it on, rubbing it in. You, the medicine applier, must be chaste and have no intercourse with women, and the patient must remain so also until he is cured. Do not let him eat any meat either. After rubbing him with above, then

- (f) *Kaḍa beñjaḱ*,  
*Adhe*, *Zingiber officinale*, Roscoe.  
*Berel sasan*, raw turmeric, *Curcuma longa*, Roxb.  
*Adagathia ghās da*, the bulbs of *Panicum repens*, L.

Grind these together fine and apply to all the joints that pain. Wrap in the leaves of *kaera*, *Musa paradisiaca*, L., and tie them firmly on until the medicine dries. Do this daily, and he will soon get well.

91. *Mackao*. Sprains, strains or wrenches.

*Medicines*: (a) *Or tiar*, *ṣe iskir mardao baraketam*, *ṣem soṣo tobaḱ keta*,

You stretch the parts straight, or massage them, or blister by applying the juice of *soṣo*, *Semecarpus Anacardium*, L. var. *cuneifolia*.

(b) apply as in No. 88 (p).

92. *Danḍa haso*. Pain in the loins.

*Symptoms*. This is characterised by a lacerating pain in the loins, in whatever attitude may be adapted.

*Medicines*: (a) *Ponḍ kawel sakam*, the leaves of the white *Abrus precatorius*, L.

Grind and warm slightly and plaster warm on the loins.

(b) If this does not answer, let him be cupped.

(c) *Poḷḷo*, *Tetranthera monopetala*, Roxb.

*Bidhanta*, *Entada scandens*, Benth.

*Kucla*, *Strychnos potatorum*, Lin. f.

Grind together and plaster on.

93. *Hūk*. Pain in the loins. Lumbago.

*Symptoms*. This is a pain in the loins. It begins like *beta* (q.v.), but this is in the waist, whereas that is in the sides, and whoever has it is unable to walk from pain and stiffness.

*Medicines*: (a) *Laṭha ciḷ ciriḷ*,  
*Buluṅ*, salt.

Grind these together and with it press the painful nerve.

- (b) *Kaḍa beñjaḱ*,  
*Adagathia ghās*, *Panicum repens*, L.  
*Adhe*, ginger, *Zingiber officinale*, Roscoe.

Grind these together and apply as a plaster, cover with *kaera sakam*, the leaves of *Musa paradisiaca*, L., and tie them on.

(c) *Chatni chal*, the bark of *Alstonia scholaris*, R. Br.

Warm and apply this.

(d) *Bandphora biñ reaḱ 3 jañ*, 3 bones of the *Bungarus fasciatus* snake.

String these on a string and tie them round the patient's waist.

(e) *Akaona rehel*, the roots of *Calotropis gigantea*, R. Br.

Grind small, heat and apply as a plaster.

- (f) *Pipriān rehet*, the roots of  
*Buluñ*, salt.

Grind these together and press well down following carefully along the seat of pain.

- (g) *Edhe cip cirit rehet*, the roots of an *Achyranthes*.

Add a little *buluñ*, salt, to these and grind them. Make the patient lie on the ground face downwards, and calling another mau tell him to press this medicine down hard on the patient while you with a bit of stick make 7 lines on the ground beside one another calling out the numbers as you do so, one, two, three, etc. While you are doing so the other man presses him firmly down and then releases his hold and you rub out the marks or lines. Repeat this operation three, five or seven times and then make the patient stand up and cause him to crack his waist (like one's knuckles). If a crackling sound is emitted he will be cured there and then. Otherwise repeat the whole process for a couple of days. If this is not efficacious, then

- (h) *Jioti*, *Sesbania ægyptiaca*, Pers.

*Baru chal*, the bark of *Schleichera trijuga*, Willd.

Plaster him with these and he will get well.

#### 94. *Bat.* Rheumatism.

*Medicines*: (a) *Bir pan rehet*, the roots of *Monochoria plantaginea*, Kunth.  
*Kaḍa mēt rehet*, ,, ,, ,, *Premna herbacea*, Roxb.  
*Baru banda rehet*, ,, ,, ,, the air plant found on *Schleichera trijuga*, Willd.

*Telnga thenga rehet*, the roots of

Grind the first two and mix with melted butter of cows' milk and give to eat. Roast the second two to ashes and apply to the joints.

- (b) *Akaona rehet*, the roots of *Calotropis gigantea*, R. Br.

*Kārwat rehet*, ,, ,, ,, *Carissa Carandas*, L.

*Toṭnopaḱ chal*, the bark of *Eugenia operculata*, Roxb.

*Saram lutur rehet*, the roots of *Clerodendron serratum*, Spreng.

*Ul chal*, the bark of *Mangifera indica*, L.

*Chatni chal*, the bark of *Alstonia scholaris*, R. Br.

Grind these together, put in a new earthen pot and add water, cover with a leaf plate and boil well. Spread a cloth on the bed and after the patient has laid down on it cover him with a wrapper so that it hangs down all round and steam him with the medicine; do this for five or six days.

- (c) *Gol maṛic*, black pepper.

*Kaḍa beñjak rehet*, the roots of

Pound these and give to drink daily.

- (d) *Kārwat rehet*, the roots of *Carissa Carandas*, L.

*Akaona rehet*, ,, ,, ,, *Calotropis gigantea*, R. Br.

*Asarīa chal*, the bark of *Caparis horrida*, L. f.

*Ad ser gai gotom*, 1 lb. clarified butter of cows' milk.

*Ad ser turi sunum*, 1 lb. pure mustard oil.

Mix and boil all together, and rub him therewith some 30 days. If no better, then

(e) *Bercl sasañ*, raw turmeric, *Curcuma longa*, Roxb.

*Berel adhe*, raw ginger, *Zingiber officinale*, Roscoe.

Grind these together, and rub him daily therewith for a month.

(f) *Ad ser rasan*, 1 lb. garlic.

*Mil ser gai gotom*, 2 lbs. clarified butter of cows' milk.

Boil these down together and make into pills the size of crossbow balls, and give three of them daily to eat for 40 or 80 days; you will cure cases of five years' standing. If the nerves of the arms and legs will not stretch out, then mix *pon choṭak tarpin sunum*, 8 oz. turpentine (spirits), warm it slightly and rub with it and foment him; he will assuredly get well.

(g) *Mandargom sakam*, the leaves of *Anona squamosa*, L.

*Totnopak sakam*, " " " *Eugenia operculata*, Roxb.

Boil in water and steam and foment therewith.

If the patient is unable to stand

(h) *Pon choṭak tarpin sunum*, 8 oz. spirits of turpentine.

*Bar choṭak turi sunum*, 4 oz. pure mustard oil.

Mix and after warming slightly continue to smear it on until he can walk about.

*Gaṭhiā bat*. Rheumatism in the joints.

(i) *Ciṣ ciṣiṣ rehel*, the roots of *Achyranthes aspera*, L.

*Rāṅgāini rehel*, the roots of *Solanum Jacquinii*, Willd. half as much.

*Tala poesa oḡon arak sindur*, the weight of half a pice genuine red lead.

Grind together and make into three pills the size of a hazel nut; dry and let him smoke them in a pipe three times, viz. 7 a.m., noon and 5 p.m.

(j) *Daṭra sakam reak rasa*, the juice of the leaves of *Datura alba*, Willd. or *D. fastuosa*, Willd.

*Aphim*, opium.

Grind together, heat and apply, and foment.

(k) *Kaḍa mēl*, *Premna herbacea*, Roxb.

*Baru banda*, the parasitical plant found on *Schleichera trijuga*, Willd.

*Telṅga theṅga*,

*Sinduāri rehel*, the roots of *Vitex Negundo*, L.

Reduce these to ashes which rub on the patient.

*Eḡen bat*. Ordinary rheumatism.

(l) *Kaḍa beṅjak rehel*, the roots of

*Gol maṛic*, black pepper.

Grind these together and give to drink first ; then

*Akaona rehel*, the roots of *Calotropis gigantea*, R. Br. or *C. procera*, R. Br.

*Kār wāt rehel*, the roots of *Carissa Carandas*, L.

*Totnopāk chal*, the bark of *Eugenia operculata*, Roxb.

*Saram lutur rehel*, the roots of *Clerodendron serratum*, Spreng.

*Ul chal*, the bark of *Mangifera indica*, L.

*Chatni chal*, the bark of *Alstonia scholaris*, R. Br.

Put these in a pot, heat it and blow the smoke from them on the patient.

95. *Bao bat*.

In this when the wind is from a certain direction, the pain begins and the veins are contracted. One must ascertain whence the wind is blowing, and if from the south-east, then apply the following :

*Medicines* : (a) *Sukri itil*, pigs' fat.

*Jambro itil*, the fat of the snake *Zamenis mucosus*.

*Torhol itil*, ,, ,, ,, ,, guana.

*Horo itil*, ,, ,, ,, a tortoise.

Melt these together and rub them on daily morning and evening.

96. *Hoete sirjauk bat*. Rheumatism due to draught.

*Symptoms*. This rheumatism generally begins with pain in the fingers, knuckles, elbow joint, shoulder joint, loins, hip joint, the thigh or shin bones or other joints of the body, and there is a tingling pain in the soles of the feet, as if they had fallen asleep.

*Medicines* :

*Steaming* : (a) *Akaona rehel*, the roots of *Calotropis gigantea*, R. Br.

*Kār wāt rehel*, ,, ,, ,, *Carissa Carandas*, L.

*Totnopāk chal*, the bark of *Eugenia operculata*, Roxb.

*Asariā chal*, the bark of *Capparis horrida*, L.f.

*Saram lutur rehel*, the roots of *Clerodendron serratum*, Spreng.

*Chatni chal*, the bark of *Alstonia scholaris*, R. Br.

*Sinduari sakam*, the leaves of *Vitex Negundo*, L.

*Bir horec*, *Atylosia scarabædois*, Benth.

*Ul chal*, the bark of *Mangifera indica*, L.

*Hesak chal*, the bark of *Ficus religiosa*, Willd.

Grind these together, then put them in a new earthenware pot and after covering the top by tying on a leaf-plate boil it well. Spread a thin cloth over a rather high bed and let the patient lie on this and cover him with a sheet which should fall down to the ground on all sides. Then place the boiling medicines under the bed and pierce a small hole in the leaf plate so that the steam may escape, and steam the patient until the perspiration of the body is profuse. Steam him thus daily for 15 days.

To be smeared on :

- (b) *Asariā chal*, the bark of *Capparis horrida*, L.f.  
*Kārwāl rehel*, the roots of *Carissa Carandas*, L.  
*Akaona rehel*, the roots of *Calotropis gigantea*, R. Br.

Grind these together and boil in melted butter made of cows' milk and smear this on. The patient must abstain from buffalo milk and the butter made of it.

Internally: (c) Take about a pound of *rasun*, garlic, and grind it very carefully and cleanly. Then boil it in two pounds of cows' milk till the milk has boiled off. Make the residue into 25 pills, two of which are to be taken every day.

To be drunk with above :—

- (d) *Kaḍa benjaḅ rehel*, the roots of  
*Gol maric*, black pepper.

Grind together and drink daily with the pills when swallowed.

To be plastered on :—

- (e) *Berel sasaṅ*, raw turmeric, *Curcuma longa*, Roxb.  
*Ḍuriā haṅkaṅ*, *Leea hirta*, Herb. Banks.  
*Adhe*, ginger, *Zingiber officinale*, Roscoe.

Grind these together and plaster the whole limbs, somewhat more thickly over the joints, and wrap in *kaera sakam*, plantain leaves. If you wrap in the day time, remove them at night, and if at night then remove in the day time.

To be taken with (e) :—

- (f) *Kaḍa benjaḅ rehel*, the roots of  
*Adagathiā ghās rehel*, ,, ,, ,, *Panicum repens*, L.  
*Damkaḍura rehel*, the roots of

Grind these and give a little to drink daily with *ṗaura*, spirits.

Other remedies :—

- (g) *Datra rehel*, the roots of *Datura alba*, Willd. or *D. fastuosa*, Willd., take about an ounce of the juice of this.  
*ṗaura*, spirits, about an ounce.  
*Ṕe gaṅḍa gan gol maric*, about 12 black peppercorns.  
*Kaḍa benjaḅ rehel*, the roots of  
*Adagathiā ghās rehel*, ,, ,, ,, *Panicum repens*, L.

Grind all these together and give to drink. Give in the morning and after doing so do not leave the patient alone or he will go out of his mind. This medicine will cause the eyes to become bloodshot and the saliva to dry up.

Then give : (h) *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.  
*Siṅ aṅak chal*, the bark of *Bauhinia purpurea*, L.  
*Thora cini*, a little sugar.

Mix with *kañji dañ*, stale rice water, and give about 4 ounces to drink. Give three or four such doses till he comes to his senses.

If sores appear, then :—

- (i) *Asariā chal*, the bark of *Capparis horrida*, L.f.  
*Kārwāt rehet*, the roots of *Carissa Carandas*, L.  
*Simbrit*, the fresh shoots of *Bombax malabaricum*, DC.

Grind these together, stir in melted butter of cows' milk made in June-July, and give with a burning "candle" as detailed in No. 197 (c). If sores appear in the mouth cook *ghi kuari*, *Yucca gloriosa*, in melted butter of cows' milk, to be taken 15 days. Nothing but sago to be eaten; salt is strictly forbidden.

97. *Jange bat.* (vide symptoms.)

*Symptoms.* This is when a man has walked very far and his thighs become rigid and he is unable to walk any more.

*Medicines:* (a) *Datra*, *Datura alba*, Willd. or *D. fastuosa*, Willd.  
*Adagathia ghās rehet*, the roots of *Panicum repens*, L.  
*Kaḍa beñjak rehet*, " " "

Extract 2 ounces of the juice of each of these, mix them with 2 ounces of *paura*, spirits, and give to drink. If after becoming intoxicated he is restless and tries to rise, rub him well with *gai gotom*, melted butter of cows' milk, and the pain will cease and he will be able to walk. If intoxication continues, give him to drink a mixture of

*Kasmar chal*, the bark of *Gmelina arborea*, Roxb.  
*Sin arak chal*, the bark of *Bauhinia purpurea*, L.  
*Kañji dañ*, stale rice water

and it will disappear.

98. *Jhoñji bat.*

*Symptoms.* In this the shins, thighs or the entire body feel numb, the skin turns red, and if you try to pinch them it does not pain them.

*Medicines:* (a) *Goṭe rehet*, the roots of *Croton oblongifolius*, Roxb.  
*Edhç raṅgāini rehet*, the roots of *Solanum xanthocarpum*, Schrad. et Wendl.

Grind these together and apply as an ointment where it has begun and cover with a thin cloth as a bandage. Give more of the same two ingredients mixed with *gel bar gol maric*, 12 black peppercorns, to drink.

Sometimes the limbs become stiff, in which case :

- (b) *Datra*, *Datura alba*, Willd. or *D. fastuosa*, Willd.  
*Kaḍa beñjak*,

Grind these and extract 2 ounces of the juice, which mix with 5 *ganda gol maric*, 20 black peppercorns, and 1 *choṭak paura*, 2 ounces spirits.

and give to drink. Rub well both the thigh nerves the whole way with melted butter of cows' milk. Should the medicine induce stupefaction then grind *kasmar chal*, the bark of *Gmelina arborea*, Roxb., and after mixing it with stale rice water give to drink and the stupefaction will cease.

(c) *Gote rehel*, the roots of *Croton oblongifolius*, Roxb.

Grind and apply to the numb parts and wrap in a plantain leaf till the medicine dries.

*The following is an efficacious remedy in all kinds of rheumatism :*

(d) *Jambro itil*, the fat of the *Zamenis mucosus* snake.

*Bođa itil*, " " " " *Python molurus* snake.

*Dangra itil*, " " " " a bullock.

*Ayañ biñ itil*, " " " " cobra.

*Merom kasi itil*, the fat of a castrated goat.

*Haram torhol itil*, the fat of an old guana.

*Sim itil*, the fat of a fowl.

Mix all these fats together and apply and a cure is certain.

#### 99. *Jhunka bat*.

*Symptoms.* In this kind of rheumatism the gait is unsteady and in walking the whole body trembles, and there is no energy in the limbs or any part of the body.

*Medicines:* (a) *Datra rehel*, the roots of *Datura alba*, Willd. or *D. fastuosa*, Willd.

*Kada beñjak*,

*Gol maric*, black pepper.

Grind these together and extract in all about two ounces of juice, which mix with about two ounces of *paura*, spirit, and give to drink. Should intoxication ensue, then mix *kasmar chal*, the bark of *Gmelina arborea*, Roxb., with stale rice water and give to drink, when the intoxication will disappear.

(b) *Dare katkōm jañga*, *Viscum attenuatum*, DC.

*Bokōm dare chal*, the bark of *Melia Azadarach*, L.

*Damka đura rehel*, the roots of

*Kada beñjak rehel*, " " "

*Adagathia ghās rehel*, the roots of *Panicum repens*, L.

*Duriā hatkan rehel*, the roots of *Leea hirta*, Herb. Banks.

*Cauliā rehel*, the roots of *Ruellia suffruticosa*, Roxb.

*Mañjur jhuti rehel*, the roots of

Get all these properly and grind them, mixing them with *paura*, spirit, and give to drink daily.

(c) *Bęrel sasañ*, raw turmeric, *Curcuma longa*, Roxb., a whole lump,

*Adhe*, ginger, *Zingiber officinale*, Roscoe.

Grind these together and smear on daily.



100. *Mit kar gōc*. Hemiplegia.

*Symptoms.* This also is kind of *bat*. If it begins in the arm it will extend to the shoulder or the whole of that side will die, leg included. Or if it commences in the leg the whole of the leg and all the parts of the body on that side will die, *i.e.* be deprived of sensation.

This is of rare occurrence. People say if you beat an innocent person without cause it is a sin, as a punishment for which God sends this.

*Medicines:* (a) *Kāḍa beṅḷak rehet*, the roots of

*Adagaṭhiā ghās da*, the bulbs of *Panicum repens*, L.

Grind these together and smear on daily, leaving it thicker over the joints, and wrap and cover with *kaera sakam*, the leaves of *Musa paradisiaca*, L. Along with this mix *pe gaṇḍa gan gol maric*, about a dozen black peppercorns, with the above ground ingredients and give to drink daily until recovery. Let him drink it for about a month.

(b) *Kārwāt rehet*, the roots of *Carissa Carandas*, L.

*Akaona rehet*, the roots of *Calotropis gigantea*, R. Br.

*Chātmi chal*, the bark of *Alstonia scholaris*, R. Br.

*Aṣāriā chal*, the bark of *Capparis horrida*, L. f.

*Saram lutur rehet*, the roots of *Clerodendron serratum*, Spreng.

*Sinduqari sakam*, the leaves of *Vitex Negundo*, L.

*Bir hōreḷ*, *Atylosia scarabædois*, Benth.

*Tursi sakam*, the leaves of *Ocymum sanctum*, Willd.

*Bharbhari sakam*, the leaves of *Ocymum basilicum*, L.

*Ḍaṭra sakam*, the leaves of *Datura alba*, Willd. or *D. fastuosa*, Willd.

*Bana haṭak chal*, the bark of *Oroxylon indicum*, Benth.

*Ul chal*, the bark of *Mangifera indica*, L.

Put all these in a new earthenware pot, cover the top with a leaf plate and boil them well. Then after spreading a cloth over a somewhat high bed, let the patient lie down on it, and covering with a cloth descending on all sides to the ground steam him slowly. Do thus until he recovers.

(c) *Dhūrā*, resin of *Shorea robusta*, Gärtn.

*Hiṅ*, *Ferrula asafætida*, Willd.

*Aphim*, opium.

Cook all these in melted butter of cows' milk and besmear him therewith.

(d) *Akaona rehet chal*, the bark of *Calotropis gigantea*, R. Br. or *C. procera*, R. Br.

Plaster him with this for a week to soften the veins; afterwards

(e) *Saram lutur rehet*, the roots of *Clerodendron serratum*, Spreng.

*Toṭnopak rehet*, the roots of *Eugenia operculata*, Roxb.

Grind these together, boil in *uṭiṅ sunum*, mustard oil, and while doing so throw in a *rae kakarbak caṅḍbol*, chameleon's tail, and when all is cooked

extract this tail, and let him anoint himself with the oil daily morning and evening. When the preparation is finished make more, as it will take a month to cure.

101. *Mirgi*. Epilepsy unspecified.

*Medicines*: (a) Make over to the patient a mixture of equal quantities of  
*Mihū ađo*, calves' urine.  
*Hoř ađo*, human urine.  
*Munęa tejo*, the tassar silkworm.  
*Paura*, spirit.

As soon as the fit commences, immediately pour this mixture into his nose, and it will cause him to sneeze out the worm that is the cause of the malady.

(b) *Seņgel siñ ritkate*, ground *Tragia involucrata*, Jacq.  
*Dahe*, curds.  
*Taben*, rice soaked and flattened.

to be eaten.

*Ambaitar biñ reaķ itil*, the fat of the snake *Daboia Russellii*,  
to be smeared over the body.  
*Hiñ*, *Ferrula asafoetida*, Willd.  
*Huter baha reaķ rehel*, the roots of *Indigofera pulchella*,  
Roxb.

*Datra rehel*, the roots of *Datura alba*, Willd. or *D. fastuosa*,  
Willd.

to be drunk.

(c) *Bilati thamakur*, imported tobacco, one finger's length.  
*Gol maric*, 5 black peppercorns.  
*Sirom rehel*, one finger's length of the roots of *Andropogon muricatus*, Retz.

To be ground together into a fine powder and then with the help of a reed be blown into the nose of the patient. Thereafter the following to be eaten one day.

*Kunam rehel*, the roots of  
*Heņde likathi rehel*, the roots of the black variety of *Polygala crotalaroides*, Buch. and Ham., 8-oz.

*i pawa gan heņde hořo holoñ*, about 8-oz. of flour made from  
black paddy.

to be made into hand bread.

(d) *Kunam*,  
*Karhāni hořo reaķ holoñ*, the flour made from a certain  
variety of paddy.

To be made together into hand bread and eaten.

(e) *Tejo mala rehel*, the roots of *Cissampelos Pareira*, L.  
*Gote rehel*, the roots of *Croton oblongifolius*, Roxb.

*Haṭ jō jañ 2 gan*, the stones of a couple of the fruit of  
*Holarrhena antidysenterica*, Wall.

Grind and pour into the patient's nose.

*When there is unconsciousness with foaming and groaning,*

(f) *Gol maric*, black pepper.

*Lophul*, cloves.

*Kārwāl rēhet*, the roots of *Carissa Carandas*, L.

*Thora boc*, a little of the root stock of *Acorus Calamus*, Willd.

Mix and grind these and stir in *nira turi sunum*, pure mustard oil, and anoint him daily from the forehead to the soles of the feet. As soon as the fit comes on drop two or three drops into his nose ; he will certainly get well. *Forbidden diet*: any thing acid or sour, plantain and jack-fruit, the flesh of the *boar hako*, a certain fish, of buffalo and sheep, in fact all meat should be eschewed until cured.

(g) *Muṅga dare rēhetak chal*, the bark of *Moringa pterygosperma*,  
 Gärtn.

*2 ana reāk aḥhim*, 2 annas worth of opium.

Grind together and make into thirty pills giving one daily for a month.

(h) *Dundukil rēhet*, the roots of *Gardenia turgida*, Roxb.

*Bharbhari jañ*, the seeds of *Ocimum basilicum*, L.

*20 gaṇḍa gol maric*, 80 black peppercorns.

Mix and grind these and stir in *paura*, spirits, and as soon as the fit comes on drop two or three drops into his nose, and give a little daily to drink.

(i) *Bana hatañ*, the brains of a bear.

*Bilāti thamakur pon kaṭuḥ gan*, about 4 fingers' width or  
 imported tobacco.

*Gañja*, *Cannabis sativa*, Willd.

*2 ana reāk aḥhim*, 2 annas worth of opium.

Mix with mustard oil and pour into the nose when the attack begins.

(j) *Mirgi jel reāk harta*, the skin of a certain kind of deer.

*Nūrūc rēhet*, the roots of *Cassia Fistula*, L.

*Niuri rēhet*, „ „ „, *Elæodendron Roxburghii*, W. and A.

*Tale poha reāk da*, the bulb of a seedling of *Borassus flabel-  
 liformis*, L.

*Bhiḍi aḥim jō*, the fruit of *Centifida orbicularis*, Lour.

*42 gaṇḍa gol maric*, 168 black peppercorns.

Grind and mix with pure mustard oil and pour into his nose.

(k) *Salga chal*, the bark of *Boswellia serrata*, Wall.

*Niuri chal se rēhet*, the bark or roots of *Elæodendron Roxb-  
 burghii*, W. and A.

*Gol maric*, black pepper.

Grind these together and mix with *paura*, spirit, and when the fit commences pour into both nostrils.

- (l) Kill a *cund*, musk rat, and put the body into a vessel so that it cannot be eaten; when decomposed larvae will emerge, which you must dry. Then take those and

*Gitil gāyī*, *Gryllus monstruosus*.

*Bheḍa bhoḥkren tejo*, the worms found in a ram's head.

*Akaona tejo*, the worm found on *Calotropis gigantea*, R. Br. or *C. procera*, R. Br.

*Malhan dhomporen tejo*, the creeping insects found in the lumps on the tendrils of *Dolichos Lablab*, L.

1 *ana reāk gol maric*, an anna's worth of black pepper.

Grind these together and mix in *utiñ sunum*, mustard oil. Mix also the three ingredients of (k) above in this. Before the fit comes on pour this mixture once into the nose of the patient, and after the fit has begun do so again, and he will recover.

*Prohibited diet*: Plantains, jack fruit, buffalo meat, mutton, the flesh of *boay hako*, a certain fish, *Callichrous pabo*.

*When the fit occurs at full moon*:—

- (m) *Akaona darereko taheñ joṛko soṣroç*, a grasshopper found in pairs on *Calotropis gigantea*, R. Br. or *C. procera*, R. Br.

*Malhan sakamreko taheñ tejo*, the creeping insects found on *Dolichos Lablab*, L.

Grind both together and at the commencement of the fit pour into his nose, and if he sneezes well he will be cured; if he does not sneeze, repeat the operation at next full moon.

*When the fit occurs the last day before new moon*:

- (n) *Bidhanta rehel*, the roots of *Entada scandens*, Benth.

*Qhoç arāk rehel*, ,, ,, ,, *Boerhaavia procumbens*, Herb. Banks.

*Akaona bandaren tejo*, the caterpillar found on the parasitical plant on *Calotropis gigantea*, R. Br. or *C. procera*, R. Br.

Grind all these together, and as soon as the fit begins, pour into his nose.

- (o) If this is inefficacious, mix (m) and (n) and proceed as in them.

- (p) *Niuri chal*, the bark of *Elæodendron Roxburghii*, W. and A.

*Goṭe rehel*, the roots of *Croton oblongifolius*, Roxb.

*Tejo mala rehel*, the roots of *Cissampelos Pareira*, L.

5 *ganḍa gol maric*, 20 black peppercorns.

Grind these fine to a powder which he must sniff up the nose daily. This medicine must be given to him after you have called on *Kudra Caṇḍi* and *Kal Cāora*, the two self elected patron spirits; if the patient gets well, a fee of 5 rupees, and a sacrifice of a goat and a fowl, requisitioned from the patient, must be given.

102. *Hanak gujuk*. Epilepsy.

*Medicines*: *Akaona tejo*, the caterpillar found on *Calotropis gigantea*, R. Br.

*Meral tejo*, the caterpillar found on *Phyllanthus Emblica*, L.

*Malhan tejo*, the caterpillar found in the lumps on the tendrils of *Dolichos Lablab*, L.

*Aphim*, opium.

*Thamakur*, tobacco.

*Saici maric*, black pepper.

*Mota katkom carec*, a thick *Rottboellia perforata*, Corom. pl.

103. *Juda juda mirgi rog*. Various forms of epilepsy.

*Bana mirgi* (lit. bear epilepsy, possibly some kind of non-epileptic convulsions).

*Symptoms*. When the fit commences they grunt like a bear and the eyes become quite red, and sometimes they becoming raving.

*Medicines*: (a) *Munga chal*, the bark of *Moringa pterygosperma*, Gärtn.

2 ana *reak aphim*, two annas worth of opium.

Grind these together and make 15 pills, one to be taken daily.

(b) *Kärwät rehet*, the roots of *Carissa Carandas*, L.

*Gäbur chal*, the bark of *Acacia Farnesiana*, Willd.

*Bonga bari rehet*, the roots of *Typha angustifolia* (?).

*Datra rehet*, the roots of *Datura alba*, Willd. or *D. fastuosa*, Willd.

*Sinduari rehet*, *se sakam*, the roots or leaves of *Vitex Negundo*, L.

*Nangrauta rehet* the roots of *Nardostachys jatamansi*, DC.

*Ati sahya chal*, the bark of

*Bana hatak chal*, the bark of *Oroxylon indicum*, Benth.

*Thora gan aphim*, a small quantity of opium.

Mix, cook in melted butter and smear over the whole body.

(c) *Gitil gāri*, *Gryllus monstrosus*.

*Meralren tejo*, the insect found on *Phyllanthus Emblica*, L.

Grind and make him sniff the mixture up into the nose.

(d) *Cerceteç cañbol*, the tail of a gecko.

5 *ganda gol maric*, 20 black peppercorns.

2 *poesawañ jäwän*, 2 pice worth of *Carum Ajowan*, DC.

*Mil ro bohok ganija*, the size of a fly's head of *Cannabis sativa*, Willd.

*Bhage thamakur*, good tobacco.

*Thora bana hatañ*, a little of the brains of a bear.

Grind with or without puré mustard oil. Blow these at the commencement of an attack through a hollow cylinder into his nose, and he will assuredly get well. Mix also with above a little *sirom rehet*, the roots of

*Andropogon muricatus*, Retz. This is for a patient of 20 years old. *Forbidden diet*: Curry browned his life long, and the following for four or five years: plantains, jack fruit, buffalo meat, mutton, the flesh of the *boar hako*, a certain fish, and cooked *bajra*, *Sorghum vulgare*, Pers.

104. *Bhalok Mirgi*. (lit. rabies-epilepsy).

*Symptoms*. It is uncertain when a fit of this comes on, but it may be recognized in the eyes which keep blinking rapidly; sometimes they scream out or exclaim  $\bar{e}$ !  $\bar{e}$ ! and sometimes they tremble as if possessed by a spirit.

*Medicines*: (a) *Gaḍa gārī*, a certain water insect.

*Bana haṭiur*, the penis of a bear.

*Uchlau tol hōṛ paṭwa*, an intestinal worm vomited up by a human being.

Grind together and divide into two portions; one portion to be ground and mixed with the ingredients in No. 101 (p) and given to drink; the other to be filled into paper and when the fit commences poured into his nose. A couple of applications of this remedy will ensure a cure. The patron spirits are the same as in No. 101 (p).

105. *Harna mirgi*. (lit. deer-epilepsy).

*Symptoms*. In this they fling about one arm and one leg.

*Medicines*: *Mil choṭak gan daṭra ros*, make about 2 oz. of the juice of *Datura alba*, Willd. or *D. fastuosa*, Willd.

*Pe gaṇḍa gol maric*, 12 black peppercorns.

Mix and give to drink. If there is stupefaction then give

*Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Sin arak chal*, the bark of *Bauhinia purpurea*, L.

to drink with stale rice water.

106. *Mil domte laraok ti janga mirgi*. (lit. epilepsy with hands and legs moving simultaneously).

*Symptoms*. In this the limbs are contracted and foam issues from the mouth.

*Medicines*: Give both the pills and the external application detailed in 103 (a) and (b).

107. *Mil ti ar lutur laraok mirgi*. (lit. epilepsy in which one hand and one ear move).

*Symptoms*. At the commencement of each fit one arm, ear and eye twitch.

*Medicines*: (a) Give the remedies 103 (a) and (b).

(b) *Akaona banda*, the parasitical plant found on *Calotropis gigantea*, R. Br.

*Muṅga banda*, the parasitical plant found on *Moringa pterygosperma*, Gärtn.

*Akaonareko taken tejo*, the caterpillars found on *Calotropis gigantea*, R. Br.

*Bheḍa dereñ darenen tejo*, the insects found on *Cassia Tora*, L.

*Malhan ḍhomporen tejo*, the insects found on *Dolichos Lablab*, L.

*Kaḍa ghurbai ḡtreko bhugag*, certain small insects making holes in the earth.

*Gai ghurbai dare ḡatatel*, *Polygala chinensis*, L., the whole.

*Daḅ uru*, a water beetle.

*Caya*, *Leptocorisa varicornis*.

*Cund candboltel*, the tail of a musk rat.

*Gol maric*, black peppercorns.

*Lḡñphul*, cloves.

*Boc*, the root of *Acorus Calamus*, Willd.

*Kārḡāt reḥet*, the roots of *Carissa Carandas*, L.

Grind all these, saturate then in mustard oil, let him sniff it up the nose and smear it on the whole head.

(c) *Dundukit reḥet*, the roots of *Gardenia turgida*, Roxb.

*Bharbhari jañ*, the seed of *Ocimum basilicum*, L., or *O. canum*, Sims.

*Lḡñphul*, cloves.

Grind these, mix a little spirit and give to drink daily when well or the fit begins.

(d) Put nine pice into two ounces of water and grind

*Kaḍa ghurbai*, a certain insect

with that water and give to drink.

108. *Tḡḡoḅ urij reaḅ*. (lit. rigidly closing jaws).

*Medicines* : (a) *Berel sasañ*, raw turmeric, *Curcuma longa*, Roxb.

Burn him with this in the hollow behind the ear, force the teeth apart, rub the tongue with *eḅko hasa*, burnt clay from inside the fireplace, and rub the nerve on the nape of the neck with *utiñ sunum*, mustard oil.

109. *Sir teḅḡoyenre*. Cramp.

*Medicines* : *Terel jer*, the exudation from *Diospyros tomentosa*, Roxb.

*Lḡḡoñ jer*, ,, ,, ,, *Terminalia bellerica*, Roxb.

*Dhūrā sarḡem reaḅ*, the resin from *Shorea robusta*, Gärtn.

Grind together and let him inhale it.

110. *Bai* (unspecified). Convulsions, cramps, an involuntary state or movement over which one has no control.

*Medicines* : (a) *Lḡḡo jḡ roḡḡoraḅ*, the dried fruit of *Randia dumetorum*, Lam.

Grind and smear on him, and boiling some a little give him to drink, one day.

(b) *Jel dereñi*, a deer's horn.

*Ak reak gabetel*, the sediment on a bow (where it is caught).

*Bele*, a hen's egg.

*Gol maric*, black pepper.

*Lumam*, a silkworm.

To be mixed and eaten.

(c) *Ambaitar bin reak itil*, the fat of the snake *Daboia Russellii*.

*Sengel sin*, *Tragia involucrata*, Jacq.

*Dahe*, curds.

*Taben*, rice soaked and flattened.

The first to be smeared on, the second to be ground and eaten with the last two.

(d) *Guiha kandhari*, 8 ounces of

*Dahe*, curds.

To be both drunk and smeared on.

While the fit is on, put a ripe fruit of *Luffa acutangula*, Roxb. on a fire in a potsherd under the bedstead ; it will emit smoke.

(e) *Hin*, *Ferrula asafetida*, Willd.

*Bharbhari*, *Ocimum basilicum*, L. or *O. canum*, Sims.

*Rø*, a fly.

*Bindi*, a spider.

*Jel dereñi*, a deer's horn, to be rubbed and mixed.

*Gāri bohok*, a monkey's head.

*Bēt*, a rattan, *Calamus Rotang*, L.

*Ak mal*, the scrapings of a bamboo bow.

*Miru baha*, *Abutilon indicum*, Don.

Grind all these together and give a little to drink. Then rub his mouth with the following :

*Kaliā jira*, *Nigella indica*, Roxb.

*Sinjo sakam*, the leaves of *Ægle Marmelos*, Correa.

*Gol maric*, black pepper.

(f) *Guiha gandhari*,

*Kaca rean dañ*, the water of a plantain.

Grind these together and stirring it into curds made from cows' milk, give a little to drink and rub over the whole body.

(g) *Bupul dudhi rehel*, the roots of

*Jhapni*, *Zornia diphylla*, Pers. or *Biophitum sensitivum*, DC., the entire plant.

Grind together, give a little to eat and apply to the whole body.

For *Dhinuk bai*, when the muscles of the back are contracted :

(h) *Gundri gervel jo*, the fruit of

*Dhiri kakra bohok*, the head of a lizard.

*Baghin rehel thora*, a little of the roots of *Mezoneurum cucullatum*, W. and A.



Grind together and give to drink.

For *Sagum bai* :

- (i) *Taruṣ jom sukri bohok*, the head of a pig eaten by a leopard.  
*Gāyī bohok*, the head of a monkey.  
*Sadom jhin ghasao nōkkate*, the scrapings from a horse's iron bit.  
*Dhubi ghās*, *Cynodon dactylon*, Pers.

Grind together and give to drink.

If the limbs are cold,

- Sar rehel*, the roots of *Saccharum Sara*, Roxb.  
*Bhernḍa rehel*, the roots of *Jatropha Curcas*, L.

Grind, stir into mustard oil and anoint therewith.

For *Tarka tar̄ki bai*, spasms :

- (j) *Bōnga barchi rehel*, the roots of *Leonates nepetæfolia*, R. Br.  
*Gol maric*, adults 4 peppercorns, children only 2.

Grind together and give to drink.

- (k) *Bharbhari jan*, the seed of *Ocimum basilicum*, L. or *O. canum*, Sims.  
 2 *gan rasun*, a couple of garlic.

Grind together and rub or smear on the head and let him sniff a little up the nose.

- (l) *Datra rehel*, the roots of *Datura alba*, Willd. or *D. fastuosa*, Willd.  
*Nanha dudhi loṭa rehel*, the roots of *Ichnocarpus frutescens*, R. Br.

Grind together and give to drink and besmear him therewith ; apply *gaiṅja*, *Cannabis sativa*, Willd., to the fontanel.

- (m) *Bir barni*, the roots of *Clerodendron infortunatum*, L.  
*Çar sirā rehel*,  
*Gol maric*, black pepper.

Grind together and give to drink, and if he is unable to speak, rub *eṭko hasa*, burnt clay from inside the fireplace, on his mouth and on the soles of his feet, and he will recover. Sit near the patient and see whether the *bai* takes any particular form.

### III. *Alan q̄bor bai*. (Paralysis of the tongue.)

*Symptoms*. This is a temporary paralysis of the tongue in which it adheres to the bottom of the mouth, and speech is impossible.

This is liable to occur when the patient is exhausted by illness, *i.e.* when he is moribund. If the tongue adheres to the bottom of the mouth, it is a sign one may give up hope, and people say, who knows? It is doubtful if he will survive.

*Medicines* : (a) *Maraṅ baha chal*, the bark of *Erythrina indica*, Lam.  
*Akaona rēhēl*, the roots of *Calotropis gigantea*, R. Br.  
*Beṅgar betahēl*, *Solanum stramonifolium*, Jacq.

Grind these together and cook in melted butter, then give to eat and smear therewith.

If obtainable :

(b) *Jhīk ṣoṭa*, the stomach of the Indian porcupine.  
*Cemeñ bohōk*, the head of a mongoose.  
*Sogot bohōk*, ,, ,, ,, the civet, *Vivericula malaccensis*.

Roast the two latter to burning point and grind the first as it is therewith, and then cook and mix with (a).

(c) *Kāhu botke rēhēl*, the roots of *Bryonia lacinosa*, L.  
*Bir kundri rēhēl*, ,, ,, ,, *Zehneria umbellata*, Thw.  
*Aphim*, opium.  
*Gaiṅja*, *Cannabis sativa*, Willd.  
*Gurlī jañ*,

Cook all these in mustard oil, give to eat and smear therewith.

(d) *Eṭko hasa*, the burned clay from the inside of the fireplace.

This to be rubbed with the finger on the teeth and the tongue to be rubbed.

(e) *Jibha*,  
*Gol maric*, black pepper.

Grind together and give to drink, and the power of speech will return.

112. *Alañ or bai*. (lit. convulsions with tongue drawn in).

*Symptoms*. After a complication of several of the already mentioned *bai* this kind may follow, i.e. the tendons of the whole body or of the tongue are contracted; they yawn continually, the eyes close, and they are unable to speak.

*Medicines* : (a) *Maraṅ baha chal*, the bark of *Erythrina indica*, Lam.  
*Akaona rēhēl*, the roots of *Calotropis gigantea*, R. Br.  
*Goṭe rēhēl*, the roots of *Croton oblongifolius*, Roxb.  
*Bhīḍi janateṣ rēhēl*, the roots of *Urena sinuata*, L. or *Triumfetta rhomboidea*, Jacq.  
*Bar gēl mōṛē gaṅḍa gol maric*, 100 black peppercorns.

Grind all these together and cook them in melted butter, then give to eat and smear him therewith.

113. *Baghi se bagha bai*. (lit. tiger or leopard convulsions).

*Symptoms*. In this people get angry like leopards or tigers for slight cause and sometimes they bite.

*Medicines* : (a) *Tayan jañ*, the bone of a crocodile.  
*Taruṣ jañ se bohōk jañ*, the bone or skull of a leopard.

Rub these on a stone, give him to drink thereof and anoint him therewith.

(b) *Aphim*, opium, as much as a fly's head.

*Gañja thora*, a little *Cannabis sativa*, Willd.

Take as much of these as equal in size to a grain of *Cajanus indicus*, Spreng., stir it about in a mussel shell full of water and give him to drink.

(c) *Datra rehēt mit choṭak gan*, about 2 oz. of the roots of

*Datura alba*, Willd. or *D. fastuosa*, Willd.

*Pe gaṇḍa gol maṛic*, 12 black peppercorns.

Mix the juice obtained from the former with the latter, grind them together and give him to drink. If intoxication ensues, then grind

*Kasmar chal*, the bark of *Gmelina arborea*, Roxb. and

*Sin aṛak chal*, the bark of *Bauhinia purpurea*, L.

and give to drink with stale rice water, and he will recover.

114. *Bhalok bai*, (lit. rabies convulsions).

*Symptoms.* The neck is moved about, the mouth is constantly open, cannot in fact be shut, and there is continual dropping of saliva.

*Medicines:* (a) *Pasi goç seta bohok haeme*, keep the head of a dog that was strangled.

Rub this on a stone, give him to lick and smear the whole body therewith.

(b) *Gabur chal*, the bark of *Acacia Farnesiana*, Willd.

Smear this over him and give him also a little of it to drink.

115. *Bhaṛwa se lumam bai*, (lit. *Attacus*-caterpillar or silkworm convulsions).

*Symptoms.* In this they nod the head at intervals and throw the hands about.

*Medicines:* (a) *Oka darerc kaḍako thapae, ona reak chal*, the bark of a tree that buffaloes strike.

*Lumam tejo, tol bhitri khon gel tol*, the larva of a silkworm cut out from its chrysalis.

Grind these together and let him lick it, and smear a little over the whole body.

(b) If you can get the *bhaṛwa tejo*, large caterpillars, principally those of *Attacus atlas* and *Attacus Selene*, roast them to burning point, give him to lick and also smear him therewith.

116. *Bindi bai*, (lit. spider convulsions, delirium febris).

*Symptoms.* They have a swinging gait like spiders and tremble.

*Medicines:* (a) *Gel gaṇḍa bindi goçkom*, kill 40 spiders.

*Nanha dudhi lota rehēt*, the roots of *Ichnocarpus frutescens*, R. Br.

*Nūyūc jo reak gabe*, the flesh of the fruit of *Cassia Fistula*, L.

Grind these three together, give to drink and smear over the whole body.

117. *Cenḡha bai*. Colic (may be strangulation of the intestines).

*Symptoms.* Two thick nerves show up from the navel to the chest, and there is intense pain.

One "authority" says: This is very similar to *dhond bai* (No. 124), the difference being that in the latter a thick nerve is seen to rise on the surface, whereas this is absent in *cengha bai*.

Medicines: (a) *Kahu botke rehet*, the roots of *Bryonia lacinosa*, L.

*Gol maric*, black pepper.

*Thora bulun*, a little salt.

Grind together and give to drink at the commencement of the attack.

(b) *Hat rehet*, the roots of *Holarrhena antidysenterica*, Wall.

*Tejo mala rehet*, the roots of *Cissampelos Pareira*, L.

*Kalmeg 5 tusa*, 5 tips of *Andrographis paniculata*, Nees.

*Jioti dog*, the tips of *Sesbania ægyptiaca*, Pers.

*Hin*, *Ferrula asafætida*, the size of a grain of *Phaseolus*

*Mungo*, Willd., var. *radiatus*, L.

*Aphim*, opium, as much as a grain of *Cajanus indicus*, Spreng.

*Mit' ser paura*, 2 lbs of spirit.

Soak all these and give a little to drink every day.

(c) *Kucla chal*, the bark of *Strychnos potatorum*, L. f.

Give one dr. of this to drink, and if it induces stupefaction then give

*Kasmar chal*, the bark of *Gmelina arborea*, Roxb., with sugar to drink.

(d) *Dhâi da*, the bulb of *Grislea tomentosa*, Willd.

*Gol maric*, black pepper.

Mix these and cook in cows' milk to do away with the itching and give to eat daily.

(e) *Kujri sunum*, the oil obtained from the seeds of *Celastrus paniculatus*, Willd.

Give about an iron spoonful of this, which is enough to cure.

(f) *Huka dañ*, hookah water.

*Ponð rasun*, garlic.

*Kalmeg sakam*, the leaves of *Andrographis paniculata*, Nees.

Grind all these together, make into pills and administer.

(g) *Pan khayar*, *Acacia Catechu*, Willd.

*Jambir jo*, the fruit of *Citrus medica*, L.

*Pinde rehet*, the roots of *Randia uliginosa*, DC.

Grind together and mix well with pure spirit and give to drink.

(h) *Bhadoria rehet*, the roots of

*Gol maric* 4. four black peppercorns.

*Lilkathi rehet*, the roots of *Polygala crotalarioides*, Buch. and Ham.

Grind together and mix well with pure spirit and give to drink.

(i) *Peçamya*, *Helicteres Isora*, L.

*Tejo mala rehet*, the roots of *Cissampelos Pareira*, L.

These are to be drunk.

*Añdiá moron arak*, *Gymnema hirsutus*, W. and A., var. *Decaisneanum*, Wight.

*Barsa pakoy*, *Grewia sapida*, Roxb.

These to be smeared on him.

(j) *Kahu botke da*, the bulb of *Bryonia lacinosa*, L.

3 *ganda gol maric*, 12 black peppercorns.

*Thora bulun*, a little salt.

Grind these and give to drink.

(k) *Kalmeg pe tusa*, 3 tips of *Andrographis paniculata*, Nees.

*Jioti dog*, the tips of *Sesbania ægyptiaca*, Pers.

*Haç rçhel*, the roots of *Holarrhena antidysenterica*, Wall.

*Mit rç bohok hin*, *asafætida* the size of a fly's head.

Grind these together, take the juice, add 8 ounces of *paúra*, spirits, strain and give 2 ounces to drink daily. *Forbidden diet*: the flesh of buffaloes, sheep and *boar hako*, a certain fish, the fruit of the plantain and jack. *Içak hako*, prawns or shrimps, are however permissible.

(l) *Miru baha rçhel*, the roots of *Abutilon indicum*, Don.

*Dhela chal*, the bark of *Alangium Lamarckii*, Thws.

Grind these together mix with *paúra*, spirits, and give to drink.

(m) *Kahu botke da*, the bulb of *Bryonia lacinosa*, L.

*Pe ganda gol maric*, 12 black peppercorns.

*Thora bulun*, a little salt.

*Kalmeg*, *Andrographis paniculata*, Nees.

3 *tusa jioti*, 3 tips of *Sesbania ægyptiaca*, Pers.

*Thora haç chal*, a little of the bark of *Holarrhena antidysenterica*, Wall.

*Mit rç bohok gan hin*, *Ferrula asafætida*, Willd., about as much as the size of a fly's head.

Grind and mix these and strain so that you get about 8 ounces; mix this in 8 ounces *paúra*, spirits, and let him drink daily 2 ounces of this mixture until recovery.

*N.B.*—Some people give this last remedy for No. 124, *Dhonç bai*.

118. *Cihka bai*, (lit. starting convulsions).

(Delirium febris)

*Symptoms.* They continually start suddenly, get up and scream out.

*Medicines:* (a) *Cçter oka seçre nürok*, *ona seç reak chal çaðaome*. Take off the bark in the direction that thunderbolts fall, cook it in oil and anoint him therewith.

(b) *Kul jan*, the bone of a tiger.

*Tayan bohok*, the head of a crocodile.

Rub these and give him to drink.

(c) *Cçter dhiri*, a thunderbolt. Give as in (b).

119. *Corṭha bai*, (lit. ill-behaviour convulsions).

(Delirium febris)

*Symptoms.* In this they get very angry; if you ask any question they commence abusing.

*Medicines:* (a) Keep the sheep's wool that cows vomit up, even if they die it will be found as a ball in their stomachs. Grind this and smear it over the whole body and give some to drink.

(b) *Bir karla da*, the bulb of the wild *Momordica dioica*, Roxb.

*Pe gaṇḍa gol maṛic*, 12 black peppercorns.

Grind together and give to drink.

120. *Curi bai*.

*Symptoms.* They will speak to no one, remain silent and only look about.

*Medicines:* (a) *Sahel sakam reḥeḥ*, the roots of

Grind and give to drink.

(b) *Qrsoṛeṇ da*, the bulb of *Zingiber Cassumunar*, Roxb. (?)

*Gol maṛic*, black pepper.

Mix these and give him to drink, and plaster him therewith.

121. *Dabha bai*, (lit. orange convulsions).

*Symptoms.* A swelling the size of a cup for holding oil or of an orange appears on the belly, and there is pain.

*Medicines:* (a) All the remedies under No. 117 are applicable in this.

(b) *Ñūrūc reḥeḥ*, the roots of *Cassia Fistula*, L.

*Kamar capua reaḥ maḷila*, the dirt from a blacksmith's bellows.

The former to be ground and given to drink, and the latter to be ground and smeared on the belly.

122. *Dāt kapati bai*. Trismus (contraction of the muscles of the jaw).

*Medicines:* (a) *Hāyū jambe*, the jaw of a baboon.

Rub this and apply to his mouth. If not efficacious, take

*Saūci maṛic*, black pepper.

Grind and rub his teeth therewith.

123. *Dhinuk bai*. Tetanus, and possibly other convulsions.

*Symptoms.* This attacks people who are much weakened by illness, and when a fit of it is on they are bent like a bow and there is intense pain. Adults do not recover, children may.

*Medicines:* (a) *Ak reaḥ maḷila*, the dirt scraped off a bow where it is held.

*Parkom maḷila*, the dirt scraped off the wooden framework of a bedstead.

*Tol lumam tejo*, the silkworm in its chrysalis stage.

Grind these together and give to drink mixed with black pepper.

(b) *Gotom sunum*, clarified or melted butter.

*Dhūrā*, resin of *Shorea robusta*, Gärtn.

*Akaona rehēl*, the roots of *Calotropis gigantea*, R. Br.

Mix the first two to the consistency of butter and anoint the whole body therewith, and grind the last and plaster it on him.

(c) *Aphim*, opium.

*Utiñ sunum*, mustard oil.

*Gañja*, *Cannabis sativa*, Willd.

Boil the first a little in the second and rub him with the preparation. Give him a little of the last to smoke.

(d) *Sukri dhumbāk*, excrement of pigs.

*Hati ic*, „ „ elephants.

*Gadha ic*, „ „ asses.

*Harhat hotol jañ*, the seeds of the bitter *Cucurbita lagenaria*.

*Jhinga jañ*, the seeds of *Luffa acutangula*, Roxb.

*Bir jhinga jañ*, the seeds of *Luffa amara*, R.

Mix these together, set fire to them in a large potsherd or something of the kind and let the smoke go on him.

(e) *Ropa ak*, a bow made of *Bambusa Tulda*, Roxb.

To be scraped, the scrapings set on fire and the patient smoked therewith.

(f) *Mal ak reak maila ar uti*, the dirt scraped off a bow of bamboo and a joint thereof.

*Oka dare bayar kaḍa lengrateye thapa akal*, *ona reak baklak*, the bark of a tree that has been knocked by the left horn of a male entire buffalo.

Grind these together and smear the patient therewith.

124. *Dhoṇḍ bai*. (May be strangulation of the intestines.)

*Symptoms*. A nerve rises over the stomach across the body and there is pain.

One "authority" says: This begins in the stomach. A thick nerve rises from the breast to the navel, and there is intense pain causing the patient to writhe on his stomach and toss about.

*Medicines*: (a) All the remedies under No. 117 are applicable in this.

(b) *Mutha rehēl*, the roots of *Fimbristylis monostachya*, Hassk.

*Upal baha ulḍha*, the tuber of the lotus (*Nymphaea*).

*Poraeni rehēl*, the root of *Nelumbium speciosum*, Willd.

Grind and give to drink.

(c) *Bokom baha rehēl*, the roots of *Melia Azadarach*, L.

*Akaona rehēl*, the roots of *Calotropis gigantea*, R. Br.

*Bir dimbu rehēl*, the roots of

Give these to drink mixed with pure spirits.

*N.B.*—Use this remedy also in *kachma bai* and *paṭhan bai*.

The only difference between *ḍabha bai* and *paethan bai* is that in the former the pain is stationary, whereas in the latter it moves about.

These remedies and those in No. 117 (*j* and *k*) may be applied in cases of *ḍabha bai* and *paethan bai*.

(d) *Kalmeg*, *Andrographis paniculata*, Nees.

*Sekreç dog*, a leaf bud of *Lagerstroemia parviflora*, Roxb.

*Gol maric*, black pepper.

Grind these together and give to drink.

This remedy may also be given for *ceŋgha bai*, No. 117.

(e) First of all before bringing any medicine take

*Kuinḍi sunum*, oil from the kernel of *Bassia latifolia*, Roxb.

and rub him well with this from above downwards; if this does not cure, then

(f) *Pinḍe rehēl*, the roots of *Randia uliginosa*, DC.

*Khayar*, *Acacia Catechu*, L.

*Pan sakam*, the leaves of *Piper Betle*, L.

*Cip' ciriḥ rehēl*, the roots of *Achyranthes aspera*, L.

Grind all these together, mix with *paura*, spirits, and give to drink.

125. *Dorod bai*, (lit. internal pain convulsions).

*Symptoms*. This is when from the intense pain due to *haḍi* or *betha* (q.v.) they run about and the neck is perfectly stiff.

*Medicines*: First extract the juice from a *tale ḍandil*, the stem of the leaf of *Borassus flabelliformis*, L.

*Pea gol maric*, 3 black pepper-corns.

*Leḇḇel*, an earth-worm.

*Miltan bindi*, a spider.

*Culhako potao gendreç reaḵ daḵ*, water from the rag with which the fireplace is wiped.

Grind these together and mix with above extracted juice, and give to drink; also smoke him from below with

*Harhal' hohḡl'*, a bitter *Cucurbita lagenaria*, Willd. and

*Jhingā ju*, the fruit of *Luffa acutangula*, Roxb.

126. *Gomgomi bai*.

*Symptoms*. An unbroken silence is maintained.

*Medicines*: (a) *Sogol bohḡk*, the head of a civet, *Vivericula malaccensis*.

*Cemei bohḡk*, ,, ,, ,, a mongoose.

Rub on a stone and give him to lick. This will only change the form of *bai*.

(b) Buy from a gipsy: *dhonosor cēyē jan se hōrmo haḡin jāhāgem nam*, the bones or any part you may get of the body of a certain bird, *Hydrocissa coronata*.

*Ruhi hako cūiāḵ*, the scales of the fish *Cyprinus denticulatus*, Buch.

*Sēt mahakal ju*, *Bryonia lacinoso*, L., the white variety fruit.



Cook these in mustard oil and anoint therewith. Take a little of each of the ingredients and tying them on a string hang them round the neck as a necklace.

127. *Halman bai*, (lit. monkey convulsions).

*Symptoms.* In this they nod the head like monkeys and keep gnashing the teeth and embracing ; there is a very great fear.

*Medicines:* (a) Rub the head of a monkey on a stone and mixing it with mustard oil plaster or anoint the entire body therewith.

(b) *Akaona rehet*, the roots of *Calotropis gigantea*, R. Br.

*Marar baha chal*, the bark of *Erythrina indica*, Lam.

*Gai gotom*, melted butter made from cows' milk.

Cook the first two in the third and give some to eat as well as anoint him therewith.

128. *Hardia bai*. Icterus.

*Symptoms.* In this the body, eyes and urine become yellow and continue thus for half or a whole month. It may attack both healthy and sick persons, and may prove fatal.

*Medicines:* (a) *Rohoraḥ sasaṅ bahatet*, the dried flower of *Curcuma longa*, Roxb.

*Goṭe rehet thora*, a little of the roots of *Croton oblongifolius*, Roxb.

*Ome chal*, the bark of *Miliusa velutina*, Horask. fil. and Ths.

Grind together, make into pills and give daily as well as the next following.

(b) *Sega rehet*, the roots of *Mimosa rubicaulis*, Lam.

*Nanha dudhi lota rehet*, the roots of *Ichnocarpus frutescens*, R. Br.

Grind together and swallow the pills of above (a) with it.

(c) Wash the hands as follows:—

*Ul chal*, the bark of *Mangifera indica*.

*Cun*, shell lime.

*Nirbis da*, the bulb of *Kyllingia monocephala*, L.

Get some of the mango bark in the morning and mix the lime with them ; stick the bulb in his ear. Make the patient gaze fixedly at the glow at sunrise and make him hold the prepared mango bark in the hand. Then pour water from a brass vessel several times on what he holds till it is quite clean. He will certainly get well.

(d) *Sega rehet*, the roots of *Mimosa rubicaulis*, Lam.

*Badgocak rehet*, the roots of *Lygodium flexuosum*, Sw.

*Nanha dudhi lota rehet*, the roots of *Ichnocarpus frutescens*, R. Br.

Grind these three together and give to drink daily till recovery which is sure.

(e) Take a piece of *ul chal*, the bark of *Mangifera indica*, and smear on it some *cun*, shell lime. Make the patient stand facing the sun when he is rising resplendent and hold the lime smeared bark in his hand. Take a cup of water and pour it on his hand and continue doing so the while he is being rubbed by some one else. Then all the yellowness will be washed away by the bark. Grind some of it too and give him to drink. He will certainly get well, for I have cured many people thus.

129. *Harna bai*, (lit. deer convulsions).

*Symptoms.* They are in much trepidation, like deer, grind the teeth and move the upper lip as hares or horses in eating.

*Medicines:* (a) *Jel dereñ*, a deer's horn.

Rub this on a stone and let him then lick it and rub it on his forehead.

(b) *Kārwāt rehel*, the roots of *Carissa Carandas*, L.

*Utiñ sunum*, mustard oil.

Cook the former in the latter and anoint the whole body therewith.

130. *Hēkōt bai*. The rattling breathing and sound in extremis.

*Symptoms.* In this people hiccup emitting a sound like *hēkōt hēkōt*.

*Medicines:* (a) *Kul jañ*, a tiger's bone.

*Tayan bohok*, a crocodile's skull.

*Marak reak goja hōymo se ilko jōtoge*, a peacock's whole body or the feathers, all.

*Lopon chal*, the bark of *Terminalia bellerica*, Roxb.

*Jugi duriq rehel*, the roots of

*Aphim*, opium.

Roast the first two to burning point; grind the rest together and mix with the roasted bones, then give him to lick and also plaster him therewith.

(b) Grind *marak nandri*, the windpipe of a peacock and give to drink.

131. *Hikli bai*.

*Symptoms.* This affects women both in health and chiefly after childbirth. The head involuntarily trembles and nods, but in a short time it is over.

*Medicines:* (a) *Mirgi chal*, literally epilepsy bark; it is not a bark, but the skin of a species of deer.

*Kārwāt rehel*, the roots of *Carissa Carandas*, L.

*Akaona rehel*, the roots of *Calotropis gigantea*, R. Br.

Mix and grind and smear on, also cook in mustard oil and anoint the whole body therewith.

(b) *Garundi rehel*, the roots of *Acternanthera sessilis*, R. Br.

*Haṭ jañ*, the stone of the fruit of *Holarrhena antidysenterica*, Wall.

*Bharbhari jañ*, the stone of the fruit of *Ocimum basilicum*, L.  
or *Ocimum canum*, Sims.

*Dundukil rehet*, the roots of *Gardenia turgida*, Roxb.

Grind fine with opium, make into pills and give daily.

132. *Jhapni bai*.

*Symptoms*. In this the eyes are fast closed.

*Medicines*: (a) *Janumanak se bin janumanak jhapni arak rehet se sakam-*  
*ko*, the roots or leaves of either the thorny or thornless  
*Zornia diphylla*, Pers., or *Biophytum sensitivum*, DC.

5 *ganḍa gol maric*, 20 black peppercorns.

Grind together, give to drink and smear the whole body therewith.

(b) *Jhapni*, *Zornia diphylla*, Pers. or *Biophytum sensitivum*,  
DC.

*Marak il reak mettet* the eye of a peacock's feather.

Grind these together and smear over the whole body from the face  
downwards, and give some to lick.

133. *Kandon bai*. (lit. crying convulsions).

*Symptoms*. This affects chiefly babies, viz. they cry day and night.

*Medicines*: (a) *Bir son arak rehet*, the roots of

*Bir jhuñka arak rehet*, the roots of *Crotalaria calycina*,  
Shrank.

*Rereni*, a cicada belonging to the species *Platypleura*.

*Ghugri*, the mole cricket, *Gryllus gryllo-talpa*.

Grind these all together, smear over the whole body, and let him lick  
a little.

(b) *Nanha dudhi lota*, *Ichnocarpus frutescens*, R. Br., to be given  
to smell.

(c) The dirt from a cart axle to be smeared on the forehead. If  
this fails, then mix with water the dirt from the arrow of  
the machine used for separating the seed from cotton and  
give to drink.

(d) *Kauha chal*, the bark of *Terminalia Arjuna*, Bedd.

*Doka chal* " " " *Odina Wodier*, Roxb.

Grind these and give to drink.

(e) *Gāri jambe*, the jaw bone of a monkey.

*Sukri sonḍa*, a boar's tusk.

*Cemeni ḍata*, the tooth of a mongoose.

Grind or rub these on a stone and give to drink what comes away.

134. *Kaudi diñ bai*.

*Symptoms*. In this people move about the arms and legs similar to the  
fluttering of the wings of the black winged kite.

*Medicines*: (a) Get the whole of a black winged kite or its feet and cook this in oil: or if only the feathers then roast these to burning point and stir about in oil. Anoint the whole body and give him to lick.

(b) *Rondq̄c̄ arāk dare*, *Blumea Wightiana*, DC.

Grind and plaster over the whole body.

135. *Kec mecao bai*. (lit. prancing convulsions).

*Symptoms*. In this the body twitches and they constantly try to get up, and sometimes the tongue is protruded with a lapping motion.

*Medicines*: *Sadom jhin mēyhēl*, a horse's iron bit.

*Gāyī bohōk*, a monkey's head.

*Toya bohōk*, the head of a jay, *Coracias indica*.

*Kaudi diañ bohōk*, the head of a black winged kite.

Grind the last three together and add the water in which you have rubbed the first with a stone, and then give some to drink and smear some over the whole body.

136. *Khepa ar khipi bai*. (lit. raving mad convulsions; delirium febris).

*Symptoms*. In this the patient only laughs.

One "authority" says: If you happen to be near a person when a fit of this comes on, he will give you a sounding blow with a stick or his fist.

*Medicines*: (a) *Thoṛa gaija*, a little *Cannabis sativa*, Willd.

*Rō bohōk in marañ aphim*, opium the size of a fly's head.

Make these into pills the size of a grain of *Cajanus indicus*, Spreng; stir these in about a mussel shell full of water and give him to drink. He will become intoxicated and lie still.

(b) *Nāṅṅrauta rehel*, the roots of *Nardostachys jatamansi*, DC.

*Utiñ sunum*, mustard oil.

Cook the former in the latter and smear the whole body therewith.

If he gets no better, then

(c) *Ad cholak gan datṛa rehel roskate*, take the juice of about an ounce of the roots of *Datura alba*, Willd. or *D. fastuosa*, Willd.

5 *ganda gol maric*, 20 black peppercorns.

Mix and give to drink. If he becomes intoxicated then mix

*Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Sin arāk chal*, the bark of *Bauhinia purpurea*, L.

and give to drink, when the intoxication will pass off.

(d) *Gol maric*, black pepper.

*Adhe*, *Zingiber officinale*, Roscoe.

*Harhal hotol rehel*, the roots of a bitter *Curcubita lagenaria*.

*Kadar rehel*, the roots of *Bonnaya veronicaefolia*, Spreng.

*Dimbu rehêl*, the roots of *Ocimum basilicum*, var. *thyrseflorum*, L.

Grind these together and give to drink.

(e) *Kâr wât rehêl*, the roots of *Carissa Carandas*, L.

*Gabur rehêl*, „ „ „, *Acacia Farnesiana*, Willd.

*Naṅgrauta rehêl*, „ „ „, *Nardostachys jatamansi*, DC.

Grind these together, cook in oil and smear on the patient.

(f) *Lumam tejo*, the larva of a silkworm, to be roasted to burning point.

*Bayar kaḍako thapa akal dare reak chal*, the bark of a tree knocked by a male entire buffalo.

*Tejo mala rehêl*, the roots of *Cissampelos Pareira*, L.

Grind together and give to drink; with one breath bite off the bark of *eradoṃ*, *Ricinus communis*, L., and with one breath hang the bass of it on to his neck; and put a dot of *akaona loṛe*, the exudation from *Calotropis gigantea*, R. Br., on each one of all his nails.

The following may be given in all kinds of *bai*:—

(g) *Kasmar rehêl*, the roots of *Gmelina arborea*, Roxb.

Heat and plaster therewith.

(h) *Kâr wât rehêl*, the roots of *Carissa Carandas*, L.

Plaster without heating.

(i) *Kâr wât sakam*, the leaves of *Carissa Carandas*, L.

Heat and plaster therewith.

### 137. *Kikir bai*.

*Symptoms*. In this people scream *kikir kikir*, like the kingfisher.

*Medicines*: *Kikir cêrêge gojeme*, kill a kingfisher.

*Karla da*, the bulb of *Momordica dioica*, Roxb.

Cook these together and give to eat as well as plaster the whole body therewith and he will be cured.

### 138. *Mêtrêçê bai*. (Delirium febris; lit. teeth grinding convulsions).

*Symptoms*. In this the teeth are ground, the upper lip is protruded and moved about as by a horse in grazing, or both lips are moved as by a babe sucking at the breast.

*Medicines*: (a) *Jel dereñ*, a deer's horn.

*Sukri jambe*, a pig's jaw bone.

Rub on a stone, give to drink and plaster the whole body therewith.

(b) *Adagañhiã ghâs da*, the bulbs of *Panicum repens*, L.

*Kada bcñjak rehêl*, the roots of

*Kahu botke rehêl*, the roots of *Bryonia laciosa*, L.

*Bêngar betahel rehêl sê jo*, the roots of *Solanum stramonifolium*, Jacq., or its fruit.

*Raṅgāini jō sē rehēl*, the fruit or roots of *Solanum Jacquini*, Willd.

Cook these in melted butter and give to eat.

139. *Mocra mucri bai*. (lit. writhing convulsions).

*Symptoms*. In this they writhe and throw themselves about.

*Medicines*: (a) *Baghin rehēl*, the roots of *Mezoneurum cucullatum*, W. and A.  
*Ato kundri*, *Cephalandra indica*, Nand.  
*Tarpin sunum*, *Terebinthinæ oleum*.  
*Daru*. gunpowder.

Grind these together, mix in oil of turpentine, and rub it in on that side of the patient on which he tosses himself.

140. *Ñokor bai*. (? St. Vitus' dance).

*Symptoms*. In this they nod the head like *ñokor* bird (the red-start), the arms and legs tremble and they can grasp nothing with the hand.

*Medicines*: (a) *Nanha dudhi loṭa rehēl*, the roots of *Ichnocarpus frutescens*, R. Br.  
*Sukri mutha da*, the bulb of *Scirpus monostachyos*, Kön.  
*Dhubi ghās rehēl*, the roots of *Cynodon dactylon*, Pers.  
*Mōrē gaṇḍa ro*, 20 flies.  
*Ñokor cēṛē hoṛmo reāk jāhāṭakge*, any part of the body of the *ñokor* bird.

141. *Pajhar bai*. (lit. eagle convulsions).

*Symptoms*. In this people claw or scratch and clutch like eagles.

*Medicines*: (a) Get and keep the bones of an eagle from the knee downwards. Take a little of this, cook it in mustard oil and anoint the whole body and give him to lick.

(b) *Ghārā ghārī dare rehēl*, the roots of

Grind with black pepper and give him to drink.

142. *Pāthā bai*.

*Symptoms*. There is an uncomfortable feeling in the stomach which moves about, and there is pain.

One "authority" says: Whereas in *dhond bai* (No. 124) the nerve rises in an upright direction, in this it does so transversely.

*Medicines*: (a) In this too all the remedies under No. 117 are applicable.

*Forbidden diet*:—

*Bajra daka*, the cooked preparation of *Sorghum vulgare*, Pers.

*Haṇḍi*, rice beer.

*Kaera*, plantains, *Musa paradisiaca*, L.

*Kaṇṭhar*, the fruit of *Artocarpus integrifolia*, L.

*Kaḍa ar bheda jel*, the flesh of buffaloes and mutton.

*Kesari dal*, the split grain of *Lathyrus sativus*, L.  
*Kurmbi araḅ*,  
*Bitkil toa*, buffalo milk.

- (b) *Mahadeb jata*,  
*Kedoḅ araḅ*, *Argyreia speciosa*, Sweet.  
*Capoḅ*, *Desmodium cephalotes* (?)  
*Bitkil cand*, *Porana paniculata*, Roxb.

Pound the roots of all these together and give to drink.

If this does not avail, then

- (c) take and mix with above the ingredients mentioned in  
 No. 117 (*m*) and give to drink with *ḅaura*, spirits.

143. *Rac kakarḅaḅ bai*. (lit. chameleon convulsions).

*Symptoms*. Chameleons (*rac kakarḅaḅ*) in walking extend the two front legs first and then the two hind ones with a jerky motion. Persons who have this *bai* have a similar gait.

*Medicines*: (a) Kill a chameleon and keep the tail or entire body. Take a little of this and cook it in oil, and anoint the patient therewith, but give him none to drink.

For internal administration:—

*Bonga bari rehet*, the roots of  
*Pea ponea gan gol maric*, about 3 or 4 black peppercorns.

Grind together and give to drink.

144. *Ros bai*.

*Symptoms*. These are similar to those of *sugum bai*, No. 149; but the countenance is pale and speech indistinct.

*Medicines*: (a) *Rasun*, garlic.

*Tejo mala rehet*, the roots of *Cissampelos Pareira*, L.  
*Pea gol maric*, 3 black peppercorns.

Grind and give to drink. If the teeth are clenched, then heat *berel sasan*, raw turmeric, *Curcuma longa*, Roxb., and burn him therewith in the hollow behind each ear.

145. *Sanipatik bai*.

*Symptoms*. This attacks women 5 or 10 days after giving birth to a child, when they start up suddenly as from a dream, give a loud scream and immediately lose consciousness.

*Medicines*: (a) *Suruḅ mukhi araḅ rehet*, roots of *Helianthus annuus*, Willd.  
*Suruḅ muni rehet*, the roots of  
*Bir lil rehet*, the roots of wild indigo.  
*Sinduqari chal*, the bark of *Vitex Negundo*, L.  
*Kahu bothe rehet*, the roots of *Bryonia laciosa*, L.  
*Pe ganda gol maric*, 12 black peppercorns.

Mix and give to drink.

(b) *Bir lil sakam*, the leaves of wild indigo.

*Kārwāl rehel*, the roots of *Carissa Carandas*, L.

*Naṅgraṅta rehel*, the roots of *Nardostachys jatamansi*, DC.

*Sinduāri sakam*, the leaves of *Vitex Negundo*, L.

*Bana hatak chal*, the bark of *Oroxylon indicum*, Benth.

*Ati sahra chal*, the bark of

*Panjot chal*, the bark of *Clerodendron phlomoides*, Willd.

*Pusi toa rehel*, the roots of *Euphorbia pilulifera*, L.

Mix all these, give to drink and smear therewith.

(c) *Toyo karla jañ*, the kernel of

*Gurli jañ*, the kernel of

*Karla da*, the bulb of *Momordica dioica*, Roxb.

*At da*, „ „ „ „, *Zehneria umbellata*, Thw.

Mix all these with black pepper and give to drink, and after cooking a little of the same in mustard oil smear the whole body therewith.

146. *Selesa hēkōt bai*.

*Symptoms.* This is a very dangerous form of *bai*, in which the patient continually hiccoughs, and may easily prove fatal.

*Medicines:* (a) *Dare tipōc*,

*Gai ghura*, *Polygala chinensis*, L.

*Katic culun rangaini janum dog*, a bit of a sprout of *Solanum Jacquini*, Willd.

Grind together and stir in *luti rasa* or *dumur rasa*, honey of either of two kinds of small honey bees, and give to eat. If he can only swallow it once or twice he will recover.

147. *Sitli bai*. (Collapse).

*Symptoms.* In this the entire body, limbs included, becomes as cold as ice.

One "authority" says: In this they become perfectly cold and the limbs are as soft as edible leaves. They lie perfectly quiet, and you can detect nothing amiss in their appearance, but if you feel them you find they are as cold as water.

*Medicines:* (a) *Adhe*, ginger.

*Gol maric*, black pepper.

*Tursi rehel*, the roots of *Ocimum sanctum*, Willd.

*Bharbhari rehel*, the roots of *Ocimum basilicum*, L. or *O. canum*, Sims.

Grind all these and give to drink.

(b) *Tursi*, *Ocimum sanctum*, Willd.

*Bharbhari sakam*, the leaves of *Ocimum basilicum*, L. or *O. canum*, Sims.

*Jhapni rehel*, the roots of *Zornia diphylla*, Pers. or *Biophytum sensitivum*, DC.



*Adhe*, ginger.

*Gol maric*, black pepper.

Grind all together and without warming plaster him therewith.

(c) *Marañ jhapni arak bin janumanañ*, the thornless *Zornia diphylla*, Pers., or, *Biophitum sensitivum*, DC.

*Janumanañ jhapni rehel*, the roots of the *jhapni* as above that has thorns.

*Gol maric*, black pepper.

Grind and mix, give to drink and plaster him therewith.

To warm the body :—

(d) *Karwat*, *Carissa Carandas*, L.

Plaster the whole body with this. After that plaster him with black pepper alone, and he will be all right.

(e) *Sar rehel* the roots of *Saccharum Sara*, Roxb.

*Mota bhernda rehel*, the roots of *Jatropha Curcas*, L.

Grind these together and smear over the whole body.

148. *Suar bai*. (lit. pig convulsions).

*Symptoms*. In this the patient foams at the mouth like pigs, the saliva forms into a mass and he makes a sound as of smacking in eating.

*Medicines* : (a) *Jambe se bohok jan sukriak*, the jaw bone or skull of a pig that was killed by a tiger, or if unobtainable then that of any healthy pig.

*Kahu botke rehel*, the roots of *Bryonia lacinosa*, L.

*Thora gan aphim*, a small quantity of opium.

Grind these together, plaster the whole body therewith and let him eat a little.

149. *Sugum bai*. (lit. stealth convulsions).

*Symptoms*. In this the patient lies perfectly still, so that you think he is lying quietly, but repeated calls awaken no response.

*Medicines* : (a) *Dhiri kakra bohok*, the head of a certain lizard.

*Saram babea bohok*, „ „ *Herpestes moticolus*.

Grind these quickly and let him lick them.

(b) *Kaskom rehel*, the roots of *Gossypium arboreum*, L.

*Karwat rehel*, the roots of *Carissa Carandas*, L.

*Kawel sakam*, the leaves of *Abrus precatorius*, L.

Grind these together, warm slightly and plaster over the whole body.

150. *Tayan bai*. (lit. crocodile convulsions).

*Symptoms*. They make a noise like crocodiles, bite, creep on the stomach, blink the eyes and remain silent.

*Medicines* : (a) Roast the skull of a crocodile to burning point, stir it about in mustard oil, anoint him therewith and give him to drink.

(b) *Naṅgrauta rehel*, the roots of *Nardostachys jatamansi*, DC.

*Kesor da*, the bulb of

*Akaona rehel*, the roots of *Calotropis gigantea*, R. Br.

Grind these together, cook in melted butter, give him to eat and anoint the whole body therewith.

151. *Tarkha tarkhi bai*. (lit. writhing convulsions).

*Symptoms*. In this they toss about and writhe, the limbs are drawn up, and sometimes they scream.

*Medicines*: *Gundri gerwel*,

*Cupul jhapni*, *Zornia diphylla*, Pers.

*Mittan bindi*, a spider.

*Mittan tala gol maric*, half a black peppercorn.

Grind all these together and smear over the whole body, and let him lick some.

152. *Ti hurla mirgi bai*.

*Symptoms*. They first swing about one arm and leg, afterwards the other; the eyes are fast closed for two or three days.

*Medicines*: (a) *Datra rehel mit chotak rosme*, take 2 oz. of the juice of the roots of *Datura alba*, Willd. or *D. fastuosa*, Willd.

*Etkā rehel*, the roots of *Mucuna pruriens*, DC.

*Thora sengel sin rehel*, the roots of *Tragia involucrata*, Jacq., a little of this.

*Pe ganḍa gol maric*, 12 black peppercorns.

Grind together and give adults about 2 ounces and children a third of that.

If there is stupefaction, then mix and give to drink with stale rice-water,

*Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Sin arak chal*, ,, ,, ,, *Bauhinia purpurea*, L.

153. *Ghao*. Any (open) sore.

*Medicines*: *Kuila*, charcoal.

*Nim sakam*, the leaves of *Melia Azadirachta*, L.

Grind, mix, heat, put in a piece of cloth and apply.

154. *Agyo ghao*.

*Symptoms*. This sore breaks out on the shin, thigh or elsewhere. It begins like a boil in many places and spreads deep; the pain is greater than that of a boil. Whereas a boil will get well of itself after bursting, this will not get well without medicine.

*Medicines*: (a) *Meral sakam*, the leaves of *Phyllanthus Emblica*, L.

*Nim sakam*, ,, ,, ,, *Melia Azadirachta*, L.

*Kanthar sakam*, ,, ,, ,, *Artocarpus integrifolia*, L.

Fry to burning point, stir in mustard oil and apply as a plaster.

- (b) When an unmarried girl lets fall and breaks an earthenware water-pot, bring that, rub a portion of it and smear on what is rubbed off; recovery will follow.
- (c) Get hold of a potsherd that a certain snake (*tutri*, *Eryx conicus*) has turned out of its hole, rub this and smear the rubbings on.

155. *Bqhok ghao* Sores in the head.

*Medicines* : (a) *Barni sakam*, the leaves of *Clerodendron infortunatum*, L.  
*Kana arak*, " " " *Commelyna bengalensis*, L.

Or if these are unobtainable, then

*Hqndi mera*, the refuse after brewing rice beer.

*Kunam da*, the bulb of

*Bod lay*, *Vitis adnata*, Wall.

Or failing this last, then in place of it

*Sim bele*, a hen's egg, and

*Arak sindur*, red lead.

*Nanha pusi toa*, *Euphorbia thymifolia*, Burm.

Grind together and apply as a plaster.

(b) *Agaire*, *Dillenia scabrella*, Roxb.

*Car sira*,

Roast both mixed in a potsherd to burning point, then grind and after mixing in mustard oil, apply with a feather.

*Terelak mare baklak*, the old dry bark of *Diospyros tomentosa*, Roxb.

*Icak baklak*, the old dry bark of *Woodfordia floribunda*, Salisb.

*Mare sarjom reak baklak*, the bark of an old *Shorea robusta*, Gärtn.

*Ghugri*, an entire mole cricket, *Gryllus gryllo-talpa*.

*Putka*, a puff-ball (*Lycoperdon*).

Wash the sore clean, apply mustard oil to it, and then after grinding all the above into a powder sprinkle it on to the sore.

156. *Boŋga khoda*.

(Possibly due to a sting; local acute swelling which breaks out into a slowly healing sore.)

*Symptoms*: There are several varieties of this: *hendege pusrik*, black pimples; *arake pusrik*, red pimples; *lo phoka leka phokak se pusrik*, blisters as from burns, or pimples; *ghao gadaktako*, an ulcer either penetrating very deep or perforating, though it does not occasion much pain.

*Medicines*: In the black pimple variety,

(a) *Marar baha chal*, the bark of *Erythrina indica*, Lam.

Grind and apply 3 or 4 times daily over the whole of the swelling, and

make about an ounce of the juice of *bana hatak chal*, the bark of *Oroxylon indicum*, Benth., and give to drink.

(b) *Mare nangle rapak rongoeme*, roast an old leathern yoke-thong to burning point.

When a dog has stolen and eaten some raw rice and passes some of this out in his excreta, pick that out and keep it and roast or fry it to burning point.

*Pituq arak*, *Spemacoce hispida*, L.

*Pinde chal*, the bark of *Randia uliginosa*, DC.

*Nanha dudhi lota rehet*, the roots of *Ichnocarpus frutescens*, R. Br.

*Dud barangom da*, the bulb of

*Ato pinde da*, „ „ „, *Amorphophallus campanulatus*, Blume.

*Ghora lada*, *Vitis tomentosa*, Heyne.

*Sapin*, *Opuntia Dillenii*, Haworth.

*Datra rehet*, the roots of *Datura alba*, Willd. or *D. fastuosa*, Willd.

*Dundukil rehet*, the roots of *Gardenia turgida*, Roxb.

*Nim chal se sakam*, the bark or leaves of *Melia Azadirachta*, L.

Fry all these to burning point and after stirring them in mustard oil apply as a plaster over the entire swollen part, which will subside in three hours and the pain will also cease quickly. This remedy is applicable in all the varieties of this complaint.

*Before swelling occurs* :—

(c) Plaster the warm excrement of a heifer who has not calved, over the pimples, and recovery will follow.

(d) *Nim chal se sakam*, the bark or leaves of *Melia Azadirachta*, L.

Grind fine and apply without warming as a plaster; he will certainly get well.

*If a sore breaks out* :—

(e) *Hesak sakam dog*, the budding leaves of *Ficus religiosa*, Willd.

*Kadam sakam dog*, the budding leaves of *Anthocephalus Cadamba*, Bth. and Hook. f.

*Meral chal*, the bark of *Phyllanthus Emblica*, L.

Grind these to a coarse powder and sprinkle daily on the sores. Also boil the leaves of *Melia Azadirachta*, L. and wash the sores daily with that water.

(f) *Maran catom arak*, *Marsilea quadrifolia*, L.

Grind and apply as a plaster without warming; efficacious.

(g) *Nim chal*, the bark of *Melia Azadirachta*, L.

*Soso chal*, „ „ „, *Semecarpus Anacardium*, L.

*Nuruc jo reak gabetel*, the flesh of the fruit of *Cassia Fistula*, L.

*Edel poha*, a seedling of *Bombax malabaricum*, DC.

Grind these together and plaster over the swollen part near the sores ; or fry to burning point into a powder and sprinkle it on ; and if swollen, stir in oil and anoint.

(h) In all cases of this complaint :—

*Niuri chal*, the bark of *Elæodendron Roxburghii*, W. and A.

*Nûrûc jò reaḱ gabetçf*, the flesh of the fruit of *Cassia Fistula*, L.

Grind together and apply without warming.

(i) *Candogaṛ god*,

Grind and apply without warming.

(j) The first two ingredients the same as the first two in No. (b).

*Sapin janum*, *Opuntia Dillenii*, Haworth., also to be roasted to burning point.

Grind these three, or if the second is unobtainable, then the first and third and stir in pure mustard oil and smear him therewith. If you do this in the morning the swelling will go down by noon.

(k) If the patient vomits :

*Nim ros*, the juice of *Melia Azadirachta*, L.

*Maray baha ros*, the juice of *Erythrina indica*, Lam.

Give this to drink.

(l) If there are any swellings, then grind the bark of *maray baha*, *Erythrina indica*, Lam., warm it and apply as an ointment, and he will get well at once.

(m) *Nim sakam*, the leaves of *Melia Azadirachta*, L.

Grind and apply without warming to the swellings.

(n) *Jokha sakam*, the leaves of *Sida humilis*, Willd., to be applied and

*Daṅgra jambe*, the jawbone of a bullock to be rubbed on a stone and smeared on.

(o) *Hesak dog*, the tip of *Ficus religiosa*, Willd.

*Kadam dog*, ,, ,, *Anthocephalus Cadamba*, Benth. and Hook. f.

*Meral chal*, the bark of *Phyllanthus Emblica*, L.

Grind together and apply as an ointment without warming.

(p) If the sores become concave sprinkle on them a powder of

*Mare naṅgle*, an old leathern yoke thong.

*Sapin*, *Opuntia Dillenii*, Haw.

(q) Or if these are stirred in mustard oil and applied, the sores themselves will get well. This is an excellent remedy.

(r) *Matkoṃ chal*, the bark of *Bassia latifolia*, Roxb.

*Boṅga sarjōṃ chal*, the bark of *Ventilago calyculata*, Tulasne.

*Lqṭo jò*, the fruit of *Randia dumetorum*, Lam.

Grind and apply as a plaster.

(s) Rice that has passed out in the excreta of a dog.

Wash and grind this, plaster some of this on the sore and give some to drink. Give this treatment for three days and a cure will follow.

(t) *Mare nangle*, an old leathern yoke thong.

*Sapin janum*, *Opuntia Dillenii*, Haw.

Fry or roast these to burning point, burn *seta ic*, dogs' excrement, then grind all three together, stir in *utii sunum*, mustard oil, and apply with a feather.

One "authority" says: This may begin in the toes or fingers, the parts affected becoming black as in tattoo marks. There is a burning pain, and if medicine be not quickly applied, it will continue to swell and become inflamed. If it extends to the throat death ensues.

157. *Dora ghao*. (*Dora* is the name of the cord worn by Santal males round the waist.)

*Symptoms*. This appears on the waist, round which little insects eat their way giving the sore the appearance of earth thrown up by the mole cricket.

*Medicines*: *Kahu botke rcheh*, the roots of *Bryonia lacinosa*, L.

*Aphim*, opium.

*Jurguda kaskom jan*, the seeds of a certain variety of the cotton plant.

*Kuchl jan*, the seeds of *Strychnos potatorum*, L.f.

Cook these in castor oil and apply daily.

158. *Dumur ghao*.

*Symptoms*. An excrescence appears on the body in appearance like the *dumur*, a species of wild honey bee, when in their hive.

*Medicines*: *Ot dhompo*, *Lepidagathis cristata*, Willd.

*Bir kapu ju*, the fruit of *Dioscorea oppositifolia*, L.

*Tutri biiko odok kelhal*, a piece of pottery unearthed by the *tutri* (*Eryx conicus*) snake.

Grind these together and apply to the sore.

159. *Gand ghao*. (*Adenitis*).

*Symptoms*. This appears in the groin and sometimes elsewhere, and occasionally it festers; it increases in size.

*Medicines*: (a) At the very commencement make the patient stand in the middle of the doorway and make as if to strike him with an axe, some three days; he will get well.

(b) *Loa lore*, the juice or gum exuded from *Ficus glomerata*, Roxb. on incision of the bark.

*Buluu*, salt.

Mix a little of the latter with the former and smear it on for two or three days, and he will get well.

(c) *Peaj*, onions.

*Rēthe ghōra lada rēhet sē da*, the roots or bulb of  
*Thōra maric*, a little chilli or capsicum, *Capsicum frutescens*,  
Willd.

Grind these and after warming a little apply.

To ripen it:—

(d) *Dāṅgra jambe dāṭa*, the jaw tooth of a bullock.

Rub this and smear it on.

To cause it to burst:—

(e) *Parwa ic*, pigeons' dung.

*Hōrēc jān*, the seed of *Dolichos biflorus*, L.

*Buluñ*, salt.

Grind these and smear over the sore.

To expel the pus:—

(f) *Pōjō chal*, the bark of *Tetranthera monopetala*, Roxb.

Grind and plaster on, when the pus will come freely away.

(g) *Jokha sakam*, the leaves of *Sida humilis*, Willd.

These too if ground and applied as a plaster will cause the pus to come away on pressure.

(h) *Peaj*, onions.

Grind, warm and apply, and he will get well.

(i) *Cun*, shell lime.

*Buluñ*, salt.

*Loa lōrē*, the gum exuded from *Ficus glomerata*, Roxb.

Mix and apply.

160. *Ghugri ghao*.

(? *Adenitis scrofulosa colli*).

*Symptoms*. This sore is similar to *hāslī* (No. 28, Le collier de Venus). This also appears all round the neck and descends to the breast and downwards, with the appearance of the earth cast up by the mole cricket (*ghugri*).

*Medicines*: (a) *Hayhat kundri da*, the bulb of the bitter *Zehneria umbellata*,  
Thew.

*Ato kundri da*, the bulb of *Cephalandra indica*, Nand.

*Kahu botke rēhet*, the roots of *Bryonia laciosa*, L.

*Gurli jān*, the seeds of

*Jhīṅga jān*, ,, ,, *Luffa acutangula*, Roxb.

*Bir jhīṅga jān*, the seeds of *Luffa amara*, R.

*Hayhat hōṭol jān*, the seeds of a bitter pumpkin, *Cucurbita lagenaria*, Willd.

*Muṅga chal*, the bark of *Moringa pterygosperma*, Gärtn.

*Tutiā thōra*, a little sulphate of copper.

Cook in mustard oil and apply daily with a feather.

(b) *Mare naṅgle*, an old leathern yoke thong.

*Aṅḍiā tale baha*, the flower of the male *Borassus flabelliformis*, L.

*Ōt dhompo*, *Lepidagathis cristata*, Willd.

*Biṅḍi muthā ghās*, *Fimbristylis monostachya*, Hassk.

Roast the first two and fry the last two, both to burning point, then grind all fine, stir in pure mustard oil and smear on.

161. *Kākbirāḷ ghao*. (*Adenitis axillaris*).

*Symptoms*. This appears first like a tumour in the armpit, and later it suppurates like a boil and is painful.

*Medicines*: (a) *Gai gotom se gai toa chale*, melted butter made from cows' milk, or the cream of the same.

Apply on the sore and afterwards let a kitten or such like lick it off, recovery will follow.

(b) *Loa loḷe*, the gum exuded from *Ficus glomerata*, Roxb. on incision of the bark.

*Buluṅ*, salt.

Mix and smear on for some four days and the sore will subside.

(c) *Peaj*, onions.

*Rasun*, garlic.

*Aphim*, opium.

*Gol maric*, black pepper.

Grind together and apply.

*To ripen it*:—

(d) *Gai gotom*, melted butter made from cow's milk.

*Boi bindi jo se rehel chal*, the fruit or the bark of the root of *Randia dumetorum*, Lamk.

Grind these together, boil and apply, and it will burst.

(e) *Parwa ic*, pigeon's dung.

*Hoḷeḷ jaṅ*, the seed of *Dolichos biflorus*, L.

*Buluṅ*, salt.

Grind these together and apply to the top of the sore or drop a little on, and it will ripen.

*To draw off the pus*:—

(f) *Maṭha arak rehel*, the roots of *Antidesma diandrum*, Tulas.

Grind and apply and it will expel the pus.

(g) Smear some *toa*, milk, on the sore or swelling and let a cat lick it off.

162. *Ghura ghao*. (? *Erisypelas*).

*Symptoms*. Wherever this appears, be it in the leg, the shin, thigh, back or wherever it may be, it spreads all round.

*Medicines*: *Tulia*, sulphate of copper.



*Mūṅga dare tejo ganthar*, the film of the insect found on  
Moringa pterygosperma, Gärtn.

*Seleṣ samanom rehet*, the roots of Gloriosa superba, L.

*Hārū awar nārī*, Menispermum glabrum (?).

Grind all these, cook them in pure mustard oil and apply daily with a feather.

163. *Goda ghao*. (Sores in the legs in connection with oedema).

*Symptoms*. This begins in the legs, which swell up, and sometimes they break out into sores.

*Medicines*: (a) *Seṅgel siṅ rehet*, the roots of *Tragia involucrata*, Jacq.

*Etka rehet*, the roots of *Mucuna pruriens*, DC.

*Bir malhan rehet*, the roots of *Atyllosia mollis*, Bth.

*Aṅḍiā moron aṅak rehet*, the roots of *Gymnema hirsutum*, W. and A., var. *Decaisneanum*, Wight.

*Kūs rehet*, the roots of *Themuda gigantea*, Haskel.

*Aṣariā chal*, the bark of *Capparis horrida*, L.f.

*Saram lutur rehet*, the roots of *Clerodendron serratum*, Spreng.

*Akaona rehet*, the roots of *Calotropis gigantea*, R. Br.

*Kār wāl rehet*, ,, ,, *Carissa Carandas*, L.

*Bana haṭāk rehet*, the roots of *Oroxylon indicum*, Benth.

*Bir hoṛēc*, *Atyllosia scarabaedois*, Benth.

Grind all these together and put into a new earthenware pot, covering all with a leaf plate. Add water and boil it well. Then spread a thin cloth over the bed, on which the patient must lie. Cover him with a thick sheet or such and let the cloth descend to the ground all round the bed like a curtain. Then steam the patient with the boiling medicines until the perspiration exudes profusely from his body. Repeat the operation until recovery.

(b) *Aṣariā chal*, the bark of *Capparis horrida*, L.

*Kār wāl rehet*, the roots of *Carissa Carandas*, L.

*Simbrit*, the fresh shoots of *Bombax malabaricum*, DC.

Grind all these and mix with melted butter of cow's milk. Take a length of a shoot of *jom janum*, *Zizyphus Jujuba*, Lamk., as long as eight fingers placed side by side are broad, and wrap six fingers' breadth of this along with what you have ground. Then make the patient sit on a low stool, and making a ball of cowdung place it before him and stick the "candle" wrapped up with the medicine in the cowdung at the top. Then wrap the patient entirely up in a sheet and inside this set fire to the "candle." The patient must be careful not to look at the "candle" all the time you are lighting it and it is burning, but look in another direction; then the perspiration will exude profusely from his body. For people 40 to 60 years of age prepare 4 "candles" and apply for 4 days; the water will be expelled entirely from the body.

Before recovery there will be sores in the mouth. Then cook some *ghi kūāri*, *Yucca gloriosa*, in melted butter which he will eat. For 15 days the patient must eat no rice, curry, salt or sugar, but only sago.

164. *Jan uri*.

*Medicines*: *Terel cete*, the thin skin on the bark of *Diospyros tomentosa*, Roxb.

*Doka chal*, the bark of *Odina Wodier*, Roxb.

Grind with a stone and sprinkle on daily.

165. *Kadam baha ghao*.

*Symptoms*. This sore may appear on the back, breast, anywhere. A pimple comes up as in *boŋga khoda* (No. 156), but this differs from that. There is neither any swelling as in that, nor any pain. The sore bursts up from inside and expands on the surface like the flower of the *kadam*, *Anthocephalus Cadamba*, Bth. and Hook. f.

*Medicines*: (a) Make an ointment of *dhūṛā*, resin, and melted butter and apply daily with a feather.

(b) *Mare naŋgle*, an old leather yoke thong.

*Aṇḍiā tale baha*, the flower of the male *Borassus flabelliformis*, L.

*Sengel susurbañ chata*, the nest of a certain wasp.

*Saparom chal*, the bark of *Nyctanthes Arbor-tristis*, L.

*Maṇikjor*,

*Icaṛ rehel*, the roots of *Woodfordia floribunda*, Salisb.

Fry these to burning point, stir in mustard oil and smear on with a feather.

166. *Kar ghao*. (? Chronic scabies).

*Symptoms*. This is an eruption which appears in thick profusion on the legs, shins, feet, in fact in many places, in both children and adults. On ripening it is white and itches greatly so that they scratch the eruption itself.

*Medicines*: (a) *Muṅga rehel*, the roots of *Moringa pterygosperma*, Gärtn.

*Tutia*, sulphate of copper.

Boil in mustard oil and apply with a feather.

(b) *Mare naŋgle*, an old leathern yoke thong.

*Aṇḍiā tale baha*, the flower of the male *Borassus flabelliformis*, L.

*Corco chal*, the bark of *Casearea tomentosa*, Roxb.

*Nim chal*, the bark of *Melia Azadirachta*, L.

*Ot dhompo*, *Lepidagathis cristata*, Willd.

*Bheḍa dereñ rehel*, the roots of *Cassia Tora*, L.

*Sinduari sakam*, the leaves of *Vitex Negundo*, L.

Roast or fry all these to burning point, stir in mustard oil and anoint therewith.

- (c) *Seleṣ samanom rehet*, the roots of *Gloriosa superba*, L.  
*Hārū awar nārī*, *Menispermum glabrum* (?).  
*Dare japak jo*, the fruit of *Scindapsus officinalis*, Schott.

Boil all these three well in oil and apply with a feather.

- (d) Buy the real black pigment with which Hindus paint their goddess Kali black, and smear this on.  
 (e) *Bhage rambya*, sound *Phaeseolus Mungo*, var. *radiatus*, L.  
*Berel adhe*, raw ginger.  
*Berel sasan bohok*, head of raw turmeric, *Curcuma longa*, L.

Grind these three very fine and plaster therewith, bandaging with rags. On the second day remove the bandage leaving the medicine there. Apply the plaster again for three or four days.

- (f) The same as detailed in *Nargi ghao*, No. 169 (b).  
 (g) *Mare hukā daḥ*, stale hookah water.  
*Citol hako*, a certain fish.  
*Muṅga chal*, the bark of *Moringa pterygosperma*, Gärtn.

Grind together and plaster on the sores.

- (h) Smear *sukri itil*, pigs fat, on the sores.  
 (i) *Thamakur khada*, the stems of the tobacco plant to be roasted to burning point, and then after adding  
*Puti hako cūiāḥ*, the scales of the fish *Barbus stigma*,

Grind both together, cook in *utiū sunum*, mustard oil, and apply daily.

- (j) *Bounga sarjom chal*, the bark of *Ventilago calyculata*, Tulasne.

Grind and cook in *utiū sunum*, mustard oil, and sprinkle a little *cun*, lime, on, and

- Sora*, saltpetre.  
*Gondhok*, sulphur.

Grind both these and stir them in *narkor sunum*, coconut oil; then mix all the ingredients, and after washing the sores clean of an evening apply the mixture daily, and they will quickly dry up.

#### 167. *Khaora ghao*.

*Medicines:* (a) *Akaona sakam dogtet*, the tips of the leaves of *Calotropis gigantea* R. Br. or *C. procera*, R. Br.

*Sinduqari sakam dogtet*, the tips of the leaves of *Vitex Negundo*, L.

*Māric ad pawa gan*, 4 ounces *Capsicum frutescens*, Willd.

*Gondhok mit anawaḥ*, an anna worth of sulphur.

*Mit ser turi sunum*, 2 pounds pure mustard oil.

Pound the first four, put them in the last and boil well until it looks like water; while boiling add :—

*Tutiā*, sulphate of copper.  
*Laṭha ciḥ ciṛiḥ rehel*, the roots of  
*Pipriān*,  
*Sora*, saltpetre.

Grind the saltpetre with the handle of a chisel, then rub the other three ingredients in the saltpetre, and then add this to the boiling mustard oil, and finally apply the mixture thinly to the sore.

168. *Khuda jāura ghao*. (? Impetigo).

*Symptoms*. This sore is found in children from babyhood to some two years of age, or even in adults. It appears mostly in the face, cheeks, ears and head, first as pimples ripening white, and gradually spreads in clusters.

*Medicines*: (a) *Gai gotom*, *nainu urul tora*, melted butter from cows' milk prepared as soon as churned.

*Maraṅ catom araḅ*, the variety of *Marsilea quadrifolia*, L. that has reddish leaves.

*Khode mamon catom araḅ*.

Grind the two latter, mix with the first and apply daily.

169. *Nargi ghao*.

*Medicines*: (a) the same as No. 155 (c).

(b) *Terel opat cokaḅ*, the surface bark of a sapling of *Diospyros tomentosa*, Roxb.

*Mare sarjom dareaḅ chal*, the bark of an old *Shorea robusta*, Gärtn.

*Mare içaḅ dareaḅ ohal*, the bark of an old *Woodfordia floribunda*, Salisb.

*Ghugri*, a mole cricket, *Gryllus gryllo-talpa*.

*Puṭka*, a puff-ball, *Lycoperdon*.

First of all clean the sore. Grind all the above together and then sprinkle some of this on the sore, cook more in oil and anoint the sore therewith.

(c) *Ranu ran rehel*, the root of the ferment used to make rice beer.

*Mota aṭkir rehel*, the thick roots of *Smilax ovalifolia*, Roxb.

*Sega rehel*, the roots of *Mimosa rubicaulis*, Lam.

Grind together, cook in mustard oil and anoint the sore therewith.

170. *Koca nargi*.

*Medicines*: *Tejo id*, the excreta of larvæ found on wattles.

*Sękreč bhiṭuaḅ*, the stem of the leaves *Lagerstroemia parviflora*, Roxb.

*Kondro chal*, the bark of *Acacia Intsia*, Willd.

Grind together, cook in mustard oil and anoint therewith. When the sore is very ripe, crush *murup rehel*, the roots of *Butea frondosa*, Roxb., and pour the fluid thus extracted into the sore.

171. *Phoka nargi ghao.*

*Symptoms.* This usually appears in the head as a blister like that from a burn, from which only watery matter issues and pimples arise profusely.

*Medicines:* (a) *Andia tale baha*, the flower of the male *Borassus flabelliformis*, L.

*Mare nangle*, an old leathern yoke thong.

*Sengel susurban chata*, the nest of the *Pollestes hebraea* wasp.

*Pitua arak*, *Spermacoce hispida*, L.

*Bindi mutha ghās rehet*, the roots of *Fimbristylis monostachya*, Hassk.

*Pinda chal*, the bark of *Randia uliginosa*, DC.

*Icak rehet*, the roots of *Woodfordia floribunda*, Salisb.

*Manikjor ghās dare*,

*Nim sakam*, the leaves of *Melia Azadirachta*, L.

*Hemca arak*, *Enhydra fluctuans*.

Fry all these together to burning point, and after stirring in pure mustard oil smear therewith.

(b) *Nargi dare chal*, the bark of

Either fry this to burning point or pound it fine and apply.

(c) *Mare nangle*, an old leathern yoke thong.

*Andia moron arak rehet*, the roots of *Gymnema hirsutum*, W. and A., var. *Decaisneanum*, Wight.

*Pitua arak rehet*, the roots of *Spermacoce hispida*, L.

*Pinda dare chal*, the bark of *Randia uliginosa*, DC.

*Andia tale baha*, the flower of the male *Borassus flabelliformis*, L.

*Susurban chata*, a wasps' nest.

Fry these together to burning point, and then after grinding stir in mustard oil, and apply with a feather.

(d) *Onç dare ðarre bindi ganak leka ganthar gantharko orak idi*, the filmy substance like cobwebs spun by minute insects on the branches of trees.

Grind this small, cook in *utii sunum*, mustard oil, and apply with a feather.

*N.B.*—Some people use this also for *uru ghao*, No. 179.

172. *Poca nargi ghao.*

*Symptoms:* This is a sore beginning in the head, which when it bursts emits a watery discharge that causes sores wherever it flows.

*Medicines:* (a) *Kuclā jan*, the seeds of *Strychnos potatorum*, Lin. f.

*Khōḍē mamōn catōm arak*,

Roast to burning point, saturate in cocoanut or mustard oil, and apply.

(b) *Nanha dudhi lota*, *Ichnocarpus frutescens*, R. Br.

*Tejo ganthar*,

*Mare nan̄gle ata rōngo*, an old leathern yoke thong fried to burning point.

Stir in mustard oil and apply, half of it as a powder.

(c) *Toa chalet̄et̄*, the cream of milk.

Mix in water and smear on the greasy part of it.

*N.B.*—This is also good for pain in the loins.

(d) *Icāk̄ rehet̄*, the roots of *Woodfordia floribunda*, Salisb.

*Nanha dudhi lota rehet̄*, the roots of *Ichnocarpus frutescens*, R. Br.

*Mutha*, *Fimbristylis monostachya*, Hassk.

Grind these and cook them in mustard oil. Apply this oil to the sore with a feather, and make the solid ingredients into balls, which the patient must chew, swallowing the juice as in betel nut chewing.

(e) *Terel dare reak̄ mare baklak̄*, the old bark of *Diospyros tomentosa*, Roxb.

*Icāk̄ dare reak̄ rohor̄ chal*, the dried bark of *Woodfordia floribunda*, Salisb.

*Mare sarjom̄ baklak̄*, the bark of an old *Shorea robusta*, Gärtn.

*Ghugri*, a mole cricket, *Gryllus gryllo-talpa*.

*Putka*, a puff ball (*Lycoperdon*).

Grind together and make into a powder. Clean the sore and anoint first with oil, and then sprinkle the powder on.

### 173. *Nason ghao*.

*Symptoms.* This may occur on any part of the body. If you knock against anything and it swells up and afterwards a sore appears, while it pains as if one had been burnt, the sore spreads on the surface and deeper, or if a thorn has entered and it swells and becomes a sore this is *nason ghao*.

*Medicines:* (a) *Dud barangom*,

*Marañ catom̄ arak̄*, *Marsilea quadrifolia*, L.

Grind these and apply daily, after first washing the place with water in which *nim sakam*, the leaves of *Melia Azadirachta*, L., have been boiled.

(b) *Akaona rehet̄*, the roots of *Calotropis gigantea*, R. Br.

*Tutiā*, sulphate of copper.

*Seleṣ samanoṃ rehet̄*, the roots of *Gloriosa superba*, Willd.

*Hārū awar nārī*, *Menispermum glabrum*.

*Aphim*, opium.

*Dhūrā*, resin of *Shorea robusta*, Gärtn.

*Datra rehet̄*, the roots of *Datura alba*, Willd. or *D. fastuosa*, Willd.

*Gañja*, *Cannabis sativa*, Willd.

Grind all these, cook in pure mustard oil and anoint daily.

- (c) *Sukri ghās rehet*, the roots of *Scirpus monostachyos*, Kön.  
*Pāuri ulḍha da*, the bulb of a kind of lotus.

Grind together. Cover the sore with *kadam sakam*, the leaves of *Anthocephalus Cadamba*, Bth. and Hook. f., and on the top of these place what you have ground. Then cover again with the same leaves and bandage the whole, removing it the next day. Do thus for two or three days, and all the matter will be expelled and the sore healed.

- (d) *Monsa sir*, *Euphorbia Ligularia*, R.  
*Corra chal*, the bark of  
*Janum dare chal*, the bark of *Zizyphus Jujuba*, Lam.  
*Sapin janum dare*, *Opuntia Dillenii*, Haw.  
*Etkeç dare*, *Euphorbia antiquorum*, L.  
*Biṇḍi mutha ghās da*, the bulbs of *Fimbristylis monostachya*, Hassk.  
*Piṭua aṛak*, *Spermacoce hispida*, L.  
*Roya dare chal*, the bark of *Mallotus philippinensis*, Müll. Arg.  
*Aṇḍiā tale baha*, the flower of the male *Borassus flabelliformis*, L.  
*Mare naṅgle*, an old leathern yoke thong.  
*Susurban chata*, a wasps' nest.  
*Piṇḍa dare chal*, the bark of *Randia uliginosa*, DC.

Grind all these together and fry to burning point, then grind again to a powder and sprinkle it on.

- (e) *Bonkapsi rehet*, the roots of *Thespesia Lampas*, Benth. & Hook. f.  
*Iç ewer da*, the bulb of *Vitis latifolia*, Wall.  
*Tarse kotaṣ rehet*, the roots of *Grewia villosa*, Willd.  
*Bod lar*, *Vitis adnata*, Roxb.  
*Kamraj rehet*, the roots of *Buettneria herbacea*, Roxb.  
*Seta kata rehet*, the root of *Grewia polygama*, Roxb.  
*Peṭ cambra rehet*, the roots of *Helicteres Isora*, L.  
*Bhernḍa dare*, *Jatropha Curcas*, L.

Roast or fry all these to burning point, make to a powder which sprinkle on.

- (f) *Sarjom chal*, the bark of *Shorea robusta*, Gärtn.  
*Pojo chal*, „ „ *Tetranthera monopetala*, Roxb.  
*Meral chal*, „ „ *Phyllanthus Emblica*, L.  
*Dare baṅki*, „ „ *Vanda Roxburghii*, R. Br.  
*Mare naṅgle*, an old leathern yoke thong.

Grind, fry to burning point and after saturating in mustard oil apply daily.

- (g) *Sega janum rehet*, the roots of *Mimosa rubicaulis*, Lamk.  
*Tuliā loṅphul*,

Grind these together with a little water and apply to the sore.

(h) *Ata qhòc reak ñqhal*, the soot from a sherd that has been used for frying.

*Hoyéc*, *Dolichos biflorus*, L.

*Gadha ic*, donkey's excrement.

Mix these and grind fine like red lead and then plaster on the sore.

174. *Pachiari ghao*.

*Symptoms*. This may appear on any one. It appears as a blister from a burn, and when it bursts the sore spreads wherever the watery discharge flows.

*Medicines*: (a) *Ekasira dare chal*, the bark of *Crataeva religiosa*, Forst.

Grind and apply as an ointment, and the sore will dry up at once.

(b) *Meral chal*, the bark of *Phyllanthus Emblica*, L.

Grind and apply as an ointment, and he will get well.

(c) *Rokot condon kat*, blood coloured sandal wood.

Rub this and smear therewith, and it will dry up.

175. *Para ghao*.

(Sore due to mercurial poisoning).

*Symptoms*. The whole body is covered with red spots, each looking like a burn, and the skin over it very thin. If a person with this knocks against anything it hurts him, as if the whole body were one sore.

*Medicines*: (a) *Udal se qdhra chal*, the bark of *Sterculia villosa*, Roxb.

*Telheç dare chal*, ,, ,, *Sterculia urens*, Roxb.

*Hopo baha dare chal*, ,, ,, *Cochlosperma gossypium*, DC.

*Sese baha dare chal*, ,, ,, *Sterculia colorata*, Roxb.

*Korkot dare chal*, ,, ,, *Dillenia indica*, L.

*Bhorkonç dare chal*, ,, ,, *Hymenodictyon excelsum*, Wall.

*Sahar dare chal*, the bark of *Dillenia pentagyna*, Roxb.

Mix these and grind together fine, add two ounces of melted butter of cows' milk and a little mustard oil, cook and besmear daily therewith.

(b) *Kaliq jira*, *Nigella indica*, Roxb.

*Dhaniq*, *Coriandrum sativum*, L.

*Tilqi chal*, the bark of *Wendlandia tinctoria*, DC.

*Hondro chal*, ,, ,,

*Icaç dare rehel chal*, the bark of the roots of *Woodfordia floribunda*, Salisb.

*Band lota nari chal*, the bark of *Hippocratea arborea*, Roxb.

Grind these together, make into pills after cooking and give to eat, or let him drink the same without cooking.

(c) *Hund baha chal*, the bark of *Jasminum arborescens*, Roxb.

*Kujri nari chal*, ,, ,, *Celastrus paniculatus*, Willd.



Cook these in mustard oil and both give him some to drink and smear him with it.

176. *Ras bat ghao*. (may be clavus, corns).

*Symptoms*. This attacks the sole of the foot and the "sore" as it spreads goes deeper, so they cannot walk, only hobble or limp.

*Medicines*: (a) Apply the remedies detailed in No. 197.

(b) *Gegetereñ*, a certain creeping insect that appears in clusters (*Spirocystus cilicylindricus*, while young.)

Grind these and give them to be eaten with *satu*, meal made from roasted grain, or something similar.

(c) *Mithi*, *Trigonella Fœnum-græcum*, Willd.

*Simbrit*, fresh shoots of *Bombax malabaricum*, DC.

*Sora*, saltpetre.

*Gondhok*, sulphur.

*Tulia*, sulphate of copper.

Grind these, cook in melted butter or pure mustard oil and apply to the cavity.

(d) *Mare nangle*, an old leathern yoke thong.

*Kedok arak rchet*, the roots of *Argyrea speciosa*, Sweet.

*Ot dhompo*, *Lepidagathis cristata*, Willd.

*Pinda chal*, the bark of *Randia uliginosa*, DC.

*Saparom chal*, the bark of *Nyctanthes Arbor-tristis*, L.

*Pitua arak*, *Spermacoce hispida*, L.

*Binđi mutha*, *Fimbristylis monostachya*, Hassk.

Fry these together to burning point, and then

*Mithi*, *Trigonella Fœnum-græcum*, Willd.

*Tejpat*, *Laurus Cassia*, Roxb.

*Dhaniq*, *Coriandrum sativum*, L.

*Kalia jira*, *Nigella indica*, Roxb.

*Susurban chata*, a wasps' nest.

*Andia tale baha*, the flower of the male *Borassus flabelliformis*, L.

Fry these to burning point, grind and mix a little *gondhok*, sulphur, and then stir the whole in mustard oil and anoint therewith daily. Only the second of above, *kedok arak rchet* may be applied as an ointment.

(e) *Bir gongha*, a forest snail.

Dry and grind this so that the patient does not know what it is, pour *utiñ sunum*, mustard oil, on it and apply to the sore; afterwards

*Bir rokoc*, a forest periwinkle.

*Bir gongha*, a forest snail.

*Sclep samanqm*, *Gloriosa superba*, Willd.

Grind these together, plaster on to the sore and foment with fire till dry. Do this daily and in five days he will get well.

One "authority" says: This sore appears at the setting in of the rainy season and lasts throughout it, when it may heal spontaneously. During the hot weather the patient is quite free of it.

177. *Roga ghao.*

*Symptoms.* Sores break out over the whole body, which are very itchy, and a watery discharge issues from them.

*Medicines:* *Bod lay banda*, a parasitical air plant found on *Vitis adnata*, Wall.

Grind this fine and cook it in *utiñ sunum*, mustard oil, this oil to be rubbed on daily.

178. *Rokòè ghao.*

*Symptoms.* This sore appears on the shin, thigh, back of the hand or occasionally elsewhere. It looks like when four or five periwinkles cluster together, the sores run into one another and are conical on the top like periwinkles.

*Medicines:* (a) *Harhat hotòl jañ*, the seeds of a bitter pumpkin, *Cucurbita lagenaria*, Willd.

*Ato jhinga jañ*, the seeds of the cultivated *Luffa acutangula*, Roxb.

*Bir jhinga jañ*, the seeds of *Luffa amara*, Roxb.

*Harhat kundri jañ se da*, the seeds or bulb of the bitter *Zehneria umbellata*, Thew.

*Ato kundri da*, the bulb of *Cephalandra indica*, Nand.

*Kahu botke rehèt*, the roots of *Bryonia lacinoso*, L.

*Tutià*, sulphate of copper.

Grind these, cook in mustard oil and apply daily with a feather.

(b) *Gabur rehèt*, the roots of *Acacia Farnesiana*, Willd.

*Dak jer*,

*Sahya banda*, the parasitical plant found on *Streblus asper*, Lour.

*Kuril rama banda*, the parasitical plant found on *Zizyphus Oenoplia*, Mill.

Grind and sprinkle some on the sore, and make some into pills to be eaten.

(c) *Meral sakam*, the leaves of *Phyllanthus Emblica*, L.

Fry to burning point, stir in mustard oil and apply with a feather.

(d) A sherd from a pot broken by a girl or a piece of pottery unearthed by the *tutri* (*Eryx conicus*) snake.

To be rubbed and the rubbings to be applied to the sore.

(e) *Munga banda*, the parasitical plant found on *Moringa pterygosperma*, Gärtn.

*Bhorhond banda*, the parasitical plant found on *Hymenodictyon excelsum*, Wall.

*Icaḥ banda*, the parasitical plant found on *Woodfordia floribunda*, Salisb.

*Janum banda*, the parasitical plant found on *Zizyphus Jujuba*, Lam.

Grind all these together to a powder and sprinkle on.

(f) *Meral sakam*, the leaves of *Phyllanthus Emblica*, L.

*Tutri bin kelhat*, a piece of pottery unearthed by the *tutri* (*Eryx conicus*) snake.

*Dangua kuri raput kelhat*, a piece of pottery broken by an unmarried girl.

Fry the first to burning point, then grind all three together, stir in *utii sunum*, mustard oil, and apply with a feather.

179. *Uru ghao*. Scaldhead. (? *Tinea tonsurans*).

*Symptoms*. This appears on and spreads over the whole head.

*Medicines*: (a) *Peaj*, onions.

*Maric*, *Capsicum frutescens*, Willd.

*Nim sakam*, the leaves of *Melia Azadirachta*, L.

Cook these in mustard oil and apply with a feather.

(b) The real way is to prick with a red hot iron the *uru enḡa* or lump that hangs about at the neck, and recovery will follow.

(c) Let the maternal uncle of the child bathe on a Sunday morning and then come and after wiping his feet wring out the water from his wet towel on the head of his nephew or niece as the case may be and a cure will result.

180. *Ugni jaura ghao*.

*Symptoms*. This sore may attack any one. It appears as a blister as from a burn and has a red appearance, causing a burning pain.

*Medicines*: (a) *Kuclā jaṅ*, the kernel of *Strychnos potatorum*, Lin. f.

*Nanha dudhi lota rehḡ*, the roots of *Ichnocarpus frutescens*, R. Br.

*Janum jhaḡni joto ge*, the entire plant of the thorny variety of *Zornia diphylla*, Pers., or *Biophitum sensitivum*, DC.

*Ṭaṇḍi catom aṛak*, *Desmodium triflorum*, DC.

*Eraḍom sunum*, castor oil.

Roast the first and fry the second, both to burning point, mix all in the castor oil and apply daily.

(b) Saturate *korpur*, camphor, and *mithi*, *Trigonella Fœnum-græcum*, Willd., in *nārkoṛ sunum*, cocoanut oil, and anoint him therewith.

(c) *Ekasira dare chal*, the bark of *Crataeva religiosa*, Forst.  
Grind and apply as an ointment without warming.

181. *Uri rog.* (Tubercular (?) fistula).

*Symptoms.* This sore occurs on the thighs, knees, buttocks and sometimes on the forearm. It swells up, but does not spread, and is extremely painful. The limbs or wherever the sore appears waste gradually away and still the discharge of pus does not cease. This differs from *palania* which spreads deeper and is not painful.

*Medicines:* (a) *Udql dare*, *Sterculia villosa*, Roxb.

*Telheç dare*, *Sterculia urens*, Roxb.

*Turam*,

Take the roots of these, warm them separately and apply.

(b) *Ghōra lada*, *Vitis tomentosa*, Heyne.

*Dundukil*, *Gardenia turgida*, Roxb.

*Kada beinjak*,

Grind these and apply them warm.

(c) *Sirauna da*, the bulb of *Hygrophila spinosa*, T. Anders.

Grind and apply warm daily.

(d) *Ghōra ladauri da*, the bulb of *Vitis tomentosa*, Heyne.

Warm and apply and he will certainly get well.

(e) *Edeł poha rehel*, the root of a sapling of *Bombax malabaricum*, DC.

Warm and apply; this is also efficacious.

(f) *Gaṅgiñ cun*, the lime obtained from nodular or hydraulic limestone.

Apply on the swelling until it dissolves.

(g) *Udql chal*, the bark of *Sterculia villosa*, Roxb.

*Telheç chal*, ,, ,, ,, *Sterculia urens*, Roxb.

*Hōpo baha chal*, the bark of *Cachlosperma gossypium*, DC.

Warm and apply.

(h) If there is an open sore:—

*Sahar chal*, the bark of *Dillenia pentagyna*, Roxb.

*Matkōm chal*, ,, ,, ,, *Bassia latifolia*, Roxb.

*Sarjōm chal*, ,, ,, ,, *Shorea robusta*, Gärtn.

*Meral chal*, the bark of *Phyllanthus Emblica*, L.

Grind these together and sprinkle as a powder on the sore, and afterwards apply warm as an ointment.

(i) *Sikiom rehel*, the roots of *Crinum zeylanicum*, Roxb.

*Bir saru da*, the tuber of *Lasia heterophylla*, Schott.

*Kondro janum rehel*, the roots of *Acacia Intsia*, Willd.

*Terel cete*, the thin skin on the bark of *Diospyros tomentosa*, Roxb.

Grind these with *phuli paura*, neat spirits, and smear it on. If swollen,

(j) *ukuril*, a wild bulbous plant.

Grind and plaster on.

If there is a burning pain :—

(k) *Khub lag bilati thamakur*, very strong imported tobacco.

Grind with *huka dak*, hookah water, and palster on, when the pain will cease.

One "authority" says: This sore appears at any joint in the body. At first there is irritation, then a throbbing pain and swelling, and finally an intense burning pain.

182. *Lə ghao*. Burns.

*Medicines*: (a) *Aten chal*, the bark of *Combretum decandrum*, Roxb.  
Anoint with this.

(b) *Bonga barchi*, *Leonates nepetæfolia*, R.Br.

Roast to burning point and anoint therewith.

(c) *Sirom rehet*, the roots of *Andropogon muricatus*, Retz.

*Atnak chal*, the bark of *Terminalia tomentosa*, W. and A.

Grind these and anoint therewith.

(d) *Murga rasa*, the juice of *Pterocarpus Marsupium*, Roxb.

*Nürüc dog (bale)*, the young shoot of *Cassia Fistula*, Linn.

Mix these and apply.

(e) *Merom itil reak sunum*, oil made from goats' fat.

Apply this.

(f) *Janum jhapni rehet*, the roots of the thorny variety of *Zornia diphylla*, Pers., or *Biophitum sensitivum*, DC.

*Eradom sakam dog*, the tips of the leaves of *Ricinus communis*, L.

Grind these fine and cook in melted butter of cow's milk (or mustard oil) and apply daily with a feather.

(g) *Dhūrā*, resin of *Shorea robusta*, Gärtn.

*Utiñ sunum*, mustard oil.

Mix these into an ointment and apply once a day, healing will follow.

(h) *Bođa biñ itil*, the fat of the snake *Python molurus*

*Jambro biñ itil*, ,, ,, ,, ,, ,, *Zamenis mucosus*.

*Khasi itil*, ,, ,, ,, a castrated goat.

*Sim itil*, ,, ,, ,, a fowl.

*Dañgra itil*, ,, ,, ,, a bullock.

*Gai gotom thora*, a little melted butter made from cows' milk.

Mix all these together and smear on; the burning pain will be relieved and healing will follow.

(i) *Er hoyçç sakam*, the leaves of *Dolichos biflorus*, L.

*Bir hoyçç sakam*, ,, ,, ,, *Atylosia scarabædois*, Benth.

*Tarop dare sakam dog*, the tips of the leaves of *Buchanania latifolia*, Roxb.

*Kasi rehēl*, the roots of *Saccharum spontaneum*, L.

Fry all these to burning point and make them into a powder. Cover the burns first with cotton, then dust the powder on, and cover all with a bandage.

(j) *Akar baha sakam*, the leaves of *Limnophila Roxburghiana*, G. Don.

Grind and plaster on.

(k) *Harhat hotot rehēl*, the roots of a bitter *Cucurbita lagenaria*, Willd.

Pound to shreds, cook in *utiū sunum*, mustard oil, plunge into a brass cup of cold water, and after squeezing it into a thin squash apply to the burn.

183. *Rōk ghao*. Wound from being gored.

*Medicines*: *Bir hōrēc (bebak)*, an entire *Atylosia scarabædois*, Benth.

Get a new laid egg and breaking it into this mix the two thoroughly. If the entrails have protruded cut a pumpkin, *Cucurbita lagenaria*, and applying the medicine thereto push it carefully in. Otherwise simply apply the medicine to the wound.

184. *Sōbōk ghao*. Wound from being stabbed or crushed with the point or end of something with force (*vulnus punctatum*).

*Medicines*: (a) *Kacra pūngi*, the young conical as yet unopened leaf of a plantain.

*Skrēc sakam*, the leaves of *Lagerstroemia parviflora*, Roxb.

*Matkom dog*, the shoots of *Bassia latifolia*, Roxb.

Grind and apply as a plaster.

(b) *Khode baha rehēl*, the roots of  
*Bod lar poha rehēl*, ,, ,, ,, a seedling of *Vitis adnata*, Wall.  
*Kamraj rehēl*, the roots of *Buettneria herbacea*, Roxb.  
*Hud jora nāyitēl*, the creeper *Cissus quadrangularis*, Willd.

Grind together and apply as a plaster.

If there is a fracture, for which this is also applicable, put splints over the plaster.

This may be used for both human beings and cattle.

185. *Janum rōk*. When stung by a thorn.

*Medicines*: (a) Apply *soṣo*, the fruit of *Semecarpus Anacardium*, L. and if you cannot extract the thorn, then

(b) *Akaona loṛe*, the exudation from *Calotropis gigantea*, R. Br. or *C. procera*, R. Br.

Drop this on and the same night it will come out.

186. *Tuñ ghao*. Arrow wounds.

*Medicines*: (a) *Saru da*, the tuber of *Celocasia antiquorum*, Schott.

*Backom lopol*, *Pollinia eriopoda*, Hance, made into powder.

Sprinkle on the wound.

(b) If any one should wound another man with an arrow, the arrow sticking, he must get quickly *turam*, grind it, smear it on the arrow and push the arrow away to one side, when the wound will at once heal up.

187. *Mañ, tohot ar tuñ ghao*.

Wounds caused by iron implements, by stumbling or by arrows.

*Medicines*: (a) *Suruñ mukhi rehet*, the roots of *Helianthus annuus*, Willd.

*Sim kata arak*, *Vitex peduncularis*.

*Bir jhunka arak*, *Crotalaria calycina*, Shrank.

Grind together and apply to the wound.

(b) *Turam rehet*, the roots of

*Seta kata rehet*, the roots of *Gynandropsis pentaphylla*, L.

Grind to a powder and sprinkle on.

(c) *Barsa pakor rehet*, the roots of *Grewia sapida*, Roxb.

*Bod lay rehet*, „ „ „ „ *Vitis adnata*, Wall.

Grind together to a powder and sprinkle on.

(d) *Kamraj rehet*, the roots of *Buettneria herbacea*, Roxb.

Grind and apply.

Apply either of the following:—

(e) *Tarse kotap rehet*, the roots of *Grewia villosa*, Willd.

(f) *Bonkapsi rehet*, the roots of *Thespesia Lampas*, Benth. and Hook. f.

(g) *Pojò chal*, the bark of *Tetranthera monopetala*, Roxb.

(h) *Sekreç bhituak*, the stem of the leaves of *Lagerstroemia parviflora*, Roxb.

Grind very fine with water till it becomes like melted butter and apply to the sore where it must stay.

(i) First of all as soon as the wound is contracted urinate on it and dust some *cun*, lime, on.

(j) *Bod lay rehet*, the roots of *Vitis adnata*, Wall.

*Sekreç dog*, a sprout of *Lagerstroemia parviflora*, Roxb.

Grind fine and plaster on.

(k) *Suruñ mukhi rehet*, the roots of *Helianthus annuus*, Willd.

*Dhalka catom arak rehet*, the roots of

Grind and mix these and plaster on.

If there is any watery discharge,

(l) *Merleç chal*, the bark of *Flacourtia Ramontchi*, L'Herit.

Grind to a powder and sprinkle it on.

*N.B.*—Even if there is a fracture this remedy is used and will join the parts again.

188. *Kasra*. Scabies.

One "authority" says: In this there are sores everywhere which itch excessively, even one's food is not digested. The real cause of it is dirt, in which insects make their appearance who continue spreading causing sores where they go.

*Medicines*: (a) *Konal pisra*,  
*Joka*, *Sida humilis*, Willd.  
*Gol maric*, black pepper.  
*Gondhok*, sulphur.

Grind these together, cook in a brass vessel and apply with a feather to the parts affected.

- (b) *Akaona dare rehēt*, *sakam sē dog*, the roots, leaves or tips of *Calotropis gigantea*, R. Br., 4 oz.  
*Heiñjet rehēt*, the roots of *Solanum stramonifolium*, Jacq., 4oz.  
*Sinduari sakam dog*, the tips of the leaves of *Vitex Negundo*, L., 2 oz.  
*Caole maric*, a kind of capsicum, resembling grains of rice.  
*Gondhok*, sulphur, 2 pice worth.

Boil these in 8 ounces of mustard oil until the whole looks like water when it will be ready.

*N.B.*—This remedy is also applicable in *Khuda jaura* (No. 168) and *Ugni jaura* (No. 180).

- (c) *Ol dhompo ghās*, *Lepidagathis cristata*, Willd.

Roast slightly to burning point at the fire and after stirring in mustard oil smear it on.

- (d) Smear on *bare lore*, the sticky juice of *Ficus bengalensis*, L.  
(e) Smear on *loa lore*, the sticky juice exuded by *Ficus glomerata*, Roxb.  
(f) Smear on *akaona lore*, the sticky juice exuded by *Calotropis gigantea*, R. Br.  
(g) Stick on the affected parts *goṭe sakam*, the leaves of *Croton oblongifolius*, Roxb.  
(h) *Bagluca jō*, the fruit of *Martynia diandra*, Gloxin.  
*Jhiṅga jañ*, the seeds of *Luffa acutangula*, Roxb.

Distil and apply.

- (i) Grind and apply *gondhok*, sulphur.  
(j) *Tulia*, sulphate of copper.  
*Gondhok*, sulphur.  
*Laṭha ciṣ ciṣiṣ rehēt*, the roots of  
*Pipriāñ*,  
*Ciṣ ciṣiṣ rehēt*, the roots of *Achyranthes aspera*, L.



Buy a new earthenware pot in which these must be rubbed, and grind them in it with the handle of a chisel, add some mustard oil and apply thinly with a feather.

- (k) Wash the parts clean daily with warm water, and  
*Bagluca sunum*, oil of *Martynia diandra*, Gloxin.  
*Narkôr sunum*, cocoanut oil.

Take an equal quantity of each of these, shake in some *sindur*, red lead, and stir the whole into a thin mixture to be applied after washing the parts clean, and in three days they will dry up, a proved remedy.

- (l) *Edêl jer*, the sticky exudation from *Bombax malabaricum*, DC.  
*Turi*, the seeds of *Brassica campestris*, L.  
*Sasañ*, turmeric, *Curcuma longa*, Roxb.  
*Gondhok thora gan*, a little sulphur.

Grind these together and apply to the sore parts.

189. *Dad*. Ringworm.

One "authority" says: In this minute pimples appear and spread, which itch excessively, especially when it is cold. Some persons can foretell by this itching when it is going to rain.

*Medicines*: (a) *Kedar sakam se dare sudha*, the leaves of, or the entire *Bonnaya veronicæfolia*, Spreng.

Grind and smear on.

- (b) *Cođra chal*, the bark of

Grind and apply.

- (c) *Dundukil rehel*, the roots of *Gardenia turgida*, Roxb.  
*Akaona rehel*, the roots of *Calotropis gigantea*, R. Br. or *C. procera*, R. Br.  
*Etka rehel*, the roots of *Mucuna pruriens*, DC.  
*Katid talañ corco rehel*, a little of the roots of *Casearia tomentosa*, Roxb.

Grind these together, stir in *utiñ sunum*, mustard oil, and let him anoint himself therewith.

*N.B.*—This remedy may also be used for the same complaint in cattle.

190. *Talsa*. Measles.

*Medicines* (a) *Kođe*, *Eleusine corocana*, Gärttn.

Make this into flour and smear it on, which will cause it to dry up, and make some into hand bread to be eaten.

- (b) *Nim sakam*, the leaves of *Melia Azadirachta*, L.

Pound these and give to drink.

- (c) *Rol jo*, the fruit of *Terminalia Chebula*, Retz.  
*Lopon jo*, ,, ,, ,, *Terminalia bellerica*, Roxb. [Ham.  
*Lil kathi rehel*, the roots of *Polygala crotalaroides*, Buch. and

Soak these and give to drink daily morning and evening.

- (d) *Sukri mutha rehet*, the roots of *Scirpus monostachyus*, Kön.  
*Nanha dudhi loṭa rehet*, the roots of *Ichnocarpus frutescens*,  
 R. Br.

Grind together and give to drink daily, and it will obviate blood being mixed in the discharge.

Should the eruption go in :—

- (e) *Sega rehet*, the roots of *Mimosa rubicaulis*, Lamk.  
*Kondro chal*, the bark of *Acacia Intsia*, Willd.  
*Atkir rehet*, the roots of *Smilax ovalifolia*, Roxb.

Grind together, mix with molasses and give to drink daily until the eruption reappears.

- (f) First of all proceed as in No. 191 (o) to bring out the eruption all at once; then  
 (g) Spread *nim sakam*, the leaves of *Melia Azadirachta*, L. under him so that he lies thereon. Also use *kode*, *Eleusine corocana*, Gärtn., in both the ways detailed in (a) above.

*N.B.*—The eating of *horeč*, *Dolichos biflorus*, L., and of hot boiled rice is strictly forbidden.

If the eruption should go in, rub the skin of a *harba*, *Manis pentadactyla*, and let the patient lick it. Also in similar circumstances in *guti* (q.v.).

191. *Bqsonto se Guti*. Small pox.

*Medicines*: (a) *Raṅgāini janum*, *Solanum Jacquini*, Willd.  
*Nāṅgrāuta*, *Nardostachys Jatamansi*, DC.

Boil and give to drink with sugar.

- (b) *Gai toa*, cows' milk.  
*Gol maric*, black pepper.

Boil the former and give to drink with the latter.

- (c) *Mare kode*, old *Eleusine corocana*, Gärtn.  
*Nim sakam*, the leaves of *Melia Azadirachta*, L.

Grind together and plaster therewith. When the eruption is well developed

*Kaṅṭhaṭ sakam*, the leaves of *Artocarpus integrifolia*, L.

Fry to burning point and sprinkle on him.

- (d) *Bay baha*, the flower of *Mimusops Elengi*, L.

To be ground and drunk some three days.

*Toyo sagaḅ rehet*, the roots of  
*Goṭṭha toroč*, the ashes of dried cow dung.

Mix these and strew over the pustules.

- (e) *Motam ol*, a certain edible mushroom.  
*Koçra jo berelak*, unripe fruit of *Bassia latifolia*, Roxb.

To be mixed together and eaten two days.

To bring out the eruption :—

- (f) *Mare kaskom jañ*, old cotton seed.

Grind with water and plaster over the whole body.

(g) *Dañ ghaṅgra*, a variety of *Vigna Catiang*.

Grind fine and plaster over the whole body.

When the pustules subside:—

(h) Let him eat *gua*, *Areca Catechu*, L.

(i) *Motam ol*, a certain edible mushroom.

*Kondro chal*, the bark of *Acacia Intsia*, Willd.

Pound and give to drink, and when it has subsided, give the former alone to drink and plaster him therewith.

(j) *Kaḍa beñjak رهگهٔ*, the roots of

*Datra رهگهٔ*, the roots of *Datura alba*, Willd., or *D. fastuosa*, Willd.

*Turam رهگهٔ*, the roots of

Pound these and give an ounce of the juice extracted to drink. If stupefaction ensues then give *kasmar chal*, the bark of *Gmelina arborea*, Roxb., and *kañji daḅ*, stale rice water, to drink. Give this remedy at the commencement of the attack.

(k) The same as in (d) and (e) above, except that instead of the unripe fruit of *Bassia latifolia*, Roxb. substitute the unripe fruit of *Musa paradisiaca*, L.

(l) *Motam ol*, a certain edible mushroom.

*Nim sakam*, the leaves of *Melia Azadirachta*, L.

*Caole maric banda* the parasitical plant found on the kind of capsicum resembling grains of rice.

*Bir hoṛçè daḅ (teke kate)*, the water after boiling *Atyllosia scarabædois*, Benth.

*Dare cetan reak bhorkonḍ*, *Hymenodictyon excelsum*, Wall., that has germinated in the stump of another tree.

*Hesaḅ banda*, the parasitical plant found on *Ficus religiosa*, Willd.

Grind these together and give to drink. When the skin begins to peel off spread *nim sakam*, the leaves of *Melia Azadirachta*, L., on the bed and make the patient lie on them. If the pustules go inside, put the above *motam ol* and the eggs of the *tiññihè cèrè*, lapwing, *Sarciphorus bilobus* or *Lobivanelus Goensis*, in rice and give to eat.

(m) *Kedoḅ aṛaḅ*, *Argyreia speciosa*, Sweet.

*Kaliḅ jira*, *Nigella indica*, Roxb.

(n) *Kondro chal*, the bark of *Acacia Intsia*, Willd.

*Sega chal*, „ „ „ *Mimosa rubicaulis*, Lam.

*Çali chal*, „ „ „ *Morinda tinctoria*, Roxb.

*Turam رهگهٔ*, the roots of

*Kaskom baṅgaura*, cotton seeds.

*Bay chal*, the bark of *Mimusops Elengi*, L.

*Aḅkir رهگهٔ*, the roots of *Smilax ovalifolia*, Roxb.

*Nanha dudhi loṭa reḥeḥ*, the roots of *Ichnocarpus frutescens*, R. Br.

*Kedar reḥeḥ*, the roots of *Bonnaya veronicæfolia*, Spreng.

*Sarjōm chal*, the bark of *Shorea robusta*, Gärtn.

Boil all these together and give to drink daily. Add a little *gur*, molasses, as this causes a plentiful eruption. When such has taken place, spread a cloth on the bed and on this place the ashes of *nim sakam*, the leaves of *Melia Azadirachta*, L., after frying them to burning point, and scatter over these again rice flour or flour made from broken rice, and let the patient lie down on top of all. Strew daily over the pustules such ashes; or grind into a powder the roots of *turam*, and *bay chal*, the bark of *Mimusops Elengi*, L., and sprinkle this powder on the inflamed pustules. The eruption will be brought out by both cotton seeds and *motam ol*, a certain edible mushroom, and these will also heal the pustules.

(o) *Malhan*, *Dolichos Lablab*, L.

*Ghaṅgra*, *Vigna Catiang*.

To be made into curry and eaten; *gur*, molasses, also to be eaten; all these to be eaten to cause the eruption to come quickly.

When the eruption has fully come out, see if it is black on the top, for if so it is an indication it is about to go in again; then

(p) *Edel roṅga*, the knots on *Bombax malabaricum*, DC.

*Loa sakam reak jone*, the warts on the leaves of *Ficus glomerata*, Roxb.

*Seta ic caole*, the grains of rice found in the excreta of a dog.

*Motam ol*, a certain edible mushroom.

*Kulai ic*, a hare's excrement.

Make him to drink these, and after grinding the first two of above, smear him therewith.

*N.B.*—He must on no account eat *horçc*, *Dolichos biflorus*, L., or the eruption will reappear.

(q) *Mahadeb jata*,

*Bir but*, *Flemingia congesta*, Roxb.

Grind these, give to drink with *phuli paura*, neat spirits. This remedy is to be given when the eruption is scanty. If the eruption goes in, then,

(r) *Motam ol*, a certain edible mushroom.

*Edel roṅga*, the knots on *Bombax malabaricum*, DC.

*Kondro janum reḥeḥ*, the roots of *Acacia Intsia*, Willd.

Grind these and give to drink, and the eruption will come to the surface again.

To dry up the pustules: grind and mix,

(s) *Goetha toroc*, the ashes of dried cowdung and

*Dhūrā*, resin of *Shorea robusta*, Gärtn., and smear over the whole body.

To obviate pock marks:

(t) Smear the whole body with a mixture of *dhūrā*, resin of *Shorea robusta*, Gärtn. and

*Dahe*, curds.

As a prophylactic: (u) If there is a talk in the village that small pox has appeared or that many deaths from it are taking place, then all the leading men of the village meet in conclave and take counsel as to what measures to take to counteract it. And all will say, Let us make the effort, perhaps we shall succeed. The headman gets hold of a medicine man and all agree. Then the headman says, we must all become priests, i.e. sanctify ourselves ceremoniously.

Next morning all the village men assemble at the end of the village street; *mīṭṭān guli paṭhī merom*, a brown female kid, is brought; the medicine man brings with him a stick and the bark of both *bana haṭāk*, *Oroxylon indicum*, Benth., and of *akaona*, *Calotropis gigantea*, R. Br. or *C. procera*, R. Br. He divides the barks into two portions, and calling on *Dhartī mac*, and *Sū boṅga*, (i.e. mother earth and the sun) he makes them bury the bark here and there at the end of the village street, and they walk through the village holding the two sticks.

Then they take that brown female kid to the eastern boundary of the village and let her graze in the name of *Nag naḡin*. After she has grazed they walk round all the boundaries of the village with the kid and the two sticks. On returning to the place where she grazed they decapitate her and leave her body and the two sticks there; no one will eat her. If they continue well and the disease does not appear among them for a year, then a goat and pigeons are offered in sacrifice.

If before the above prophylactic measures are taken, a case of small pox should appear, then all the senior men in the village assemble quickly and say, Come let us send away the disease, so that it may not go beyond this man or spread further. The following is the method used to attain this. They make all the dwellers in the village without distinction take medicine. This is

(v) *Gol maṛic*, black pepper.

*Adwa caole*, rice made from sun-dried, not boiled paddy.

*Eḍel rōnga*, the knots on *Bombax malabaricum*, DC.

These are ground together and then eaten, when no small pox will occur.

The following is given to the patient already attacked:

(w) *Gargaḍi rehet*, the roots of *Coix lachryma*, Willd.

*Laṭha ciṣ ciṣ rehet*, the roots of

Grind these two together; let an unmarried girl spin a thread of cotton, on to which the medicine is tied, and it is then tied on to the patient, and calling on the spirits *Nag naḡin* and *Kālī mac* the disease is dismissed. In this way the disease is confined to the one person and will not spread. If he is

the victim of witches he will die, but if it is due to an epidemic he will recover.

192. *Chucundari*. Chancre (a venereal sore), also syphilis in its first stage.

*Symptoms*. Men get this. Small pimples appear on the surface or point of the penis which develop into a sore.

*Medicines* (a) *Andia moron arak rehēt*, the roots of *Gymnema hirsutus*, W. and A., var. *Decaisneanum*, Wight.

*Berēl guā jō*, a fresh areca nut, *Areca Catechu*, L.

*Pan sakam*, the leaves of the Piper Betle L.

*Kalia jira*, *Nigella indica*, Roxb.

Grind all these together, cook them in mustard oil or melted butter and apply with a feather.

(b) *Uliē alan arak*, parsley.

*Mandargom sakam*, the leaves of *Anona squamosa*, L.

*Bir jhunka arak*, *Crotalaria calycina*, Shrank.

*Jira*, carraway seed, *Carum Carui*, L.

*Jawan*, *Carum Ajowan*, DC.

*Mithi*, *Trigonella Fænum-græcum*, Willd.

*Dhaniā*, coriander seed, *Coriandrum sativum*, L.

*Thoṛa tutiā*, a little sulphate of copper.

Grind all these together to a powder and sprinkle it on.

(c) *Icaḥ rehēt*, the roots of *Woodfordia floribunda*, Salisb.

Grind to a powder and apply.

(d) *Daṭra jō*, the fruit of *Datura alba*, Willd. or *D. fastuosa*, Willd.

*Ciṣ ciṛiṣ rehēt*, the roots of *Achyranthes aspera*, L.

Cook in oil and smear on.

(e) *Amacgom rehēt*, the roots of

to be ground and smeared on.

(f) *Dak horō reaṅ bohōk*, the dried head of a water tortoise, *Trionix gangeticus*.

*Ētkēc chal*, the bark of *Euphorbia antiquorum*, L.

*Sakra janum chal*, the bark of *Zizyphus rugosa*, Lamk.

*Kidiṅ kathom gota hormo*, the entire body of a scorpion.

*Soso chal*, the bark of *Semecarpus Anacardium*, L.

Grind together and plaster on, or cook in oil and anoint with the oil.

(g) *Dare japak nāṛiāk maṅjtēl*, the pith of *Scindapsus officinalis*, Schott.

*Nanha dudhi loḷa rehēt*, the roots of *Ichnocarpus frutescens*, R. Br.

*Andia moron arak rehēt*, the roots of *Gymnema hirsutus*, W. and A., var. *Decaisneanum*, Wight.

Grind together, boil in pure mustard oil, add a little melted butter and then apply with a feather.

(h) *Berel gua*, a fresh areca nut, *Areca Catechu*, L.

*Andia moron arak rehel*, the roots of *Gymnema hirsutus*, W. and A., var. *Dicaisneanum*, Wight.

*Sarjom chal*, the bark of *Shorea robusta*, Gärtn.

*Mandargom sakam*, the leaves of *Anona squamosa*, L.

Grind these together to a powder. Boil in water *nim sakam*, the leaves of *Melia Azadirachta*, L., and wash the sore clean with that water. Then fill up the sore with the powder; he will assuredly get well.

(i) *Bir hoyec rehel*, the roots of *Atylosia scarabædois*, Benth.

*Mota kongga rehel*, the roots of *Agave americana*, L.

*Gote rehel*, the roots of *Croton oblongifolius*, Roxb.

Dry these, grind them to powder and sprinkle or dust them on the sore.

(j) *Horo bohok*, the head of a tortoise.

II *Gol maric*, II black peppercorns.

Half roast or roast the former to burning point, then grind both together, and then after cooking in *utii sunum*, mustard oil, let him apply it to the sore, and he will be well in five days.

One "authority" says: This appears as a corrosive sore at the base of the penis, and if medicine is not applied quickly, the penis will drop off and they will be eunuchs for life. Sometimes if the sore penetrates internally it is fatal.

### 193. Gurmi. Syphilis.

*Symptoms.* This generally attacks immoral persons, and is sometimes inherited by children. It is usually contracted by intercourse with prostitutes. It begins with sores on the surface of the penis, and gradually spreads over the whole body. In appearance the reddish pustules are like those of small pox.

*Medicines:* (a) *Etkec dare reak maij*, the pith of *Euphorbia antiquorum*, Linn.

*Akaona rehel*, the roots of *Calotropis gigantea*, R. Br.

*Andia moron arak rehel*, the root of *Gymnema hirsutus*, W. and A., var. *Dicaisneanum*, Wight.

*Etka rehel*, the roots of *Mucuna pruriens*, DC.

*Sapin janum sakam*, the leaves of *Opuntia Dillenii*, Haw.

*Bandphora biu jan*, the bones of the *Bungarus fasciatus* snake.

Roast or fry all these to burning point, mix all together and boil in mustard oil, and then apply with a feather.

(b) *Caole ata rongorme*, roast or fry rice to burning point.

*Sarjom dare dhompo thenak chal*, *se mare dare reak chal chadaome*, remove the bark on the excrescence of a *Shorea robusta*, Gärtn, or the bark of an old tree.

*Dhūrā*, resin of *Shorea robusta*, Gärtn.

*Thoṛa tutiā*, a little sulphate of copper.

First boil some leaves of the *nim*, *Melia Azadirachta*, Linn., in water and with that bitter water wash the parts clean, and then after you have ground all the above to powder sprinkle it over the parts.

(c) *Mare amtha*, a little old dried flesh of the mango fruit.

*Tutiā*, sulphate of copper.

*Bilāti thamakur*, imported tobacco.

First wash with the *nim* water as in above (b), then grind these three ingredients with hookah water and apply the mixture as an ointment.

(d) *Powa bhor tarṇin sunum*, 8 oz. Terebinthinæ oleum.

*Ad powa utiū sunum*, 4 oz. mustard oil.

First wash with *nim* water as in (b) and (c), and then anoint with this mixture, and the sores will dry up.

(e) *Narkor sunum ad powa*, 4 oz. cocoanut oil.

*Karbolik mōrē thoṇ*, 5 drops carbolic acid.

After first cleaning anoint with this mixture.

(f) *Anḍiā moron arāk rehet*, the roots of *Gymnema hirsutus*, W. and A., var. *Decaisneanum*, Wight.

*Dare japāk maiṅge*, the pith of *Scindapsus officinalis*, Schott

*Nanha dudhi loṭa rehet*, the roots of *Ichnocarpus frutescens*, R. Br.

Wash with *nim* water as above. Boil the above three in a mixture of mustard oil and melted butter and apply with a feather.

(g) *Icāk rehet*, the root of *Woodfordia floribunda*, Salisb.

*Qskorbul*,

Grind the first fine to a powder and sprinkle it on. Grind the second with hot water on a stone or sherd and apply to the sores with a feather.

(h) *Rōso kapur*, a farthing's worth of white sublimate or muriate of mercury.

*Simbrit*, the fresh shoots of *Bombax malabaricum*, DC.

*Kagji nimbu rehet*, the roots of *Citrus acida*, Roxb., a good quantity.

Grind these together and make into pills, three of which to be taken daily until the lips break out in sores. Then take the bark of *bay dare*, *Mimusops Elengi*, L., bruise and boil it in water, and let the patient rinse the mouth with that water daily until recovery.

(i) *Rāngaini rehet*, the roots of *Solanum Jacquini*, Willd.

*Joka sakam*, the leaves of *Sida humilis*, Willd.

*Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Ciṣ ciṇiṣ rehet*, the roots of *Achyranthes aspera*, Linn.

*Sekrēc dog*, the shoots of *Lagerstroemia parviflora*, Roxb.



Grind together, warm in mustard oil and immerse therein and mixing well apply with a feather.

- (j) *Aṭkir rehel*, the roots of *Smilax ovalifolia*, Roxb.  
*Nanha dudhi loṭa rehel*, the roots of *Ichnocarpus frutescens*,  
 R. Br.  
*Sarjom chal*, the bark of *Shorea robusta*, Gärtn.  
*Kundri chal*, „ „ „ *Zehneria umbellata*, Thew.  
*Sega chal*, „ „ „ *Mimosa rubicaulis*, Lamk.  
*Kadar rehel*, the roots of *Bonnaya veronicæfolia*, Spreng.  
*Nim chal*, the bark of *Melia Azadirachta*, L.

Boil all these thoroughly together and give to drink daily.

- (k) The same, with the omission of *dhūyā*, resin, as No. (b) above, and to be applied in same way.  
 (l) *Mare jojo*, the old fruit of *Tamarindus indicus*, L.  
*Tutiā*, sulphate of copper.  
*Thora bilāṭi thamakur sakam*, a little of the leaves of imported tobacco.

Grind with *hukā daḥ*, hookah water, and after washing the sore clean, plaster the medicine you have ground on it.

The pain caused must be borne.

- (m) Immediately dry *sarjom chal*, the bark of *Shorea robusta*, Gärtn., and sprinkle or dust on the sore which will gradually dry up. This causes no pain.  
 (n) *Bandphora biṅ rapaḥ roṅgoeme*, roast to burning point the bones of the *Bungarus fasciatus* snake.  
*Eṭka rehel*, the roots of *Mucuna pruriens*, DC.  
*Aṅḍiā moron arāk rehel*, the roots of *Gymnema hirsutum*, W. and A., var. *Decaisneanum*, Wight.  
*Dare japāk maṅjtel*, the pith of *Scindapsus officinalis*, Schott.  
*Nim sakam*, the leaves of *Melia Azadirachta*, L.  
*Sinduqari sakam*, the leaves of *Vitex Negundo*, L.  
*Nanha dudhi loṭa rehel*, the roots of *Ichnocarpus frutescens*,  
 R. Br.

Grind these together, cook in melted butter of cows' milk and smear on.

- (o) *Para daḥ*, quicksilver water.  
*Sanam jat mosola*, one of each kind of all sorts of spices.  
*Soṣo jaṅ*, the seed of *Semecarpus Anacardium*, L.

Roast the last to burning point, fry the spices slightly, and after grinding and mixing both add the first, and make into seven pills to be taken for seven days, when the mouth will develop sores. The medicine must then be discontinued, he must brush the teeth with a twig of *bhernda*, *Jatropha Curcas*, L., and wash the mouth with water in which *baṛ chal*, the bark of *Mimusops Elengi*, L., has been boiled. Recovery will follow in 15 days' time.

- (p) *Sindrit*, fresh shoots of *Bombax malabaricum*, DC.  
*Rōṣṣmuni*,  
*Rōs sindur*, factitious cinnabar.  
*Sora*, saltpetre.

Grind these together, stir in *utiū sunum*, mustard oil, and apply to the sores.

- (q) *Nanha dudhi loṭa reḥeṭ*, the roots of *Ichnocarpus frutescens*, R. Br.  
*Oṭ dhompo*, *Lepidagathis cristata*, Willd.  
*Kasmar chal*, the bark of *Gmelina arborea*, Roxb.  
*Raṅgāini reḥeṭ*, the roots of *Solanum Jacquini*, Willd.  
*Jokha sakam*, the leaves of *Sida humilis*, Willd.

Grind all these together, cook in *utiū sunum*, mustard oil, and apply with a feather to the penis. Also give the following *internally*:

- (r) *Sarjōm baha*, the flowers of *Shorea robusta*, Gärtn.  
*Sasañ baha*, „ „ „ *Curcuma longa*, Roxb.  
*Boṅga sarjōm chal*, the bark of *Ventilago calyculata*, Tulasne.

Grind these together, mix in *gur*, molasses, and give to drink.

*Gurmi* is a name sometimes used also for other diseases than syphilis, *viz.*, gonorrhœa, and any kind of *eczema penis et scroti*.

One "authority" says: There is no certainty as to the origin of this. Some people say if you have connection with a woman given to promiscuous intercourse you will contract this or swollen testicles. Occasionally I have seen people who are not fornicators suffering from this. It is said to be contracted thus: If you walk over a place where a syphilitic person has made water, the exhalation from this, from the action of the sun, will infect you.

194. *Maejiu hoṛ kuthi garmi*. (? Women's gonorrhœa, or cystitis.)  
*Symptoms*. A burning sensation in the abdomen at micturition.  
*Medicines*: (procurable at medicine vendors.)  
*Kaṭṭa jēr*,  
*Cae cirota*, *Gentiana Cherayta*, R.  
*Meral jo*, the fruit of *Phyllanthus Emblica*, Linn.  
*Dhiri ghās*,  
*Thoṛa mithi*, a little *Trigonella Fænum-græcum*, Willd.

Soak all these in a cup of water, taking of the first a ball about the size of a pea. Then in the morning after grinding squeeze out and give this water to the patient to drink.

195. *Hāslī ghao*. A tertiary manifestation of syphilis on the neck and chest. "Le collier de Venus."  
*Medicines*: (a) *Reṭṭeḥ bōd laṛ reḥeṭ chal*, the bark of the root of a small *Vitis adnata*, Wall.  
*Caole ata*, roasted rice.

Roast the rice to burning point and roast the bark also or dry it in the sun. Then grind both together and making it into a powder apply to the sore.

(b) *Dhūrā*, resin of *Shorea robusta*, Gärtn.

*Nim sakam*, the leaves of *Melia Azadirachta*, Linn.

*Kahu botke rehēl*, the roots of *Bryonia lacinosa*, Linn.

*Bir kundri da*, the tuber of *Zehneria umbellata*, Thew.

*Porol jhinga jañ*, the seeds of *Luffa acutangula*, Roxb.

*Ato jhinga jañ*, the seeds of the garden variety of same.

*Seleṣ samanom rehēl*, the roots of *Gloriosa superba*, Willd.

*Andiā moron ayak rehēl*, the roots of *Gymnema hirsutum*, W. and A., var. *Decaisueanum*, Wight.

*Nanha dudhi loṭa rehēl*, the roots of *Ichnocarpus frutescens*, R. Br.

*Kedoḱ ayak rehēl*, the roots of *Argyreia speciosa*, Sweet.

*Dare japak manṅeṭ*, the pith of *Scindapsus officinalis*, Schott.

First cook the resin in mustard oil and make it into a kind of butter. Then boil and cook all the other ingredients in this preparation and anoint the place therewith.

(c) *Mare naṅgle*, an old leather thong used for binding the yoke to the plough beam.

*Andiā tale baha*, the flower of the male *Borassus flabelliformis*, L.

*Qt dhompo ghās*, *Lepidagathis cristata*, Willd.

*Bindi mutha rehēl*, the roots of *Fimbristylis monostachya*, Hassk.

Roast the first two to burning and fry the second two to burning ; then mixing all grind them fine. If there is much liquid discharge make into a powder and dust it on, otherwise mix it with pure mustard oil and apply with a feather to the sore.

(d) *Gurli se toyo karla da jañ*,

*Bir kundri*, *Zehneria umbellata*, Thew. } both

*Ato kundri*, *Cephalandra indica*, Nand. } bitter.

*Kahu botke rehēl*, the roots of *Bryonia lacinosa*, Linn.

*Nim chal*, the bark of *Melia Azadirachta*, Linn.

*Seleṣ samanom rehēl*, the roots of *Gloriosa superba*, Willd.

*Muṅga chal*, the bark of *Moringa pterygosperma*, Gärtn.

*Pusi pan rehēl*, the roots of *Ehretia lævis*, Roxb.

Grind all the first seven together, boil them in the oil of the *ṭhadia* variety of *Brassica campestris*, Linn., mixing also the last named and apply daily.

(e) *Rṣo kapur*, one tola, the weight of a rupee of a white sublimate or muriate of mercury.

*Loboṅ*, cloves, 84 pieces.

*Goṭe rehēl*, 1½ dr. of the root of *Croton oblongifolius*, Roxb.

Grind these with goats' milk, no water, and make into pills the size of hares' dung. Four of these pills to be eaten the first day and two daily the four following days till the patient begins to slaver, and then no more. The pills to be taken before meals, and only water that has been boiled and cooked to be drunk. The sore is not to be touched the whole time.

When there is a slight sore in the mouth and the saliva flows freely, then

*Baṛ chal*, the bark of *Mimusops Elengi*, L.

*Bubla chal*, the bark of *Acacia arabica*, Willd.

to be boiled together and the water to be used for washing the mouth out.

This medicine may also be used for syphilitic sores, gonorrhœa and rheumatism.

(f) *Murga banda*, parasitical plant found on *Pterocarpus Marsupium*, Roxb.

*Terel cete*, the thin skin on the bark of *Diospyros tomentosa*, Roxb.

*Kaṭhom jaṅga*, *Viscum attenuatum*, DC.

Grind, boil in mustard oil and anoint the sore therewith.

(g) *Gaḍa gāri*, a certain water insect.

To be roasted, made into a powder and sprinkled on the sore.

(h) *Rokoç jel*, the flesh of small molluscs or periwinkles.

To be cooked in mustard oil and smeared on the sore.

(i) *Kamraj rehel*, the roots of *Buettneria herbacea*, Roxb.

*Saoraj jo reak jañ*, the stone of the fruit of *Vernonia anthelmintica*, Roxb.

*Rohor sarjom chal*, the dried bark of *Shorea robusta*, Gärtn.

Grind a little of all these together with water and apply to the spot.

(j) *Dhūyā*, resin of *Shorea robusta*, Gärtn.

*Turam*,

Grind these together and after boiling in *utiñ sunum*, mustard oil, pour into a cup of water and apply the butter-like scum that rises to the surface.

(k) *Kujri chal rehel reak*, the bark of the roots of *Celastus paniculatus*, Willd.

*Mañjur jhuti rehel*, the roots of

*Latha ciṣ ciriṣ jo*, the fruit of

Grind these together, cook in *utiñ sunum*, mustard oil, and apply with a feather.

(l) *Bir baraṅgom*, *Glossogyne pinnatifida*, DC.

*Mare naṅgle*, an old leather yoke thong.

Roast the latter to burning point, then grind along with the former, cook in *utiñ sunum*, mustard oil, and

*Sar rehel*, the roots of *Saccharum Sara*, Roxb.

*Ñūrūc jañ reak ḍal*, the kernel of the seed of *Cassia Fistula*, L.

Grind these with *sisir daḅ*, dew, and mix with the previous cooked remedy and apply with a feather.

One "authority" says: This commences on the neck, chest, collar bone or nape of the neck, and wherever the watery discharge spreads the sores will follow.

196. *Taru landuḅ*. (Perforating ulcer of the palate.)

*Symptoms*. This commences in the nose and the sores eat away in the palate upwards and the nose downwards, and the speech becomes nasal.

*Medicines*: (a) *Naksuri dare reaḅ jḅ se chal tanak*, the fruit, bark or such of *Bonkapsi jaḅ*, the seed of *Thespesia Lampas*, Benth. & Hook. f.

*Saparom chal*, the bark of *Nyctanthes Arbor-tristis*, L.

*Icaḅ rehel*, the roots of *Woodfordia floribunda*, Salisb.

*Manikjḅ ghās*,

*Dhiri banda*,

*Jḅtamānsi rehel*, the roots of *Nardostachys Jatamansi*, DC.

*Rāḅgāini jaḅnum rehel*, the roots of *Solanum Jacquini*, Willd.

*Serwaḅ rehel*, the roots of *Vigna vexillata*, Benth.

*Gote rehel*, the roots of *Croton oblongifolius*, Roxb.

*Nanha dudhi lota rehel*, the roots of *Ichnocarpus frutescens*, R. Br.

Grind all these and cook them in pure mustard oil and let the patient sniff it up the nose. (Mix *kiā baha*, *Pandanus odoratissimus*, Willd., and *marāḅ catom araḅ*, )

(b) If you can, get hold of an unborn hare, extract it entire from the mother, and dry it.

*Kulāi ic*, hare's excrement.

*Kulāi uḅtel*, hare's hair.

*Jhik ḅota se illel*, the stomach or quills of a porcupine.

Grind all these fine into a powder, which dust on to the sore.

*Forbidden diet*: Boiled rice, milk or curds (*dahe*), salt, vegetables, pulse, etc.; only flour made from roasted grain, otherwise the sore will develop further.

(c) *Oskorbul*,

*Simbrit*, fresh shoots of *Bombax malabaricum*, DC.

*Barni baha*, *Clerodendron infortunatum*, L.

Grind these together and make into 5 pills the size of sheeps' or goats' excrement, one pill covered in cream from cows' milk to be taken daily. If the mouth develops sores, cook *ghi kuari*, *Yucca gloriosa*, in melted butter and rub it on the tongue. Diet same as in (b) above.

(d) *Qt oḅonom*, *Angelica glauca*, Edgew.

Cut a disc of this the size of the cavity or hole (similar to the disc of potsherd used in the game called *kaḅi*). Grind fine together

*Kulai tarop rehel*, the roots of

*Bod lay rehel*, the roots of *Vitis adnata*, Wall.

Push into the cavity and fix above disc and then rub on these ground medicines.

*Bhabri*, *Embelia robusta*, Wall.

*Mare panahi kutra*, a piece of an old shoe.

*Bod lay rehel*, the roots of *Vitis adnata*, Wall.

Grind these three together and apply as a plaster.

*Hārū jomak jinis*, something of which a hamunan has eaten.

*Tale gele*, the male flower of *Borassus flabelliformis*, L.

Roast these to burning point and after grinding them small stir in *kanji daḅ*, stale rice water, and let him apply this daily.

The man who provides the medicine must not see the patient for two weeks, but send the medicine by some one else, and in that period the patient will be cured.

One "authority" says: This begins with a small pimple on the palate which gradually becomes bigger like a boil; when ripe it emits a rotten odour and as it increases it makes a hole, so that it is difficult to eat food or drink water, and it may spread so that the nose falls in.

197. *Paethania ghao*.

*Symptoms*. This results from rheumatism, and sometimes if one person in the house gets it, then as in small pox the whole household is infected. Our ancestors say this is the penalty of sexual immorality; if any one sins in that way he will get it.

*Medicines*: (a) *Akaona*, *Calotropis gigantea*, R. Br.

*Aṣaṣia chal*, the bark of *Capparis horrida*, L. f.

*Andia moron araḅ*, *Gymnema hirsutum*, W. and A., var.

*Decaisneanum*, Wight.

*Andia kongal rehel*, the roots of *Dregia volubilis*, Benth.

Boil these in mustard oil and smear on.

*By steaming*:

(b) *Akaona rehel*, the roots of *Calotropis gigantea* R. Br.

*Kārwal rehel*, ,, ,, ,, *Carissa Carandas*, L.

*Aṣaṣia chal*, the bark of *Capparis horrida*, L.

*Sinduḡri sakam*, the leaves of *Vitex Negundo*, L.

*Bir hoḡḡé*, *Atylosia scarabædois*, Benth.

*Bana hatak chal*, the bark of *Oroxylon indicum*, Benth.

*Saram tutur rehel*, the roots of *Clerodendron serratum*, Spreng.

*Sasaḅ boḡoktet*, a knot of turmeric, *Curcuma longa*, L.

*Totnoḡak chal*, the bark of *Eugenia operculata*, Roxb.

*Gote chal*, ,, ,, ,, *Croton oblongifolius*, Roxb.

*Karam chal*, ,, ,, ,, *Adina cordifolia*, H. f. and B.

*Kusmar chal*, ,, ,, ,, *Gmelina arborea*, Roxb.

Grind all these, put them in a new earthen pot, cover them with a leaf-plate and boil well. Then after spreading a thickish cloth over a bed make the patient lie thereon and cover him with a sheet or blanket so that it falls on all sides of the bed down to the floor. Then put the boiling medicines underneath the bed and steam him until the perspiration pours from his body. By so doing his sore will dry up.

(c) *Aṣaṛiā chal*, the bark of *Capparis horrida*, L.

*Kārwāl rehel*, the roots of *Carissa Carandas*, L.

*Simbrit*, fresh shoots of *Bombax malabaricum*, DC.

First grind the first two fine together, then add the third and grind all three mixing them well. Then mix some of the first in melted butter. Then tear a strip of cloth about the width of two fingers and dip it in melted butter. Take a new shoot of *jom janum*, *Zizyphus Jujuba*, Lamk., as long as the width of eight fingers placed beside one another, and plaster on the length of six fingers' breadth the medicines already ground and mixed. Then wrap round this the soaked strip of cloth, leaving two fingers' breadth free. Then get a handful of cowdung and stick the free two fingers' breadth of the swathed medicine into this, and make the patient sit on a low stool close to this and cover him with a sheet. Then set fire to the "medicine stick" or "candle." The patient must not look at it burning, but remain covered till it has burnt out. Burn such a "candle," one on each of three or four days, by which time he will get sores in the mouth, and sometimes the tongue protrudes. Then cook some *ghi kūāri*, *Yucca gloriosa*, in melted butter and smear this on his tongue and lips; then the sores in the mouth and stomach will get well.

198. *Palaniā ghao*. A chronic progredient sore, a carbuncle on the back.

*Symptoms*. This sore appears mostly in the back, shoulder blade or ribs. At first an excrescence comes up, which later festers internally, and afterwards breaks out in three or four places into a sore. If medicine is not applied it will penetrate deeper.

*Medicines*: (a) *Sarjōm chal* (*harām dare*) the bark of an old *Shorea robusta*, Gärtn.

*Meral chal*, the bark of *Phyllanthus Emblica*, L.

*Bhābri rehel*, the roots of *Embelia robusta*, Roxb.

*Binḍi muthā ghās rehel*, the roots of *Fimbristylis monostachya*, Hassk.

*Sukri muthā ghās da*, the bulb of *Scirpus monostachyus*, Kön.

*Hesak ḍog*, the budding leaves of *Ficus religiosa*, Willd.

*Kadam sakam ḍog*, the budding leaves of *Anthocephalus Cadamba*, Bth. and Hook. f.

Grind all together into a powder and sprinkle it daily on the sore after having daily washed it with water in which the leaves of *nim*, *Melia Azadirachta*, L., have been boiled.

- (b) *Suruĵ lewēr baha*, *Helianthus annuus*, L.  
*Mare nañgle*, an old leathern yoke thong.  
*Dare bañki*, *Vanda Roxburghii*, R. Br.  
*Dhiri banda ghās*,  
*Akaona rehel*, the roots of *Calotropis gigantea*, R. Br.

Grind these together to a powder and dust it on the sore.

- (c) *Tarse kotap rehel*, the roots of *Grewia villosa*, Willd.  
*Mosobor*, Barbadoes aloes.  
*Berel sasañ bohok*, head of raw turmeric, *Curcuma longa*, Roxb.

After washing the wound with water as in (a) above, grind these together and apply daily.

- (d) *Bir jhunka*, *Crotalaria calycina*, Shrank.  
*Bir son sakam*, the leaves of  
*Mandargom sakam*, the leaves of *Annona squamosa*, L.  
*Kāhu botke rehel*, the roots of *Bryonia laciniata*, L.  
*Sukri mutha ghās da*, the bulb of *Scirpus monostachyus*, Kön.  
*Dhubi ghās da*, the bulbs of *Cynodon dactylon*, Pers.  
*Kanṭhar sakam*, the leaves of *Artocarpus integrifolia*, L.  
*Amsopori dare rehel chal*, the bark of the roots of *Psidium*  
 Guava, Raddi.  
*Hesaĳ chal*, the bark of *Ficus religiosa*, Willd.

Fry these to burning point and make a powder to be dusted on daily.

- (e) *Bheḍa dereñ rehel*, the roots of *Cassia Tora*, L.  
*Bagluca jo*, the fruit of *Martynia diandra*, Gloxin.  
*Kayam chal*, the bark of *Adina cordifolia*, H. f. and B.  
*Korkoĳ chal*, „ „ „ *Dillenia indica*, L.  
*Sahar chal*, „ „ „ *Dillenia pentagyna*, Roxb.  
*Gōrē dare chal*, the bark of *Stephegyne parvifolia*, Korth.  
*Sekra dare chal*, „ „ „ *Zizyphus rugosa*, Lamk.  
*Sekreĉ dare chal*, „ „ „ *Lagerstroemia parviflora*, Roxb.  
*Hesaĳ chal*, „ „ „ *Ficus religiosa*, Willd.  
*Terel chal*, the bark of *Diospyros tomentosa*, Roxb.  
*Icaĳ chal*, „ „ „ *Woodfordia floribunda*, Salisb.

Grind a little of all these and sprinkle it on.

- (f) *Buru ghora lada*, *Vitis tomentosa*, Heyne.  
*Edel poha*, a seedling of *Bombax malabaricum*, DC.  
*Ic cver da*, the bulb of *Vitis latifolia*, Roxb.  
*Bod lay nāri*, *Vitis adnata*, Wall.

Fry these to burning point and make a powder to be dusted on daily after washing the sore.

- (g) *Doka rehel chal*, the bark of the root of *Odina Wodier*, Roxb.  
*Janhe lobok*, the bran of *Paspalum scrobiculatum*, L.  
*Kañji*, stale rice water.

Wash with the last, pound the first two very fine and sprinkle on daily.



(h) *Gaḍa gārī*, a certain water insect.

*Mōhlom*, ointment.

Grind and mix and apply to the sore.

(i) *Daṅgra harta reaḱ naṅgle*, a yoke rope of ox leather.

Roast to burning point, grind fine and sprinkle dry on the sore.

(j) *Sarjōm chal*, *haram dare reaḱ*, the bark of an old Shorea robusta, Gärtn.

*Meral chal*, the bark of Phyllanthus Emblica, L.

*Corco chal*, ,, ,, ,, Casearea tomentosa, L.

*Bhābri rehel*, the roots of Embelia robusta, Roxb.

*Campa rehel*, ,, ,, ,, Michelia champaca, L.

*Pinda chal*, the bark of Randia uliginosa, DC.

*Nim chal*, ,, ,, ,, Melia Azadirachta, L.

*Mare naṅgle rapaḱ roṅgo*, an old leathern yoke thong roasted to burning point.

*Suruḱ lewer baha*, the flower of Helianthus annuus, L.

Collect all these and fry or roast them all, as may be feasible, to burning point. Then grind them to a powder and sprinkle this powder on.

(k) *Kujri chal*, the bark of Celastus paniculatus, Willd.

*Baḱ chal*, ,, ,, ,, Mimusops Elengi, L.

*Terel chal*, ,, ,, ,, Diospyros tomentosa, Roxb.

*Heṣel chal*, ,, ,, ,, Anogeissus latifolia, Wall.

*Corco chal*, ,, ,, ,, Casearea tomentosa, L.

*Soso chal*, ,, ,, ,, Semecarpus Anacardium, L.

*Toṅnopāḱ chal*, the bark of Eugenia operculata, Roxb.

*Sekreḱ chal*, ,, ,, ,, Lagerstroemia parviflora, Roxb.

*Hesaḱ chal*, ,, ,, ,, Ficus religiosa, Willd.

*Kadam chal*, ,, ,, ,, Anthocephalus Cadamba, Benth. and Hook. f.

Grind to a powder and sprinkle on.

(l) *Bōṅkapsi rehel*, the roots of Thespesia Lampas, Benth. and Hook. f.

*Peṭcambya rehel*, ,, ,, ,, Helicteres Isora, L.

*Tarse kotap rehel*, the roots of Grewia villosa, Willd.

*Barsa paḱoḱ rehel*, the roots of Grewia sapida, Roxb.

*Seta kaṭa rehel*, ,, ,, ,, Grewia polygama, Roxb.

Grind all these to a powder and apply.

(m) As this appears first like a boil, *ojo*, treat it first as such ; if this fails, then you may know it is this complaint and proceed with

*Merleḱ chal*, the bark of Flacourtia Ramontchi, L'/Herit.

*Janhe loboḱ*, the bran of Paspalum scrobiculatum, L.

*Gundli loboḱ*, the bran of *Panicum miliare*, Lamk.

*Iṛi loboḱ*, „ „ „ „ *Panicum Crus-galli*, L.

Dry the first named and grind it to a powder, then grind and mix the others therewith and sprinkle the mixture daily on the sore.

199. *Nākrisā*. (? Syphilitic ulcer in the nose).

*Symptoms*. A pustule forms inside the nose, bursts and becomes a sore.

*Medicines*: (a) *Kidiñ baha rehel*, the roots of *Ipomæa Quamoclit*, L.

*Tirṛa da*, the bulbs of *Pueraria tuberosa*, DC.

Grind and let him drink some and sniff some up the nose.

(b) *Araḱ purai*, the red variety of *Basella alba*, Willd.

Cook in mustard oil and let him sniff it up the nose.

(c) *Mota purai araḱ, sakamtel, nāṛi tel*, the leaves and tendrils of *Basella alba*, Willd.

Pound and squeeze into the nose, repeating until cured.

(d) *Koṇḍeñ da*, the bulb of *Eriosema chinensis*, Voq.

*Tirṛa ḍog*, the tips of *Pueraria tuberosa*, DC.

Grind together and give to drink and make him sniff some up the nose.

(e) *Mota purai sakam ar nāṛitel*, the stem and leaves of a thick *Basella alba*, Willd.

Pound slightly and squeeze into the nose, repeating till he is well, which will be very quickly.

(f) *Horo bḥoḱ*, the head of a tortoise.

Grind and cook in *utiñ sunum*, mustard oil, or even without cooking, and let him sniff it up the nose. Further, grind together

*Koṇḍeñ da*, the bulb of *Eriosema chinensis*, Voq.

*Tirṛa da*, „ „ „ „ *Pueraria tuberosa*, DC.

and let him take a little thereof every day; take also an iron ladle full of each of *utiñ sunum*, mustard oil, and water, put them in a cup and churn them together with a piece of twig used as a toothbrush and rub it well into the forehead.

200. *Herel ḥordhol*. (? Spermatorrhoea).

*Symptoms*. In this men pass blood in the excreta, something white, discharged from the urethra. It occurs twice or thrice monthly.

*Medicines*: (a) *Edḷ poha*, a seedling of *Bombax inalaricum*, DC.

*Misri*, sugar-candy.

Cut the former into round slices and eat with the latter, and for two or three days drink cold water. No intercourse with women is permissible.

(b) *Miru baha rehel*, the roots of *Abutilon indicum*, Don.

*Haṭ rehel thora*, a little of roots of *Holarrhena antidysenterica*, Wall.

*Aḥim thora*, a little opium.

Grind these three and make into 5 pills. Brush the teeth daily with a twig of the second of above three and take one of these pills. Make a hole at the foot of a *loa dare*, *Ficus glomerata*, Roxb., in which bury a small vessel and after severing one of the roots of the tree let the juice therefrom drop into this vessel. This juice to be drunk by the patient.

(c) *Edel poha rehēl*, the roots of a seedling of *Bombax malabaricum*, DC.

*Hat rehēl*, the roots of *Holarrhena antidysenterica*, Wall.

*Miru baha rehēl*, the roots of *Abutilon indicum*, Don.

*Aphim*, opium.

Grind these all together and make into pills to be taken daily.

*N.B.*—Women suffering from menorrhagia have also been cured by this remedy.

*Herel hoy pond pordhol.* (? Gonorrhoea, ? Spermatorrhoea).

*Symptoms.* In this something white escapes along with the urine and by degrees the body becomes emaciated.

*Medicines:* (d) *Hesak chal*, the bark of *Ficus religiosa*, Willd.

*Kūs ghās rehēl*, the roots of *Themuda gigantea*, Haskel.

*Bir hoyēc rehēl*, „ „ „ *Atylosia scarabædois*, Benth.

*Mahūt gur*, the refuse of molasses.

Pound the first three together and after boiling well with the last give to drink daily.

(e) *Badam jo reak gabe*, the kernel of almonds.

*Pe ganḍa gol maric*, 12 black peppercorns.

Grind together, mix with 8 ounces *paṛa*, spirits, and give 2 ounces daily to drink.

(f) *Campa rehēl*, the roots of *Michelia champaca*, L.

Boil and give to drink like tea daily for some 15 days and he will assuredly recover.

201. *Ponḍeko racatere.* (White-coloured urine.)

*Medicines:* (a) *Kaera daḱ*, the juice of *Musa paradisiaca*, L.

*Cini se misri*, sugar or sugar-candy.

*Mahabari boc*, *Zingiber Zerumbet*, Roscoe.

*Posto dana*, seed of the opium poppy.

Take a little of each of these, grind, warm and give to drink.

(b) *Hesak chal*, the bark of *Ficus religiosa*, Willd.

*Kāsi ghās rehēl*, the roots of *Saccharum spontaneum*, L.

Grind these together and boil well with *mahūt gur*, the refuse of molasses, and give to drink daily; recovery is certain.

(c) *Loṇṇ araḱ*, *Aerua lanata*, L.

*Adwa caole*, rice made from sun-dried, not boiled paddy.

Grind these together, make into hand bread and put out in the dew; let her eat it the following morning and do so for three consecutive days; then proceed with

(d) *Campa rehet*, the roots of *Michelia champaca*, L.

*Rokot condon kat*, blood coloured sandalwood.

*Joba baha rehet*, the roots of *Hibiscus rosa-sinensis*, L.

*Arañ upal baha rehet*, the roots of *Nymphæa rubra*, Roxb.

Grind, mix, boil in water and let her drink for about a fortnight; then

(e) *Huṭer baha rehet*, the roots of *Indigofera pulchella*, Roxb.

*Ponḍ kawet rehet*, ,, ,, ,, the white *Abrus precatorius*, L.

*Cihūt lar rehet*, the roots of *Spatholobus Roxburghii*, Benth.

*Adagathiā rehet*, the roots of *Panicum repens*, L.

Grind and give to drink. If this is ineffective then

(f) Take all the ingredients in (d) and (f) grind together and give to drink.

If there is internal pain :

(g) *Cañi rehet*, the roots of *Morinda exserta*, Roxb.

*Halim*, *Lepidium sativum*, L.

*Jioti*, *Sesbania ægyptiaca*, Pers.

*Duriā haṭkan*, *Leea hirta*, Herb. Banks.

Grind these together, warm and apply as a plaster below the navel; if applied for three days he will get well.

202. *Racateak bondlenre*. Retention of urine.

*Medicines* : (a) *Bandphora biñ jañ*, a bone of the *Bungarus fasciatus* snake.

*Milṭen ghugri*, a mole cricket, *Gryllus gryllo-talpa*.

*Rohoe malhan rehet*, the roots of a cultivated *Dolichos Lablab*, L.

Rub the first on a stone and mix the rubbings with the ground product of the other two and give to drink, when the patient will urinate at once.

(b) *Munḡa dare chal se rehet chal*, the bark of *Moringa pterygo-sperma*, Gärtn., or of its roots.

*Arc ganḡa gol maric*, 36 black peppercorns.

Grind, mix and apply over the abdomen, and the patient will urinate at once.

After or during childbirth the urine is retained, and both then and in fevers this remedy is efficacious.

(c) *Gilil gārī*, *Gryllus monstrosus*.

*Mahūt gur*, the refuse of molasses.

Mix and give to drink.

(d) *Ponḍ sega rehet*, the roots of the white *Mimosa rubicaulis*, Lamk.

Pound and crush to pieces, boil and give to drink.

203. *Ṭhoḡ ṭhoḡko racatere*. Dysuria.

*Medicines* : *Anḡiā moron araḡ da*, the bulb of *Gymnema hirsutus*, W. and A., var. *Decaisneanum*, Wight.

*Bana hatañ chal*, the bark of *Oroxylon indicum*, Benth.

*Adagathia rehet*, the roots of *Panicum repens*, L.

Mix and grind these and give to drink.

204. *Jhala se Seton lagao*. Dysuria, nearly always caused by excessive perspiration.

*Medicines* : (a) *Añkir rehet*, the roots of *Smilax ovalifolia*, Roxb.

*Kadar rehet*, the roots of *Bonnaya veronicaefolia*, Spreng.

*Bonga sarjom ros*, the juice of *Ventilago calyculata*, Tulasne.

*Sarjom ros*, the juice of *Shorea robusta*, Gärtn.

*Tarop chal*, the bark of *Buchanania latifolia*, Roxb.

*Terel rehet*, the roots of *Diospyros tomentosa*, Roxb.

*Merom mēt chal*, the bark of *Ixora parviflora*, Vahl, or *Olanana*, Wall.

*Rol chal*, the bark of *Terminalia Chebula*, Retz.

*Lopon chal*, the bark of *Terminalia bellerica*, Roxb.

*Kañic kadar rehettet*, the bark of a small *Bonnaya veronicaefolia*, Spreng.

Collect all these and give to drink.

(b) *Hesel dare chal*, the bark of *Anogeissus latifolia*, Wall.

*Kauha dare chal*, „ „ „ *Terminalia Arjuna*, Bedd.

*Gada terel chal*, „ „ „ *Diospyros montana*, Roxb.

Grind together and give to drink.

(c) *Nürüc bale dog reañ mañj*, the pith of a fresh shoot of *Cassia Fistula*, L.

Grind fine, mix with sugar and give to drink.

(d) *Horçc*, *Dolichos biflorus*, L.

Make this into a curry to be eaten some five days.

(e) The best medicine of all for this is *lolq ca*, hot tea, the drinking of which is followed by an immediate cure ; but this we have only learnt lately.

(f) *Nāñi muruñ chal*, the bark of *Butea superba*, Roxb.

*Suruñ mukhi baha rehet*, the roots of *Helianthus annuus*, L.

*Nürüc bale dar reañ mañj*, the pith of a young branch of *Cassia Fistula*, L.

Grind these, mix with *cini*, sugar, and give to drink.

If blood is passed with the urine, then

(g) *Matkqm chal*, the bark of *Bassia latifolia*, Roxb.

*Lopon chal*, „ „ „ „ *Terminalia bellerica*, Roxb.

*Tañdi maric*, found in the rice fields, the leaves resembling those of *Capsicum frutescens*, Willd.

*Thora kauñi can*, a little lime made of the shells used as money in India.

Grind and mix these, add a little *mare gur*, old molasses, or *cini*, sugar, and give to drink.

One "authority" says: This follows being long or walking long in the sun. Generally it will result from drinking water before the body has cooled down after exposure to the sun.

205. *Māyāmgeko pesabre*. Hæmaturia.

*Medicines*: (a) *Mare jhantireko taheṇ tejo*, creeping insects found in old wattles.

*Mare sea sauri toroć*, the ashes of rotten *Heteropogon contortus*, R. & S.

*Kāyā kaudi cun*, lime made of the shells used as money in India.

First grind the insects with water; then mix and stir up with the other two ingredients, strain and give to drink.

(b) Cut all round the inside of *Arakak latu peaj*, a large red onion; then insert a little *aphim*, opium, in the hollow, envelope all in earth and bake in the fire. When the earth is scorched, pull it out of the fire and give the onion to eat. Should stupefaction ensue, toast *kaera dhandkil*, the stalk of *Musa paradisaica*, L., at the fire, squeeze out and collect the water from it and give him that water to drink.

(c) *Rol chal*, the bark of *Terminalia Chebula*, Retz.

*Cihūč chal*, ,, ,, ,, *Spatholobus Roxburghii*, Benth.

*Doka chal*, ,, ,, ,, *Odina Wodier*, Roxb.

*Muṅga chal*, ,, ,, ,, *Moringa pterygosperma*, Gärtn.

*Dundukil chal*, the bark of *Gardenia turgida*, Roxb.

*Pader chal*, ,, ,, ,, *Stereospermum suaveolens*, DC.

Grind these together and give to drink.

(d) *Nanha dudhi loṭa rehel*, the roots of *Ichuocarpus frutescens*, R. Br.

*Malhan nāyī dhomporeko taheṇ 2 sē 3 tejo*, 2 or 3 of the creeping insects found on the lumps on the tendrils of *Dolichos Lablab*, L.

*Tejo mala rehel*, the roots of *Cissampelos Pareira*, L.

Mix, grind and give to drink.

(e) Grind *ūnūč dog*, a shoot of *Cassia Fistula*, L. and give to drink with sugar.

(f) *Bir haṭ rehel*, the roots of *Holarrhena antidysenterica*, Wall. (?)

*Bir jhūnkā rehel*, the roots of *Crotalaria calycina*, Shrank.

Grind these with water and give to drink.

(g) *Edeḷ poha*, a seedling of *Bombax malabaricum*, DC.

*Atnaḱ poha sē chal*, a seedling or the bark of *Terminalia tomentosa*, W. and A.

*Mahūt gur*, the refuse of molasses.

Mix and give to drink.

206. *Kharak muth.* Gravel.

*Symptoms.* In this the urine is red or blood is passed, and occasionally white also, and there is intense pain.

*Medicines:* (a) *Bhabri rehet*, the roots of *Embelia robusta*, Roxb.

*Barni rehet*, the roots of *Clerodendron infortunatum*, L.

*Paṛo da*, the bulb of *Curcuma angustifolia*, Roxb.

*Araḱ se poṇḍ meral sakam*, the leaves of either the red or white *Phyllanthus Emblica*, L.

*Tursi sakam*, the leaves of *Ocimum sanctum*, Willd.

*Atkir rehet*, the roots of *Smilax ovalifolia*, Roxb.

Grind these and take the juice, and give to drink with *māhūt gur*, the refuse of molasses; mix also a little *sora*, saltpetre.

(b) *Māhūt gur*, the refuse of molasses.

*Sora*, saltpetre.

First smear the former on the abdomen, then after pounding the latter fine sprinkle it over and cover with a piece of white paper; in a little while he will urinate.

(c) *Oroṣ da*, the tuber of *Costus speciosa*, Sm.

Give this to drink and apply to the abdomen.

(d) *Hesaḱ chal*, the bark of *Ficus religiosa*, Willd.

*Bir horeç*, *Atylosia scarabædois*, Benth.

*Kūs rehet*, the roots of *Themuda gigantea*, Haskel.

*Loṇphul*, cloves.

*Cini*, sugar.

Grind the first three and boil well, then mix the last two and give to drink.

(e) *Tejo mala rehet*, the roots of *Cissampelos Pareira*, L.

*Haṭ jo jaṇ*, the stone of the fruit of *Holarrhena antidysenterica*, Wall.

Grind and give to drink.

(f) *Halim*, *Lepidium sativum*, L. to be thrown into the mouth.

*Cae ciroya*, *Gentiana cheraiyta*, Roxb.

*Jithimond rehet*, the roots of *Clerodendron Siphonanthus*, R. Br.

The two latter to be steeped in a little water, this water to be drunk with an admixture of sugar-candy, and the two steeped ingredients to be thrown into the mouth.

(g) *Binḍi mutha ghās rehet*, the roots of *Fimbristylis monostachya*, Hassk.

*Bharbhari jaṇ* the seed of *Ocimum basilicum*, L., or *O. canum*, Sims.

Extract the juice of the former and steep the latter in it, and then give to drink; the pain will cease.

- (h) *Ato kundri datel*, the bulb of *Cephalandra indica*, Nand.  
*Bhābri chal*, the bark of *Embelia robusta*, Roxb.  
*Sahya chal*, ,, ,, ,, *Streblus asper*, Lour.

Grind together and stir in water. Take some of the juice of the *sarjom dare*, *Shorea robusta*, Gärtn., mix it with the other water. Then strain this water and add *cini*, sugar, and *dumur rasa*, the honey of the small honey bee, and stir in it *mare nangle rapak rōngokale*, an old leathern yoke thong roasted to burning point, the whole forming about a tumblerful of water, to be drunk once a day for three days.

- (i) *Kapu da*, the tuber of } to be drunk  
*Jioli*, *Sesbania ægyptiaca*, Pers. } with spirits.  
*Nāpūc jo*, the fruit of *Cassia Fistula*, L.  
(j) *Kawel rehēl*, the roots of *Abrus precatorius*, L.  
*Mahūt gur*, the refuse of molasses.  
*Sora*, saltpetre (the size of a pill).  
*Gondhok*, sulphur (,, ,, ,, ,,)  
*Opal terel dare reak jer*, the exudation from a sapling of  
*Diospyros tomentosa*, Roxb.  
*Khayar jer*, the exudation from *Acacia Catechu*, Willd.

Grind, stir in the refuse of molasses and give to drink.

- (k) *Kadar nārī*, *Asparagus racemosus*, Willd.  
*Aṭkir*, *Smilax ovalifolia*, Roxb.  
*Cini*, sugar.  
*Mahūt gur*, the refuse of molasses.  
*Matha arak*, *Antidesma diandrum*, Tulas.  
*Bheḍwa*, *Hibiscus cancellatus*, Roscoe, var. *fusiformis*, Willd.  
(l) *Bhābri rehēl*, the roots of *Embelia robusta*, Roxb.  
*Paṛo da*, the bulb of *Curcuma angustifolia*, Roxb.  
*Arak meral sakam*, the leaves of the red *Phyllanthus Emblica*, L.  
*Atnak chal*, the bark of *Terminalia tomentosa*, W. and A.  
*Bārni rehēl*, the roots of *Clerodendron infortunatum*, L.  
*Tursi sakam*, the leaves of *Ocimum sanctum*, Willd.  
*Aṭkir rehēl*, the roots of *Smilax ovalifolia*, Roxb.  
*Thoṛa rambya jah*, a few seeds of *Phæseolus Mungo*, var.  
*Radiatus*, L.  
*Nārī muruṣ rehēl*, the roots of *Butea superba*, Roxb., or  
*Muruṣ dare chal*, the bark of *Butea frondosa*, Roxb.

Extract about 2 pounds of the juice of all these collectively, mix a little *sora*, saltpetre, and after stirring in *mahūt gur*, the refuse of molasses, give him 2 ounces to drink at intervals, and soon afterwards he will urinate.

(m) Apply *mahūt gur*, the refuse of molasses, on the abdomen up to the navel, and after sprinkling *sora*, saltpetre, thereon rub him, and then



cover with a piece of white paper. He will urinate soon afterwards, and even if he has not done so for about a couple of days he will soon get relief.

(n) *Orop da*, the tuber of *Costus speciosa*, Sm.

Extract the juice of this and after mixing with the refuse of molasses give him to drink. Grind the tuber small and apply as an ointment.

(o) *Muṅga dare chal se rehet*, the bark or roots of *Moringa pterygosperma*, Gärtn.

*Pē ganda gol maric*, 12 black peppercorns.

Grind together and apply as an ointment on the abdomen; must not be taken internally.

(p) *Bhābri jañ*, the seed of *Embelia robusta*, Roxb.

*Haṭ jañ*, ,, ,, ,, *Holarrhena antidysenterica*, Wall.

Grind, mix and give to drink, when he will urinate at once.

(q) *Patal kohṇḍa reak da*, the tuber of *Pueraria tuberosa*, DC.

*Kamraj rehet*, the roots of *Buettneria herbacea*, Roxb.

*Upal baha arakak*, *Nymphæa rubra*, Roxb.

*Māhūt gur*, the refuse of molasses.

Take the water from the first (like melted hail inside), and grind the next two, mix all together and give to drink once a day for three days.

(r) *Bhābri chal*, the bark of *Embelia robusta*, Roxb.

*Paṇḍ da*, the tuber of *Curcuma angustifolia*, Roxb.

*Arak meral sakam*, the leaves of the red *Phyllanthus Emblica*, I.

*Atnak chal*, the bark of *Terminalia tomentosa*, W. and A.

*Barni rehet*, the roots of *Clerodendron infortunatum*, L.

*Tursi sakam*, the leaves of *Ocimum sanctum*, Willd.

*Atkir rehet*, the roots of *Smilax ovalifolia*, Roxb.

*Ramra jañ*, the seeds of *Phæseolus Mungo*, var. *Radiatus*, L.

*Nāṇī muruṣ rehet*, the roots of *Butea superba*, Roxb.

Pound all these together and take about two pounds of the juice, and mix a little *sora*, saltpetre, and *māhūt gur*, refuse of molasses, therewith and give about a ladle full at intervals to drink. Apply also externally (*m*) as above.

(s) *Jugia rehet*, the roots of *Cordia Macleodii*, H. f. and T.

*Kita māñj*, the heart of *Phoenix acaulis*, Buch.

*Makarḅenda rehet*, the roots of *Diospyros embryopteris*, Pers.

*Gaḍa terel*, *Diospyros montana*, Roxb.

*Dhiri banda*,

*Suntas*,

*Māhūt gur*, refuse of molasses.

Grind these together, then grind *adwa caole*, rice made from sun-dried, not boiled, paddy into meal, and after mixing it with above make into hand bread and put out into the dew, after which it is to be eaten. Do this daily and in three or four days it will be evident whether it is efficacious or not.

207. *Ekasira*. Orchitis, Epidydimitis, or (so mostly) Hydrocele.

*Symptoms*. This is a very bad and troublesome male complaint, from which many men have to suffer all their life if medicine be not quickly applied.

*Medicines*: (a) *Andiā moron arak̄ rehel*, the roots of *Gymnema hirsutus*, W. and A., var. *Decaisneanum*, Wight.

To be cooked in melted cows' butter and the place to be anointed therewith. If no such melted butter is to be had, apply the roots nevertheless only.

(b) *Akaona rehel*, the roots of *Calotropis gigantea*, R.Br.

*Ḍatra rehel*, „ „ „, *Datura alba*, Willd. or *D. fastuosa*, Willd.

*Andiā moron arak̄ rehel*, the roots of *Gymnema hirsutus*, W. and A., var. *Decaisneanum*, Wight.

Cook all these in melted cows' butter and apply externally, he is sure to get well.

(c) *Ponḍ akaona rehel*, the roots of the white-flowered *Calotropis gigantea*, R.Br.

To be ground and mixed with old rice water, and then applied externally to the spot.

(d) *Bir gongha*, the shell of a forest snail.

*Leṅḍon*, the skeleton of a dead centipede.

*Phuli paura*, neat spirits.

*Karhani hoṛo reaḱ adwa caole*, the rice made from the sun-dried product of a variety of black paddy.

*Goṭe rehel*, the roots of *Croton oblongifolius*, Roxb.

Grind together and mixing it with neat spirit, make the patient drink it.

(e) *Andiā moron arak̄ rehel*, the roots of *Gymnema hirsutus*, W. and A., var. *Decaisneanum*, Wight.

Apply as an ointment to the spot and he will surely get well.

(f) The same as in the preceding (e) and

*Akaona rehel*, the roots of *Calotropis gigantea*, R.Br.

*Ḍatra rehel*, „ „ „, *Datura alba*, Willd. or *D. fastuosa*, Willd.

*Dhūrā*, resin of *Shorea robusta*, Gärttn.

*Gol maric thoṛa*, a little black pepper.

Grind all these together, cook in melted butter of cows' milk and smear on; recovery is sure to follow.

(g) On Saturday evening put out *mil laṭi sutam*, a skein of thread, in the dew; on Sunday morning twist it into a cord of five strands and tie this in one breath to the big toe of the foot on the side that pains him, and make three striped marks across his forearm with *soṣo*, the fruit of *Semecarpus Anacardium*, L., and he will recover if the complaint is due to the wind; otherwise proceed with the following:

- (h) First of all let him pretend to scratch himself with *bardūrūc rama*, a bat's claws or nails, and then  
*Bhiḍi achim*, *Centifida orbicularis*, Lour.  
*Mula*, *Raphanus sativus*, L.  
*Bilati thamakur*, imported tobacco.

Grind these, pour on some *loa loye*, the sticky exudation from *Ficus glomerata*, Roxb., and cook the whole in *uññ sunum*, mustard oil, and let him smear this oil on, when he will recover provided it is not chronic, or it will take some time. This remedy is intended for application before it reaches a chronic stage.

- (i) *Hārū ic*, a baboon's excrement.  
*Kulañ ic*, a hare's „  
*Piska da*, the tuber of *Dioscorea oppositifolia*, L.  
*Ekasira rehel*, the roots of *Crataeva religiosa*, Forst.

Grind these with *sisir dañ*, dew, and then

- Bilati thamakur*, imported tobacco.  
*Goç lenḍon*, the skeleton of a dead centipede.  
*Gaṅgiñ cun*, lime from nodular or hydraulic limestone.  
*Anḍia moron ayañ rehel*, the roots of *Gymnema hirsutus*, W. and A., var. *Decaisneanum*, Wight.  
*Akaona rehel*, the roots of *Calotropis gigantea*, R. Br., or *C. procera*, R. Br.  
*Datra rehel*, the roots of *Datura alba*, Willd. or *D. fastuosa*, Willd.  
*Dhūrā*, resin of *Shorea robusta*, Gärtn.  
*Gol maric*, black pepper.

Cook all these in *gai gotom*, melted butter from cows' milk, and apply.

One "authority" says: In this the private parts swell up so that walking is difficult. It may arise from two causes, either from leading a licentious life, or from the wind being in a certain direction which causes pain and sets up the complaint.

208. *Gidraño puniñ*. Infantile atrophy.

*Symptoms*. This occurs in infants both when the mother's milk is secreted and when it dries up. Whatever remedy is applied to the mother should also be applied to the child.

*Medicines*: (a) *Berel sasañ bohok*, a knot of raw turmeric, *Curcuma longa*, R.  
*Anḍia moron ayañ rehel*, the roots of *Gymnema hirsutus*, W. and A., var. *Decaisneanum*, Wight.

Grind these two together and saturate them with mustard oil. In the evening anoint or smear the child all over with this and let it stay till 9 o'clock the following morning. Then wash it off and give a fresh application of the same to stay on till the evening. Repeat this process daily till the child is well.

For the mother grind only the roots of the latter of above and make into pills to be administered thus. Let her take a mouthful of unboiled rice made from boiled paddy and chew and eat this after taking into the mouth one of the pills. This to be repeated daily for 7 or 8 days, then her milk will flow and the child put on flesh. Take the upper bark or roots of *bhorkonđ dare*, *Hymenodictyon excelsum*, Wall., smash them into a pulp and smear the entire body of the child for about half a month.

(b) *Nanha pusi toa*, *Euphorbia thymifolia*, Burm.

Grind the whole plant and smear the child with this daily, giving the mother some of the same to drink, and you will see her milk will flow and the child get well.

(c) *Dđł cęřč bele*, the egg of the humming bird.

To be broken, stirred together and a spoonful to be taken by the child.

(d) *Bhorkonđ dare cetan reañ řehel*, the roots of *Hymenodictyon excelsum*, Wall.

*Kuril rama cetan reañ ciř ciriř*, *Achyranthes aspera*, L., found growing over *Zizyphus oxyphylla*, Edgew.

To be ground together and smeared on the child.

(e) *Andia moron arak řehel*, the roots of *Gymnema hirsutus*, W. and A., var. *Decaisneanum*, Wight.

*Berel sasañ bohok*, a knot of raw turmeric, *Curcuma longa*, Roxb.

Give to drink along with *merom toa*, goats' milk, an immediate cure will follow.

(f) Grind the two ingredients of (e) above and saturate with *nira turi sumum*, pure mustard oil. Anoint the child therewith every morning, wash it off at noon, smear it on again. At 3 P.M. again wash it off and re-apply letting it stay all night. Then in the morning wash it off and repeat the process daily till recovery.

(g) *Dare cetan bhorkonđ chal, řehel se sakam*, the bark, roots or leaves of *Hymenodictyon excelsum*, Wall., growing on trees.

Grind and saturate with turmeric in mustard oil and apply as in (f) above.

(h) Same as (g) preceding and

*Sasañ bohok*, a knot of turmeric, *Curcuma longa*, Roxb.

*Adagathia řehel*, the roots of *Panicum repens*, L.

Stir after grinding in mustard oil and anoint therewith daily after bathing.

(i) *Bhuku chata*, a termites' nest.

Grind with the milk of a black cow who has also a black calf, stir in the same milk and smear on daily after bathing.

(j) *Berel sasañ bohok*, a knot of raw turmeric, *Curcuma longa*, L.

Saturate in mustard oil, and after washing off the first that you smeared on smear this on every evening.

(k) *Dare cetan bhorkonđ chal*, the bark of *Hymenodictyon excelsum*, Wall., growing on trees.

*Guriè gandar*, the larvæ of beetles found in middens of cowdung.

*Oponom*, *Angelica glauca*, Edgew.

*Bohoḳ sasañ*, a knot of turmeric, *Curcuma longa*, Roxb.

Grind these together, smear the child therewith, and girdle him with *alagjari*, *Cassytha filiformis*, Roxb. If this alone is not efficacious apply along with it

(l) *Adagaḥia*, *Panicum repens*, L.

*Hendē gai toa*, the milk of a black cow.

209. *Gidraḳo ahaḳ*. (Believed due to the evil eye.)

*Symptoms*. This is a spell cast generally on children, but sometimes also on adults. After it children cry, sometimes vomit, and after that have watery evacuations.

*Medicines*: (a) *Eraḍom laṭteḷ*, the peeled bark of *Ricinus communis*, L.

With one breath bit off a strip of this and tie it on the child.

(b) *Ambra jañ*, the seed of *Spondias mangifera*, Pers.

Take one of these that people have sucked and thrown away, grind it and give to drink; recovery is sure.

(c) *Latna ciḥ ciriḥ reḥeḷ*, the roots of  
3 *gol maric*, 3 black peppercorns.

Mix these and give to drink, and with the plant itself make a pass three times downwards and stick behind the ear, all in one breath.

(d) *Dhadra haṭaḳ*, an old worn out winnowing fan.

*Mit kutra thutḳi jonḳ jeleñ utaraḳ* 3 *careḥ*, the 3 longest bits of an old worn out broom.

*Miltan soḥo jañ*, a seed of *Semecarpus Anacardium*, L.

Let the child touch these and then the mother with one breath make three passes over the child, and then let the medicine giver take all and throwing them on the top of their roof go straight home.

210. *Bale gidraḳo uchḷau*. Infants' vomiting.

*Medicines*: (a) *Janum jambir chal*, the bark of a thorny *Citrus medica*, L.

*Kaera sakam*, a leaf of *Musa paradisiaca*, L.

*Dhiri kaṭḳom jaṅga se hoṛmotel*, the leg or body of a crab found under stones.

*Uldḥa da*, the tuber of a *Nymphaea*.

Wrap the first in the second and warm it, and squeeze the water out into a cup. Take the juice of the last two, and give all to drink.

(b) *Toyo sakaḳ reḥeḷ*, the roots of

*Janum araḳ reḥeḷ*, ,, ,, ,, *Amaranthus spinosus*, Willd.

Grind these together and give to eat with *uḷeḷ rasa*, honey.

211. *Bale gidra toageko cidir khan.* (When babies pass milky stools.)  
*Medicines:* *Sikuar rehel*, the roots of  
 Grind and make to drink.
212. *Bale gidra goh.* (Infants' summer diarrhoea.)  
*Symptoms.* Infants pass black motions.  
*Medicines:* (a) *Nürüc chal*, the bark of Cassia Fistula, L.  
*Hemsagor da*, the bulb of Cotyledon laciniata, Willd.  
*Thora cum*, a little lime.  
*Nim chal*, the bark of Melia Azadirachta, L.  
 Grind and mix these, and after warming a little plaster the stomach  
 and whole body, or the mother too may drink it.  
 (b) *Loḡon arak*, *Aerua lanata*, L.  
 Wrap in leaves, roast in embers and give the mother to eat.
213. *Sea sahel.* Foul breath. (Ozaena ?)  
*Symptoms.* In this the breath is offensive and there is a mucous discharge from the nose resembling lichen or mould in colour.  
*Medicines:* (a) Cook *goṭe chal*, the bark of Croton oblongifolius, Roxb., in  
 mustard oil, and make into pills to be eaten.  
 (b) *Gote chal*, the bark of Croton oblongifolius, Roxb.  
*Cutiḡ bardürüc*, a kind of small bat.  
 Cook in mustard oil, let him sniff some up the nose, and smear some over  
 the face. Let him also eat a little.  
 One "authority" says to grind above first, using the roots instead of the  
 bark of the former, otherwise the same, and to apply three or four times.
214. *Doyok.* Nausea and vomiting.  
*Medicines:* (a) *Bardürüc ulawaḡ*, what a bat has spat out.  
*Aimai satekore uḡko sogekak*, the hairs that women stick into  
 the eaves of a house.  
 Singe the hairs and then grind both together and give to drink.  
 If this is not efficacious then mix with above  
 (b) *Putki rehel*, the roots of Scirpus rotundus.  
 (c) *Marak pñic reak mēl*, the eye of a peacock's tail.  
*Talc daṇḍil*, the stem of the leaves of *Borassus flabelliformis*,  
 L.  
 Foment the latter and extract the juice, and in this mix the former and  
 after mixing *dumur rasa*, the honey of the small honey bee, give to drink.
215. *Uchlau.* Vomiting.  
*Medicines:* *Utiki rehel*, the roots of  
*Tursi sakam (thora)*, a few leaves of *Ocimum sanctum*, Willd.  
 Grind together and give to drink.

216. *Serey serey qikauk.* Nausea.

*Symptoms.* This may arise when one sees something one longs for being eaten, or without known cause, or from the presence of worms in the stomach.

*Medicines:* *Nim sakam*, the leaves of *Melia Azadirachta*, L.

*Siiŋo sakam*, the leaves of *Ægle Marmelos*, Correa.

*Soso jañ*, the seeds of *Semecarpus Anacardium*, L.

Fry and dry the first two, and half roast the third, 3 seeds for a child or 5 to 7 seeds for an adult. Take also some *khoi ata*, rice parched in a particular way; then make all into a meal and give every morning 3 to 5 leafspoons full to eat, which will cure.

217. *Dub dubia.*

*Symptoms.* There is a feeling of repletion in the stomach the result of over-eating, which may induce diarrhoea.

*Medicines:* (a) *Kuñdi sunum*, oil obtained from the seed of *Bassia latifolia*, Roxb.

Rub this over the stomach and apply *lolq toroç*, hot ashes, to the navel, when the stomach will relax.

(b) *Pudin ařak*, mint, *Meutha sativa*, Willd.

*Buluñ*, salt.

A mixture of these to be eaten.

218. *Laçre kusur tahevre julap ran.*

An aperient in cases of stomach derangement, specially indigestion.

*Medicines:* *Etkëç lore tala chotak gan*, about an ounce of the sticky exudation of *Euphorbia antiquorum*, L.

*2 se 3 gan mutha da*, some 2 or 3 bulbs of *Fimbristylis monostachya*, Hassk.

Grind the latter and mix with former. Grind also *thořa buluñ*, a little salt, and *thořa sasañ*, a little *Curcuma longa*, Roxb., and mix with above and *tala pařa gan hořo caole reak holoñ*, about two ounces of rice flour, and after baking in leaves give to eat. After eating a little hot water must be drunk three or four times, when watery motions will commence. Continue the hot water drinking until the desired number of motions have been passed, and when it is wanted to stop them drink some cold water which will stop them. The *etkëç lore* must be fresh, as if stale it will be poisonous.

219. *Kosa se jhaya bako phirañ.* Constipation or obstruction.

*Medicines:* (a) *Misri cini*, sugar-candy.

*Adhe*, ginger, *Zingiber officinalis*, Roscoe.

*Gol mařic*, black pepper.

Grind all these together and let the patient eat it.

(b) *Jawān jira*, *Carum Ajowan*, DC. & *Carum Carui*, L.

*Bereç adhe*, raw ginger.

*Choṭa haṛḷa*, Terminalia Chebula, Retz.

*Biṭ buluñ*, a factitious salt containing sulphur.

Grind these together and let him eat it, drinking about four ounces of hot water, and the bowels will be opened.

(c) *Berel adhe*, raw ginger.

*Ca*, tea.

Mix and boil together and let the patient drink it after mixing salt in it, and he will be all right.

220. *Pithi rog.* ? Urticaria and Dyspepsia.

*Medicines* : *Sasañ baha*, the flower of Curcuma longa, Roxb.  
*Hemsagor*, Cotyledon laciniata, Willd.  
*Soso jañ*, the seed of Semecarpus Anacardium, L., var. cuneifolia.  
*Cerçeḷeç*, a lizard.  
*Paiñjot sakam*, the leaves of Clerodendron plomoides, L. fil.  
*Kasmar chal*, the bark of Gmelina arborea, Roxb.  
*Mota dare japaḷ*, Scindapsus officinalis, Schott.  
*Dare bañki*, Vanda Roxburghii, R. Br.  
*Bana haṭaḷ*, Oroxyton indicum, Benth.  
*Buc chal*, the bark of Cordia Myxa, L.

Pound all these, mix and give to drink.

221. *Kachma.* (lit. tortoise.)

*Symptoms.* A hard swelling arises in the stomach like a small brass cup or a tortoise, hence the name.

*Medicines* : *Adaḡaṭhia rehel*, the roots of Panicum repens, L.  
*Jhankaṛa rehel*, ,, ,, ,, Thysanolaena acarifera, Nees.  
*Poñḡ raṣun*, white garlic.  
*Kaḡu botke da*, the bulb of Bryonia lacinosa, L.  
*Gol maṛic*, black pepper corns.  
*Thoṛa buluñ atakate*, a little salt fried.

Grind all together and give to drink, or else mix with some *paṛa*, spirits, and give a little every morning to drink until recovery.

222. *Paṭha se Koema.* (Constipation, obstruction.)

*Symptoms.* In this there is a swelling in the stomach like a young frog.

*Medicines* : (a) *Kaḡu botke da*, the bulb of Bryonia lacinosa, L.  
*Adhe*, ginger.  
*Moroñ aṛaḷ da*, the bulb of Gymnema hirsutum, W. and A., var. Decaisneanum, Wight.  
*Gol maṛic*, black pepper.

Grind these with water and make into pills to be swallowed.



(b) *Hesaḥ chal*, the bark of *Ficus religiosa*, Willd.

Grind and give to drink.

(c) *Bidhanta chal*, the bark of *Entada scandens*, Benth. Pound with water and give to drink; then shortly afterwards stir *buluñ*, salt, in a brass-cup full of water that is sold for 8 annas, and let him drink it.

(d) *Ato piñḍa da*, the bulb of *Amorphophallus campanulatus*, Blume.

*Kalmeg*, *Andrographis paniculata*, Nees.

*Kaḥu botke da*, the bulb of *Bryonia laciosa*, L.

*Saoraj*, *Vernonia anthelmintica*, Roxb.

Grind these and when the swelling rises give some to drink mixed with half a leaf-cupful of either *ḥaura*, spirits, or hot water.

223. *Puti*. Constipation with meteorismus.

*Medicines*: (a) *Latha ciḥ cirif*,

*Gol maric*, black pepper.

Grind and give to drink.

(b) *Loḷo jḷ*, the fruit of *Randia dumetorum*, Lam.

Grind, warm and smear all round the navel, and give a little to drink.

(c) *Nanha leñḍet araḥ*,

Grind and give to drink with *bali gur*, crystallized raw sugar.

(d) Roasted *siñjo sakam*, leaves of *Ægle Marmelos*, Correa.

*Thora kalmeg rehel*, a little of the roots of *Andrographis paniculata*, Nees.

*Buluñ*, salt.

*Khaḍi toroç*, the ashes of Indian corn cobs.

*Saoraj*, *Vernonia anthelmintica*, Roxb.

Mix these and give to drink.

(e) *Loḷo jḷ*, the fruit of *Randia dumetorum*, Lam.

*Kuñḍi kaḇe*, oilcake left after extracting the oil from the kernel of *Bassia latifolia*, Roxb.

*Nun juan*, salt and *Carum Ajowan*, DC.

*Kaḷia jira*, *Nigella indica*, Roxb.

*Siñjo sakam*, the leaves of *Ægle Marmelos*, Correa.

Fry, grind and give to drink.

(f) *Gote rehel*, the roots of *Croton oblongifolius*, Roxb.

*Buluñ*, salt.

Grind these together and give to drink daily, and he will get well.

(g) *Sega rehel*, the roots of *Mimosa rubicaulis*, Lamk.

*Badgocak rehel*, the roots of *Lygodium flexuosum*, Sw.

*Nanha dudhi loṭu rehel*, the roots of *Ichnocarpus frutescens*, R. Br.

Grind these together and give to drink daily, a quick recovery will follow.

(h) *Kuinđi kaye*, oilcake left after extracting the oil from the kernel of *Bassia latifolia*, Roxb.

*Pudin arak*, mint, *Mentha sativa*, Willd.

Warm the former and apply as a plaster over the stomach and give the latter to eat. Wait and see if gas is voided ; if not, then proceed to

(i) *Tursi sakam*, the leaves of *Ocimum sanctum*, Willd.

*Hađ dal*, the kernel of the fruit of *Holarrhena antidysenterica*, Wall.

*Gote rehel*, the roots of *Croton oblongifolius*, Roxb.

*Pea gol maric*, 3 black peppercorns.

*Saoraj*, *Vernonia anthelmintica*, Roxb.

Grind all these together and give to drink ; it will be followed by the voidance of the gas and a loose motion.

224. *Ros piti rua*. (Indigestion.)

*Symptoms*. This may occur in either children or adults. If one has eaten a surfeit of anything savoury, from that day the humours of the body increase, and later they get sick. They vomit bile freely and have a severe headache.

*Medicines*: (a) *Sega rehel*, the roots of *Mimosa rubicaulis*, Lam.

Pound and give to drink, when the humours will be absorbed or dissipated.

(b) 25 *ganđa gol maric*, 100 black peppercorns.

*Latha ciđ cirif*,

*Adhe*, ginger, *Zingiber officinalis*, Roscoe.

*Boc*, the root of *Acorus Calamus*, Willd.

Grind these and make into pills, one to be taken each morning, noon and evening.

*For children*: *Darcini*, cinnamon.

*Adhe*, ginger.

*Ñele rasa*, honey.

Grind the first two together, mix with the third and give to eat.

225. *Sukan pit*. (Indigestion.)

*Symptoms*. If a person eats a meal after the usual time his bowels will be confined, *i.e.* they will not be moved as usual. He will get headache at sunrise, have catarrh and cough.

*Medicines*: (a) Boil *gai toa*, cows' milk, with *guy*, molasses, or *cini*, sugar, and let him drink it warm, and on his bowels being moved he will get well.

(b) *Latha ciđ cirif rehel*, the roots of

*Pe ganđa gol maric*, 12 black peppercorns.

*Thora gulañj baha dare chal*, a little of the bark of *Plumeria acutifolia*, Poiret.

Pound all these, extract 2 ounces of the juice and give to drink, which will open the bowels.

226. *Ic' ado bqndok.* Retentio urinæ et fæcum.

*Medicines:* (a) Add to the ingredients detailed in No. 223 (h) and (i)

*Dare cetan hesak' rehet' chal*, the bark of the surface roots of *Ficus religiosa*, Willd.

Grind all together, and give to drink.

If the patient is a baby take only

(b) *Saoraj*, *Vernonia anthelmintica*, Roxb.

Grind and let the child lick it.

(c) *Boŋga sarjom rehet' chal*, the bark of the roots of *Ventilago calyculata*, Tulasne.

*Sukri dhumbaḳ*, pig's excrement.

Grind these together, stir in *utin' sunum*, mustard oil, and apply over the whole abdomen.

227. *Sokhao.* Parching thirst.

*Symptoms.* In this the saliva dries up and there is intense thirst, sometimes without fever.

*Medicines:* (a) *Dak' icaḳ rehet'*, the roots of *Jussiaea suffruticosa*, Linn.

*Gargaḳi rehet'*, „ „ „, *Coix lachryma*, Willd.

*Gol maric*, black pepper.

*Bar chimbri gan rasun*, about a couple of clusters of garlic.

Grind these four together and let the patient drink the juice, he will get well.

(b) *Jithimond*, *Clerodendron Siphonanthus*, R. Br.

*Halim*, *Lapidium sativum*, Linn.

Soak both in water, and let the patient drink that water, he will get well.

228. *Tetañ maraok.* (to quench thirst).

If you are suffering from parching thirst chew

*Jithimond*, *Clerodendron Siphonanthus*, R. Br.

and swallow the juice, which will quench the thirst.

229. *Laç haso.* Stomach-ache.

*Medicines:* (a) *Haḳ rehet'*, *jañ*, *jo se chal*, the roots, seed, fruit or bark of *Holarrhena antidysenterica*, Wall.

*Sahya chal*, the bark of *Streblus asper*, Lour.

*Tejo mala rehet'*, the roots of *Cissampelos Pareira*, L.

Grind and give to drink.

(b) *Dhela chal*, the bark of *Alangium Lamarckii*, Thws.

*Sahya chal*, „ „ „, *Streblus asper*, Lour.

*Bir catom arak' rehet'*, the roots of

Grind and give to drink.

- (c) *Peçcambra rehel*, the roots of *Helicteres Isora*, L.  
*Kucla*, *Strychnos potatorum*, Lin. f.

Rub these with water, add 2 or 3 *halim jañ*, seeds of *Lepidium sativum*, L., and give to drink.

- (d) *Kañji dak*, stale rice water.

*Küs rehel*, the roots of *Themuda gigantea*, Haskel.

*Teke caole soñ lopol*, the powdery remains of rice boiled prior to husking after it has been cleaned.

Grind the second with the first and after mixing the third give to drink.

(e) *Atkura çal*, the bark of *Wrightia tomentosa*, R. and S. should be added to each of the above.

- (f) *Kalmeg*, *Andrographis paniculata*, Nees.

*Pañjot*, *Clerodendron phlomoides*, Willd.

Grind and give to drink. May also be used for colic.

- (g) *Tejo mala rehel*, the roots of *Cissampelos Pareira*, L.

To be chewed and then swallowed.

230. *Teğç laç haso*. Colic.

*Medicines*: (a) *Jom janum dare çal*, the bark of *Zizyphus Jujuba*, Lam.

Extract the juice from this, add a little *buluñ*, salt, and give to drink; an immediate cure will follow.

- (b) *Jom janum rehel*, the roots of *Zizyphus Jujuba*, Lam.

Grind, mix well with *buluñ*, salt, and give to drink.

*N.B.*—This may also be given for ordinary stomach-ache.

231. *Khokraok leka laç haso*. Griping pains in the stomach.

*Medicines*: (a) *Jom janum rehel*, the roots of *Zizyphus Jujuba*, Lam.

*Sarjom çal*, the bark of *Shorea robusta*, Gärtn.

Grind these and after squeezing out the juice give to drink.

- (b) *Tañdi catom arak*, *Desmodium triflorum*, DC.

*Dare japak*, *Scindapsus officinalis*, Schott.

These two to be chewed and the juice swallowed.

232. *Laç hađ hađ saderc*. When there is a rumbling noise in the stomach.

*Medicines*: (a) Grind *pojo çal*, the bark of *Tetranthera monopetala*, Roxb.

And if there is great pain grind *berdor rehel*, the roots of *Combretum nanum*, Hamilt., and give to drink.

- (b) *Terel çeçe*, the thin skin on the bark of *Diospyros tomentosa*, Roxb.

Grind with water and give to drink.

- (c) *Tejo mala rehel*, the roots of *Cissampelos Pareira*, L.

To be chewed and the juice swallowed.

- (d) *Kalmeg*, } same as No. 229 (f).  
*Pañjot*, }

233. *Khakharni laç haso.*

*Medicines:* *Terel rehel*, the roots of *Diospyros tomentosa*, Roxb.  
*Bonkapsi rehel*, the roots of *Thespesia Lampas*, Benth. & Hook. f.  
*Peçcambya jo*, the fruit of *Helicteres Isora*, L.

Grind these three together and take the juice, and give to drink with the milk of *hede merom*, a black goat: he will speedily get well.

234. *Ringor rongoç laç haso.* (Chronic stomach-ache).

*Medicines:* *Murga chal*, the bark of *Pterocarpus Marsupium*, Roxb.  
*Satsayar*, *Dalbergia latifolia*, Roxb.  
*Jem laç chal*, the bark of *Bauhinia Vahlia*, W. and A.  
*Cihüt laç chal*, ,, ,, ,, *Spatholobus Roxburghii*, Benth.  
*Atnak chal*, ,, ,, ,, *Terminalia tomentosa*, W. and A.  
*Caole ata rongoç*, rice fried to burning point.  
*Sinjo sakam*, the leaves of *Ægle Marmelos*, Correa.

Boil all these together, and give the water to drink daily; speedy cure.

235. *Khala doḃha.*

*Symptoms.* This arises in the stomach, is very painful, and the stomach heaves and falls greatly in breathing and the ribs seem to recede. (Only children).

*Medicines:* *Dabha jo reak rusa*, the juice of the fruit of *Citrus Aurantium*, Willd.  
*Dare tiḃoç*,  
*Gai ghura*, *Polygala chinensis*, L.  
*Kauḃi cun*, lime made from the shells used as money in India.

Grind together and give to drink.

236. *Pande then haso buka latarre.*

*Symptoms.* This pain in the abdomen below the navel may result from *haḃi* (No. 88), owing to a *sir* being strained with some congestion of blood.

*Medicines:* *Gote rehel*, the roots of *Croton oblongifolius*, Roxb.  
*Qhoç arak rehel*, the roots of *Boerhaavia procumbens*, Herb. Banks.  
*Miltan gol maric*, 1 black peppercorn.

Grind these together and give a little to drink, and plaster some over the abdomen.

237. *Nar betha.* (? biliary colic).

*Symptoms.* In this there is intense piercing pain at the navel causing the patient to be doubled up, and if medicine be not given quickly it may prove fatal.

*Medicines* : Till the following can be got, rub the patient with oil vigorously and afterwards burn him with the point of a red hot sickle ; then procure  
*Asariā*, *Capparis horrida*, L.f.  
*Bana hatak*, *Oroxylon indicum*, Benth.  
*Ride*, *Casearia tomentosa*, Roxb.  
*Lilkathi*, *Polygala crotalarioides*, Buch. and Ham.  
*Dhela*, *Alangium Lamarckii*, Thws.  
*Karam tusa*, a shoot of *Adina cordifolia*, H. F. and B.  
*Kod tusa*, „ „ „, *Eugenia Jambolana*, Lamk.  
*Gua*, *Areca Catechu*, L.  
*Pan*, *Piper Betle*, L.  
*Tejo mala*, *Cissampelos Pareira*, L.  
*Kahu botke*, *Bryonia lacinosa*, L.  
*Suruḷ mukhi*, *Helianthus annuus*, Willd.  
*Lilbichi*,  
*Araḷ upal baha*, *Nymphæa rubra*, Roxb.  
*Mahūt gur*, refuse of molasses.

Grind all these together and mix them, and give to drink thrice daily, viz. morning, noon and evening, and he will get well in three days.

238. *Ponḍ risa sē gurjukata* Prolapsus ani, also Fistula ani.

*Symptoms*. This disease has its origin in the tenesmus of dysentery, and results in *prolapsus ani*.

*Medicines* : (a) *Kabab cini*, Cubebs piper.

*Ramya*, *Phæseolus Mungo*, var. *Radiatus*, L.

*Dhūrā*, resin of *Shorea robusta*, Gärtn.

*Darcini*, cinnamon.

Stir these in *gotom sunum*, melted butter, and smear on, and then after warming your foot push in the protuberance with it.

(b) *Kumbir baha*, the flower of *Careya arborea*, Roxb.

*Horḷ bohok*, the head of a tortoise.

The latter to be roasted and eaten and some of it to be ground with the former into a powder and eaten.

(c) *Qhoḷ araḷ rehēl*, the roots of *Boerhaavia procumbens*, Herb. Banks.

*Hēndē meromaḷ māyām*, the blood of a black goat.

Cook or boil these together and give to eat.

(d) *Dhelu poha rehēl*, the roots of a seedling of *Alangium Lamarckii*, Thws.

Mix this with the milk of an entirely white cow who has also a white calf, 16 oz. for an adult and half that for a child, boil and give to drink for three days.

(e) *Garuṇḍi araḷ, sakam sē rehēl*, the leaves or roots of *Acternanthera sessilis*, R. Br.

*Latha ciṣ ciṛiṣ rehet*, the roots of  
*Dhakni aṛak*,

Grind these together and give to eat after mixing up with *taben*, rice soaked and flattened, *dahe*, curds, and a little salt.

(f) *Kaḍḍete tejoko oṛag, ona kaḍḍē*, the sticks with which certain insects make their "house."

*Kaskom baṅgaura*, cotton seeds.

Fry the latter to burning point, reduce both by grinding to a powder, and after anointing the spot with melted butter, sprinkle the powder on and foment.

(g) *Hoṛē dāl*, the split pulse of *Dolichos biflorus*, L.

*Sasañ*, turmeric, *Curcuma longa*, Roxb.

Cook together and give to eat.

(h) *Dub bilāsi rehet*, the roots of

*Berel adhe*, raw ginger, *Zingiber officinalis*, Roscoe.

*Kaliā jira*, *Nigella indica*, Roxb.

*Jawan jira*, *Carum Ajowan*, DC. & *Carum Carui*, L.

Grind, boil in milk to the consistency of porridge and give to eat.

(i) *Bir buṭ*, *Flemingia congesta*, Roxb.

*Saram lutur*, *Clerodendron serratum*, Spreng.

*Bonkapsi*, *Thespesia Lampas*, Benth. & Hook. f.

Grind and give to drink for three days.

(j) *Terel ceṭṭe*, the thin skin on the bark of *Diospyros tomentosa*, Roxb.

Grind small, cook in *gotom*, melted butter of cows' milk and give to eat.

239. *Bhalki laç haso*. (Colic ? biliary).

Medicines: (a) *Haṭ chal, jō sē jañ*, the bark, fruit or kernel of *Holarrhena antidysenterica*, Wall.

*Sahṛa chal*, the bark of *Streblus asper*, Lour.

*Tejo mala rehet*, the roots of *Cissampelos Pareira*, L.

Grind these and give to drink.

(b) *Dhela chal*, the bark of *Alangium Lamareckii*, Thws.

*Sahṛa chal*, ,, ,, ,, *Streblus asper*, Lour.

*Bir catom aṛak rehet*, the roots of

Grind these and give to drink.

(c) *Peṭcambṛa rehet*, the roots of *Helicteres Isora*, L.

*Kucla*, *Strychnos potatorum*, Lin. f.

Rub these two in water, add two or three seeds of *halim*, *Lepidium sativum*, L., and give to drink.

(d) *Kañji daḱ*, stale rice water.

*Kūs rehet*, the roots of *Themuda gigantea*, Haskel.

*Teke caole reak sok loṇol*, the powdery remains of cleaned rice that was boiled when it was paddy.

Grind the second with the first and then mixing with the third give to drink.

(e) *Atkura chal*, the bark of *Wrightia tomentosa*, R. and S.

A little of this is to be added to each of the above four remedies.

*Khokraoko leka hakso khan*. If there are griping pains :

(f) *Jem janum rehet*, the roots of *Zizyphus Jujuba*, Lamk.

*Sarjom chal*, the bark of *Shorea robusta*, Gärtn.

Grind these together, squeeze out and give to drink.

(g) *Tandi catom arak*, *Desmodium triflorum*, DC.

*Darc japaik*, *Scindapsus officinalis*, Schott.

Let him chew these and swallow the juice.

(h) *Pojo chal*, the bark of *Tetranthera monopetala*, Roxb.

Grind and give to drink, and if he has severe pain :

*Berdor rchet*, the roots of *Combretum nanum*, Hamilt.

Grind and give to drink.

(i) *Terel cetē*, the thin skin on the bark of *Diospyros tomentosa*, Roxb.

Grind with water, mix with the milk of a black goat and give to drink.

(j) *Tejo mala rehet*, the roots of *Cissampelos Pareira*, L.

To be chewed and swallowed.

(k) *Kalmeg*, *Andrographis paniculata*, Nees.

*Paujot*, *Clerodendron phlomoides*, Willd.

Grind and give to drink.

240. *Laç oðokok*. Ordinary diarrhoea.

*Medicines* : (a) *Kod tusa*, a shoot of *Eugenia Jambolana*, Lamk.

Grind and make into a thin soup, add *merom tou*, goats' milk, and give to drink.

(b) *Goçe rehet*, the roots of *Croton oblongifolius*, Roxb.

*Haç rehet*, „ „ „ *Holarrhena antidiysenterica*, Wall.

*Ambra chal*, the bark of *Spondias mangifera*, Pers.

*Tejo mala rehet*, the roots of *Cissampelos Pareira*, L.

*Sadom ic*, horse dung.

Grind all together and give to drink.

241. *Birsaha laç oðok*. Watery diarrhoea.

*Medicines* : (a) *Bir se tandi catom arak rehet*, the roots of  
or the roots of *Desmodium triflorum*, DC.

Grind and give to drink.

(b) *Pinde chal*, the bark of *Randia uliginosa*, DC.

*Hesel dog*, a tip or bud of *Anogeissus latifolia*, Wall.

*Terel dog*, „ „ „ „ „ *Diospyros tomentosa*, Roxb.

*Aphim mit ro bqhok*, opium the size of a fly's head.



*Arak meral sakam*, the leaves of the red *Phyllanthus Emblica*,  
L.

Grind these and give to drink.

- (c) *Terel jə reak gabe*, the flesh of the fruit of *Diospyros tomentosa*, Roxb.

*Cihūt lax rehel*, the roots of *Spatholobus Roxburghii*, Benth.

*Rot chal*, the bark of *Ougeenia dalbergioides*, Benth.

*Garunđi rehel*, the roots of *Acternanthera sessilis*, R. Br.

Grind these with water very thin, squeeze out and after sprinkling a little lime on give him to drink.

- (d) Grind the kernel of the fruit of *Shorea robusta*, Gärtn. and give him to drink.

*Janum lobok*, the ground stones of *Zizyphus Jujuba*, Lamk. and let him eat the latter also.

- (e) *Doka chal*, the bark of *Odina Wodier*, Roxb., to be ground and drunk.

- (f) *Adagathia da*, the bulb of *Panicum repens*, L.

*Kalmeg thoṛa*, a little *Andrographis paniculata*, Nees.

*Catom arak rehel*, the roots of *Marsilia quadrifolia*, L.

Grind and give to drink.

- (g) *Baye chal*, the bark of *Ficus bengalensis*, L.

*Sahṛa chal*, ,, ,, ,, *Streblus asper*, Lour.

*Sarjom chal*, ,, ,, ,, *Shorea robusta*, Gärtn.

*Bođ lax rehel*, the roots of *Vitis adnata*, Wall.

*Kedođ arak rehel*, the roots of *Argyrea speciosa*, Sweet.

Grind and give to drink.

- (h) *Ambṛa chal*, the bark of *Spondias mangifera*, Pers.

*Khode baha rehel*, the roots of

*Capot rehel*, ,, ,, ,, *Desmodium cephalotes*.

*Haṭ jə reak dal*, the kernel of the fruit of *Holarrhena antidy-senterica*, Wall.

Grind and give to drink.

- (i) *Doka chal*, the bark of *Odina Wodier*, Roxb.

*Nun juan*, salt and *Carum Ajowan*, DC.

*Sinjə sakam*, the leaves of *Ægle Marmelos*, Correa.

- (j) Make three or four holes in a *peaj*, onion, and insert some *aphim*, opium, therein, cook in the fire and give to eat. Also give the juice of *kod*, *Eugenia Jambolana*, Lamk. to drink.

- (k) *Bana hatak rehel*, the roots of *Oroxylon indicum*, Benth.

*Ul chal*, the bark of *Mangifera indica*, L.

*Sahra chal*, the bark of *Streblus asper*, Lour.

*Dhalka catom arak rehel*, the roots of

*Suruḷ mukki nāṟi rehel*, the roots of *Helianthus annuus*, Willd.

Grind these together, mix in a 4 anna brass-cupful of water, add a little *cun*, shell lime, and after stirring well give to drink. After drinking three times he should recover, but if not, then add the following and give to drink :

- (l) *Terel jer*, the sticky exudation of *Diospyros tomentosa*, Roxb.  
*Rol chal*, the bark of *Terminalia Chebula*, Retz.  
*Doḍhar*, *Adiantum lunulatum*, Burm. or *A. concinnum*.

242. *Sea bele lekako oḍokōkre*. When the excreta are like rotten eggs.

*Medicines*: (a) *Anḍia moron araḷ rehel*, the roots of *Gymnema hirsutum*, W. and A., var. *Decaisneanum*, Wight.

Grind and give it to him to lick.

- (b) *Goḷe rehel*, the roots of *Croton oblongifolius*, Roxb.

Grind and give him to drink daily.

243. *Kiṭa kaṭao*.

If there is an epidemic of cholera, small pox or cattle disease which has reached your neighbourhood, you call on the people of your village to take measures to ward it off. If no one will listen to you then you yourself, or with as many more as will act with you, take action to ward it off from your own house or houses ; this is called *kiṭa kaṭao*.

*Procedure* : *Akaona theṅga ar chal*, a stick and the bark of *Calotropis gigantea*, R. Br., or *C. procera*, R. Br.

Take these with as many as you intend, and after naming *Dhṛti mae* offer in sacrifice a *heṅde kalol*, a black pullet ; dig a hole and bury the pullet in it with *Akaona chal*, the bark of *Calotropis gigantea*, R. Br. or *C. procera*, R. Br.

*Duṅḍukil chal*, the bark of *Gardenia turgida*, Roxb.

*Bana hataḷ chal*, ,, ,, ,, *Oroxylon indicum*, Benth.

and in the name of the spirits *Bṇ duṅar* and *Kālinath* make strokes of red lead and repeat the *mantar* formula. If you remain immune for a year you offer sacrifice. Cp. p. 143-4.

244. *Hawa duk se maraṅ laḷ oḍok*. Cholera.

*Medicines*: (a) *Ul chal*, the bark of the mango tree, *Mangifera indica*, L.

*Sarjṇm chal*, the bark of *Shorea robusta*, Gärtn.

*Kadam chal*, ,, ,, ,, *Anthocephalus Cadamba*, Benth. and Hook. f.

Grind these three together, squeeze out the juice and give this with a little shell lime very quickly to drink. If there is no amelioration then give the juice of the first two mixed with opium the size of a pea to drink.

- (b) *Sahṛa chal*, the bark of *Streblus asper*, Lour.

*Doka chal*, ,, ,, ,, *Odina Wodier*, Roxb.

Take the juice of both, mix with opium the size of a pea and give to drink.

- (c) *Haṭ chal*, the bark of *Holarrhena antidysenterica*, Wall.  
*Tejo mala rehel*, the roots of *Cissampelos Pareira*, Linn.

Grind these together, squeeze out the juice and mixing with opium the size of a pea, give to drink.

- (d) *Atnāḥ chal*, the bark of *Terminalia tomentosa*, W. and A.  
*Heṣel chal*, „ „ „ *Anogeissus latifolia*, Wall.  
*Leṣṣon chal*, „ „ „ *Terminalia bellerica*, Roxb.

Mix these and give to drink.

- (e) *Terel jer*, the resin of *Diospyros tomentosa*, Roxb.  
*Ul koyo reak dal*, the pulverised kernel of a mango stone.

Mix and grind the size of a pea of the former with the latter, when the purging, vomiting and suppression of urine, if the last has occurred, will cease at once.

- Gulqānj baha rehel chal*, the bark of the roots of *Plumeria acutifolia*, Poirét.  
*Akaona rehel*, the roots of *Calotropis gigantea*, R. Br.  
*Chatni chal*, the bark of *Alstonia scholaris*, R. Br.  
*Gol maric*, black pepper.

Grind these together and plaster the abdomen therewith and give a little to drink.

- (f) *Jhinjit chal*, the bark of *Bauhinia retusa*, Roxb.

Grind and squeeze out the juice and give some 2 ounces of the juice to drink, he will be stopped.

- (g) *Niuri chal*, the bark of *Elæodendron Roxburghii*, W. and A.

Grind about 3 ounces of this, squeeze out the juice and give to drink. If this be ineffective, then mix the same quantity of

- Bir hoṛeç*, *Atyllosia scarabædois*, Benth.

and give to drink.

- (h) *Goṭe rehel*, the roots of *Croton oblongifolius*, Roxb.  
*Sega rehel*, „ „ „ *Mimosa rubicaulis*, Lam.

Grind these two and give about 2 ounces to drink.

- (i) *Terel chal*, the bark of *Diospyros tomentosa*, Roxb.  
*Heṣel chal*, „ „ „ *Anogeissus latifolia*, Wall.

Grind and give to drink.

*To quench the thirst in cholera :*

- (j) *Ul chal*, the bark of *Mangifera indica*, L.  
*Sarjom chal*, „ „ „ *Shorea robusta*, Gärtn.  
*Kadam chal*, „ „ „ *Anthocephalus Cadamba*, Benth.  
 and Hook. f.  
*Hesaḥ chal*, „ „ „ *Ficus religiosa*, Willd.  
*Doka chal*, „ „ „ *Odina Wodier*, Roxb.

*Ambra chal*, the bark of *Spondias mangifera*, Pers.

*Oroṣ chal*, „ „ „ *Costus speciosa*, Sm.

*Kadar rehet*, the roots of *Bonnaya veronicæfolia*, Spreng.

*Nanha dudhi lota rehet*, the roots of *Ichnocarpus frutescens*,  
R. Br.

*Bir hoyeç*, *Atylosia scarabædois*, Benth.

*Bana hatak chal*, the bark of *Oroxylon indicum*, Benth.

Mix a little of all these and give to drink, when the thirst will be quenched.

(k) *Nim chal*, the bark of *Melia Azadirachta*, L.

*Harām sinjo chal*, „ „ „ an old *Ægle Marmelos*, Correa.  
*se sakam*, or its leaves.

*Sarjom dhurā*, the resin of *Shorea robusta*, Gärtn.

*Ul koyo reak dal*, the pulverized kernel of a mango stone.

Grind all these, *i.e.* first the two barks and take their juice, then mix and add the last two, and give the mixture to drink. If the above mentioned ingredients are not soon obtainable in order to quench the thirst, then anyhow get

(l) *Hesak chal*, the bark of *Ficus religiosa*, Willd.

*Doka chal*, „ „ „ *Odina Wodier*, Roxb.

Grind them together and give a little at a time to drink.

*If blood is present in cholera :—*

(m) *Bir but rehet*, the roots of *Flemingia congesta*, Roxb.

*Binḍi mutha rehet*, the roots of *Fimbristylis monostachya*,  
Hassk.

*Nanha dudhi lota rehet*, the roots of *Ichnocarpus frutescens*,  
R. Br.

*Seta kata rehet*, the roots of *Grewia polygama*, Roxb.

*Barsa pakor rehet*, „ „ „ *Grewia sapida*, Roxb.

*Sukri mutha rehet da*, the bulb of the roots of *Scirpus monostachyus*, Kön.

*Tarse kotap*, *Grewia villosa*, Willd.

*Kamraj rehet*, the roots of *Buettneria herbacea*, Roxb.

*Sikuar rehet*, „ „ „

Grind all these, or as many of them as are obtainable, together and give to drink, or make into pills to be swallowed.

(n) *Hal jo reak jan se dattet*, the stone or kernel of the fruit of  
*Holarrhena antidysenterica*, Wall.

*Tejo mala rehet*, the roots of *Cissampalos Pareira*, Linn.

Mix these and give to drink. This is an excellent remedy.

*For those whose eyes get yellow in cholera :—*

(o) *Isor muli god*, *Aristolochia indica*, Willd.

*Lopon chal*, the bark of *Terminalia bellerica*, Roxb.

*Adagathia rehet*, the roots of *Panicum repens*, Linn.

*Ul chal*, the bark of *Mangifera indica*, L.

*Sarjəm chal*, „ „ „ *Shorea robusta*, Gärtn.

Grind these and extract the juice which give to drink mixed with opium.

*For those whose eyes become red or bloodshot:—*

(p) *Isor muli god*, *Aristolochia indica*, Willd.

*Sahra chal*, the bark of *Streblus asper*, Lour.

*Sarjəm chal*, „ „ „ *Shorea robusta*, Gärtn.

*Ul chal*, „ „ „ *Mangifera indica*, L.

Pound these and extract about an ounce of the juice, which is to be mixed with opium the size of a pea and drunk.

*To be used as a prophylactic at the cholera season :*

(q) *Atnak chal*, the bark of *Terminalia tomentosa*, W. and A.

*Jəm lar chal*, „ „ „ *Bauhinia Vahlia*, W. and A.

*Cihūt lar chal*, „ „ „ *Spatholobus Roxburghii*, Benth.

*Jhinjīt chal*, „ „ „ *Bauhinia retusa*, Roxb.

*Hesaḱ chal*, „ „ „ *Ficus religiosa*, Willd.

*Sarjəm chal*, „ „ „ *Shorea robusta*, Gärtn.

*Ul chal*, „ „ „ *Mangifera indica*, L.

*Doka chal*, „ „ „ *Odina Wodier*, Roxb.

*Tarop chal*, „ „ „ *Buchanania latifolia*, Roxb.

*Niuri chal*, „ „ „ *Elæodendron Roxburghii*, W. and A.

*Bana hatak chal*, the bark of *Oroxylon indicum*, Benth.

*Makarḱenda chal*, „ „ „ *Diospyros embryopteris*, Pers.

*Bir hoṛçè*, *Atyllosia scarabædois*, Benth.

*Sega rehet*, the roots of *Mimosa rubicaulis*, Lam.

*Goṭe rehet*, „ „ „ *Croton oblongifolius*, Roxb.

*Aḱkīr rehet*, „ „ „ *Smilax ovalifolia*, Roxb.

*Nim chal*, the bark of *Melia Azadirachta*, R.

*Sinjō chal*, „ „ „ *Ægle Marmelos*, Correa.

*Kadar rehet*, the roots of *Bonnaya veronicæfolia*, Spreng.

*Aṣarīa chal*, the bark of *Capparis horrida*, Linn. f.

*Saram lutur rehet*, the roots of *Clerodendron serratum*, Spreng.

*Ḡabur chal*, the bark of *Acacia Farnesiana*, Willd.

*Naṅgrāuta rehet*, the roots of *Nardostachys Jatamansi*, DC.

*Korkoṭ rehet se chal*, the roots or bark of *Dillenia indica*, Linn.

*Armu chal*, the bark of *Bursera serrata*, Wall.

*Ato piṅḍa chal*, the bark of *Amorphophallus campanulatus*, Bl.

*Gōṛē chal*, „ „ „ *Stephegyne parvifolia*, Korth.

*Edḱal chal*, „ „ „ *Bombax malabaricum*, DC.

*Baru chal*, „ „ „ *Schleichera trijuga*, Willd.

*Hesḱal chal*, „ „ „ *Anogeissus latifolia*, Wall.

*Terel chal*, „ „ „ *Diospyros tomentosa*, Roxb.

*Muthom chal*, the bark of *Bassia latifolia*, Roxb.

*Karam chal*, „ „ „ *Adina cordifolia*, H. F. and B.

Pound and lacerate all these and soak them in water, and give the children daily a small quantity to drink.

*Pills to be taken by healthy people when cholera is epidemic*:—

(r) *Binđi mutha ghās*, *Fimbristylis monostachya*, Hassk.

*Sukri mutha ghās*, *Scirpus monostachyus*, Kön.

*Adagathiā ghās*, *Panicum repens*, L.

*Nanha dudhi lota rehet*, the roots of *Ichnocarpus frutescens*, R. Br.

*Bir but rehet*, the roots of *Flemingia congesta*, Roxb.

*Kađa benjak rehet*, the roots of

*Kalmeg*, *Andrographis paniculata*, Nees.

*Hař rehet*, the roots of *Holarrhena antidysenterica*, Wall.

*Saram lutur rehet*, the roots of *Clerodendron serratum*, Spreng.

*Kamraj rehet*, the roots of *Buettneria herbacea*, Roxb.

*Seta kata rehet*, the roots of *Grewia polygama*, Roxb.

*Nim chal se sakam*, bark or leaves of *Melia Azadirachta*, L.

*Sinjō chal se sakam*, „ „ „ „ *Ægle Marmelos*, Correa.

*Barsa pakor rehet*, the roots of *Grewia sapida*, Roxb.

*Paijot rehet* „ „ „ *Clerodendron phlomoides*, Willd.

*Atkir rehet*, „ „ „ *Smilax ovalifolia*, Roxb.

*Seroan rehet*, „ „ „ *Vigna vexillata*, Benth.

*Campa rehet*, „ „ „ *Ochna squarrosa*, L.

*Bhābri rehet*, „ „ „ *Embelia robusta*, Roxb.

*Sarjōm chal se dhūrā*, the bark or resin of *Shorea robusta*, Gärtn.

*Jōm lař chal*, the bark of *Bauhinia Vahlii*, W. and A.

*Cihūt chal* „ „ „ *Spatholobus Roxburghii*, Benth.

*Aphim 4 ana reak*, 4 annas worth of opium.

*Paura 1 ser*, 2 pounds spirit.

Grind all these and then mix in the opium and spirit. If the epidemic is very severe give only one pound of the spirit.

*What persons taking medicine to cholera patients should do*:—

(s) *Isor muli god sakam*, the leaves of *Aristolochia indica*, Willd.

*Adhe*, ginger.

Mix and keep in the mouth like a quid of tobacco.

(t) *Rasun*, garlic.

*Tursi*, *Ocimum sanctum*, Willd.

*Bharbhari sakam*, the leaves of *Ocimum basilicum*, Linn., or *O. canum*, Sims.

Grind together, cook with mustard oil and anoint the entire body therewith. You should not apply the medicine yourself, let them do it themselves, neither should you eat their food or drink their water.

- (u) *Sondhaeni rehet se sakam*, the roots or leaves of *Tylophora longifolia*, Wight.

Chew and keep in the mouth swallowing the juice.

- (v) *Bir but rehet*, the roots of *Flemingia congesta*, L.  
*Petçambra rehet*, ,, ,, ,, *Helicteres Isora*, L.

Grind together and give to drink with a spoonful of spirit.

- Cihūt laṛ*, *Spatholobus Roxburghii*, Benth.  
*Kaḍa mēt*, *Premna herbacea*, Roxb.  
*Jao*, barley, *Hordeum vulgare*, L.  
*Ramya*, *Phæseolus Mungo*, var. *radiatus*, L.  
*Sahra rehet*, the roots of *Streblus asper*, Lour.

All these to be ground together and then drunk.

If he recovers then he should eat

- Dahe*, curds.  
*Taben*, rice soaked and flattened.

Or if not quickly obtainable let him drink

- Bare rehet*, the roots of *Ficus bengalensis*, L.  
*Gōrē rehet*, ,, ,, ,, *Stephegyne parvifolia*, Roxb.  
 (w) *Bare joro dog tel*, a shoot of the aerial root of *Ficus bengalensis*, L.

Crush this with water, and squeezing out the water give some to drink, after which the patient must lie still for some time.

- (x) *Mare taben*, old soaked and flattened rice.  
*Seta andir rehet*, the roots of *Grewia polygama*, Roxb.  
*Sikuar rehet*, the roots 1½ inch thick of  
*Kamraj rehet*, ,, ,, of *Buettneria herbacea*, Roxb., 4 ounces.

Grind together, make into pills, the size of hares' excrement and give for two or three days.

- (y) *Aphim*, opium.  
*Phuli paura*, neat spirits.  
*Berdor rehet*, the roots of *Combretum nanum*, Hamilt.  
*Tarse koṭaṭ*, *Grewia villosa*, Willd.  
*Utri dudhi*, *Cryptolepis Buchanani*, R. and S.  
*Buc chal*, the bark of *Cordia Myxa*, Linn.  
*Bir eradžom*, the wild *Ricinus*.  
*Ḷom laṛ rehet*, the roots of *Bauhinia Vahlia*, W. and A.  
*Murga chal*, the bark of *Pterocarpus Marsupium*, Roxb.  
*Rot chal*, ,, ,, ,, *Ougeenia dalbergioides*, Benth.  
*Cihūt laṛ rehet*, the roots of *Spatholobus Roxburghii*, Benth.  
*Goṭe rehet*, the roots of *Croton oblongifolius*, Roxb.

*Hač chal*, the bark of *Holarrhena antidysenterica*, Wall.

*Bir đimbu rehel*, the roots of

*Tejo mala rehel*, „ „ „ „, *Cissampelos Pareira*, L.

*Bir jhunka da*, the tuber of *Crotalaria calycina*, Shrank.

*Ul chal*, the bark of *Mangifera indica*, L.

*Kadam chal*, „ „ „ „, *Anthocephalus Cadamba*, Bth. and Hook. f.

*Sasañ baha*, the flower of *Curcuma longa*, Roxb.

*Paijot*, *Clerodendron phlomoides*, Willd.

Grind all these together and soak them in about a quart of spirit, make into pills and give three of them a day.

If there is a burning sensation in the chest, then grind

*Merleč sakam*, the leaves of *Flacourtia Ramontchi*, L'Herit.

and apply them as a plaster to the chest.

(z) *Arak atkir*, the red *Smilax ovalifolia*, Roxb.

*Barsa pakor*, *Grewia sapida*, Roxb.

*Nanha dudhi lotu rehel*, the roots of *Ichnocarpus frutescens*, R. Br.

*Goboriq dudhi lota rehel*, the roots of

*Cihut lar rehel*, the roots of *Spatholobus Roxburghii*, Benth.

*Rot chal*, the bark of *Ougeenia dalbergioides*, Benth.

*Jom lar rehel*, the roots of *Bauhinia Vahlia*, W. and A.

*Tejo mala rehel*, „ „ „ „, *Cissampelos Pareira*, L.

*Meral chal*, the bark of *Phyllanthus Emblica*, Linn.

*Bir jhunka rehel*, the roots of *Crotalaria calycina*, Shrank.

Grind all these together, soak them in spirit and eat.

(aa) *Kamraj rehel*, the roots of *Buettneria herbacea*, Roxb.

*Sikuqar rehel*, „ „ „ „

*Tarse kotap rehel*, the roots of *Grewia villosa*, Willd.

*Rosomuni*,

*Gol maric*, 84 black peppercorns.

Grind together and compel the patient to drink it.

(bb) *Aphim*, opium.

*Hčsel chal*, the bark of *Anogeissus latifolia*, Wall.

*Pinde jo*, the fruit of *Randia uliginosa*, DC.

*Nun juan*, salt and *Carum Ajowan*, DC.

*Trel jo*, the fruit of *Diospyros tomentosa*, Roxb.

*Dunđukil*, *Gardenia turgida*, Roxb.

(cc) *Cihut lar*, *Spatholobus Roxburghii*, Benth.

*Sahra chal*, the bark of *Streblus asper*, Lour.

*Bir but*, *Flemingia congesta*, L.

(dd) *Jithimond*, *Clerodendron Siphonanthus*, R. Br.

*Darcini*, cinnamon.

*Sut*, dry ginger.



*Pīpol*, Piper longum, Willd.

*Dhūyā*, resin of Shorea robusta, Gärtn.

*Goḍ*, Aristolochia indica, Willd.

*Nim banda*, the parasitical plant found on Melia Azadirachta, L.

*Turi sunum*, mustard oil.

(ec) *Ul chal*, the bark of Mangifera indica, L.

*Sarjom chal*, „ „ „ Shorea robusta, Gärtn.

Mix the juice of these and add a little shell lime, and give to drink every hour.

(ff) *Sahya chal*, the bark of Streblus asper, Lour.

Take the juice of this, add opium the size of a pea, and after mixing them give to drink and the evacuations will cease.

(gg) *Tejo mala rehet*, the roots of Cissampelos Pareira, L.

*Seroan rehet*, „ „ „ „ Vigna vexillata, Benth.

*Haṭ chal*, the bark of Holarrhena antidysenterica, Wall.

Take the juice of these, add some opium and give to drink.

If the bowels and urine are both stopped plaster these on the abdomen :

(hh) *Akaona chal*, the bark of Calotropis gigantea, R. Br.

*Muṅga chal*, „ „ „ Moringa pterygosperma, Gärtn.

*Gol maric*, black pepper.

(ii) *Isor muli god*, Aristolochia indica, Willd.

Give this to drink, it will cure.

(jj) *Sahya chal*, the bark of Streblus asper, Lour.

*Thoya haṭ chal*, a little bark of Holarrhena antidysenterica, Wall.

Mix and give to drink, or, take the roots of these, mix about 6 ounces and add opium the size of a mustard seed, and give 6 ounces to drink at intervals, and the thirst and purging will cease.

If the burning sensation in the body does not stop,

(kk) *Ul chal*, the bark of Mangifera indica, L.

*Sarjom chal*, „ „ „ Shorea robusta, Gärtn.

*Hesaḱ chal*, „ „ „ Ficus religiosa, Willd.

*Ambya chal*, „ „ „ Spondias mangifera, Pers.

*Doka chal*, „ „ „ Odina Wodier, Roxb.

*Sahya chal*, „ „ „ Streblus asper, Lour.

*Nim chal*, „ „ „ Melia Azadirachta, L.

*Sinjō chal*, „ „ „ Ægle Marmelos, Correa.

Soak all these in water, pound them and after adding a little opium give to drink.

Sometimes there is a complication in cholera of *khayak muth*, kidney gravel, also, evidenced by inability to void urine and to ease the bowels. In such case

(ll) *Akaona rehet*, the roots of *Calotropis gigantea*, R. Br.

Grind, heat and give a little to drink, warm, at a time, and then both stools and urine will come away like blood.

(mm) If blood is present in the evacuations give no hard or brittle medicines, or they will be fatal, but:

*Seroan*, *Vigna vexillata*, Benth.

*Seta kata rehet*, the roots of *Grewia polygama*, Roxb.

*Binđi mutha ghās rehet*, the roots of *Fimbristylis monostachya*, Hassk.

*Barsa pakor rehet*, the roots of *Grewia sapida*, Roxb.

Pound all these together and give to drink raw, recovery is sure.

(nn) *Ul chal*, the bark of *Mangifera indica*, L.

*Sarjom chal*, ,, ,, ,, *Shorea robusta*, Gärtn.

*Kadam chal*, ,, ,, ,, *Anthocephalus Cadamba*, Benth. and Hook. f.

*Doka chal*, ,, ,, ,, *Odina Wodier*, Roxb.

*Ambya chal*, ,, ,, ,, *Spondias mangifera*, Pers.

*Bir hoyeç sakam*, the leaves of *Atylosia scarabædois*, Benth.

*Atkir rehet*, the roots of *Smilax ovalifolia*, Roxb.

*Nanha dudhi lota rehet*, the roots of *Ichnocarpus frutescens*, R. Br.

*Turam rehet*, the roots of

Pound all these non-bitter ingredients together, boil in an earthenware pot and give that water to drink.

(oo) *Kamraj rehet*, the roots of *Buettneria herbacea*, Roxb.

*Tarse koçap rehet*, the roots of *Grewia villosa*, Willd.

Whichever of these you can get give to drink raw.

*N.B.*—There is always intense thirst in these attacks, but however importunate the appeals for water, none whatever must be given or it may prove fatal.

(pp) *Haç chal*, the bark of *Holarrhena antidysenterica*, Wall.

*Dhela chal*, ,, ,, ,, *Alangium Lamarckii*, Thws.

*Taroç chal*, ,, ,, ,, *Buchanania latifolia*, Roxb.

*Saram lutur rehet*, the roots of *Clerodendron serratum*, Spreng.

*Tejo mala rehet*, the roots of *Cissampelos Pareira*, L.

Grind together and give to drink. If it does not cease, then

(qq) *Gabla chal*, the bark of *Acacia arabica*, Willd.

*Kasmar chal*, ,, ,, ,, *Gmelina arborea*, Roxb.

*Nim chal*, ,, ,, ,, *Melia Azadirachta*, L.

*Ul chal*, ,, ,, ,, *Mangifera indica*, L.

*Dhela chal*, ,, ,, ,, *Alangium Lamarckii*, Thws.

*Taroç chal*, ,, ,, ,, *Buchanania latifolia*, Roxb.

*Edel poha rehet*, the roots of a seedling of a *Bombax malabaricum*, DC.

Boil these together and after grinding the following to a powder mix with that water and give to drink :—

*Gol mayic*, black pepper.

*Lõnphul*, cloves.

*Kabab cini*, *Cubeba officinalis*, Miqu.

When the cholera has stopped he will feel hot in the body ; give then *gai dahe*, curds of cows' milk, to drink.

(rr) *Karhani hofo*, a certain variety of black paddy.

Fry this and pound it into bran and give to eat ; make him drunk with *paṛa*, spirits, and make him drink a little more after eating above. This to be given in the initial stage, so that he may not be afraid. If he survives for 10 hours he will be all right. The great thing is there should be no fear and this is to attain that ; then

(ss) *Barsa pakor*, *Grewia sapida*, Roxb.

*Berdor*, *Combretum nanum*, Hamilt.

*Tarse kotap*, *Grewia villosa*, Willd.

Grind these together ; heat *berel sosso*, raw *Semecarpus Anacardium*, L., and drop two drops into above ground mixture ; also drop two drops of *uliñ sunum*, mustard oil ; add about 16 ounces *dahe*, curds, stir all well together and give to drink.

In former times our forefathers used to bind the evil powers so that cholera and small-pox might not enter the village. On the first of the month of *Mag*, they would have a village council and all consult together. They would fix a day saying, On such and such a day we shall do thus ; let no one be absent.

On the appointed day when all are assembled it is said, We all have to be priests, and purify ourselves before setting to work, let no one hang back or be false ; and those of you who won't be priests, make it known on that morning or you will get into trouble. And you, so and so, first of all bathe yourselves in the morning, you will have to grind the medicines. And for the work on that day get the sacrifices ready, and we will all raise a subscription for the price of them. The sacrifices are a black female kid and a back pullet. On that day we shall all gather at the end of the village street and sacrifice them.

The heads of that kid and pullet are buried there, and going to the foot of some tree, they promise the *bongas* or spirits of the village boundaries ; " Let no trouble or misfortune enter or intrude into this village befalling man or beast. If we continue all right for a year we shall satisfy you to repletion."

After repeating this formula the medicines are given to be ground, viz :—

(tt) *Phuli paṛa*, neat spirit,

*Ramya*, *Phaeseolus Mungo*, var. *radiatus*, L.

- Adwa caole*, rice made from sun-dried, not boiled, paddy.  
*Aphim*, opium.  
*Sikuar*,  
*Tarse kotap*, *Grewia villosa*, Willd.  
*Barsa pakor*, *Grewia sapida*, Roxb.  
*Bir eradom*, the wild castor oil plant.  
*Campa*, *Michelia champaca*, L.  
*Dundukil*, *Gardenia turgida*, Roxb.  
*Bana hatak*, *Oroxylon indicum*, Benth.  
*Asaria*, *Capparis horrida*, L.  
*Hinjor*, *Barringtonia acutangula*, Gärtn.  
*Ruhen*, *Soymida febrifuga*, Juss.  
*Bindi mutha*, *Fimbristylis monostachya*, Hassk.  
*Cihut lar*, *Spatholobus Roxburghii*, Roxb.  
*Kada mel*, *Premna herbacea*, Roxb.  
*Pond murut*,  
*Ambra*, *Spondias mangifera*, Pers.  
*Sahra banda*, parasitical plant found on *Streblus asper*, Lour.  
*Meral banda*, „ „ „ on *Phyllanthus Emblica*, L.  
*Bhorkond banda*, „ „ „ *Hymenodictyon excelsum*,  
 Wall.  
*Dundukil banda*, parasitical plant found on *Gardenia turgida*,  
 Roxb.  
*Icak banda*, parasitical plant found on *Woodfordia floribunda*,  
 Salib. (*Loranthus Buddeoides*, Wedd.)  
*Pinde banda*, parasitical plant found on *Randia uliginosa*,  
 DC.  
*Soso banda*, „ „ found on *Semecarpus Anacardium*, L.  
*Baru banda*, „ plant found on *Schleichera trijuga*, Willd.  
*Kamraj*, *Buettneria herbacea*, Roxb.  
*Sondhaeni*, *Tylophora longifolia*, Wight.  
*Sese baha*, *Sterculia colorata*, Roxb.  
*Ato eradom*, *Ricinus communis*, L.  
*Latha cip cipis*,  
*Bariar phul*,  
*Kus*, *Themuda gigantea*, Haskel.  
*Lophon arak*, *Aerua lanata*, L.  
*Sahra chal*, the bark of *Streblus asper*, Lour.  
*Bulun*, salt.  
*Dare japak*, *Scindapsus officinalis*, Schott.  
*Saraj*, *Vernonia anthelmintica*, Roxb.  
*Tejo mala*, *Cissampelos Pareira*, L.

*Pan muhri*, the seed of *Pimpinella anisum*, L.

*Mosola*, spices.

*Jira*, *Carum Carui*, L.

*Ul chal*, the bark of *Mangifera indica*, L.

*Kaudi cun*, shell lime.

*Nanha god*,

All these are ground together, mixed with *phuli paura*, neat spirits, and made into balls. Then taking them to the foot of that tree, they are there divided into as many portions as there are households in the village. Then after making a soup of the flesh of that kid and rice, and eating this they leave that place. The medicine man makes some flour water in a leaf cup and puts those portions of medicine into a winnowing fan. Then the entire village male population move off together and begin at the house at the end of the village; first he sprinkles their water pots with that flour water; then calling the wife of the head of that household he gives her their portion of the medicine and says, This medicine we have prepared to protect the village; give it to as many people as are in the house and they are to eat it; omit no one. And in this way they all go along together and repeat the operation at each house.

In this way formerly in our forefathers' time the village was in one way under control, and therefore no kind of trouble could easily effect an entrance. In those days too they did not die while strong or as children, only when they became old men or women. In those days also trouble and sickness did not show themselves as now. Then too there was no spite or tale-bearing. But now there is a great deal of both; trouble and sickness too are increased. What are we to do?

If all went well with us the year through, then what had been vowed was given, and thus they would fulfil their vows. In this way they would act year by year to ward off cholera and small-pox.

(uu) *Tarse kotap*, *Grewia villosa*, Willd.

*Sikuar*,

*Barangom*, *Vernonia cineria*, Less., or *Glossogyne pinnatifida*, DC.

*Ato pinde*, *Amorphophallus campanulatus*, Blume.

*Gol maric*, black pepper.

*Hende merom toa*, the milk of a black goat.

*Sahya rehel*, the roots of *Streblus asper*, Lour.

Grind these and give to drink.

If his stomach makes a noise :

*Kahu botke rehel*, the roots of *Bryonia lacinoso*, L.

*Janum dog*, a sprout of *Zizyphus Jujuba*, Lam.

*Nim sakam*, the leaves of *Melia Azadirachta*, L.

Plaster him over with these.

*If his stomach swells up :*

*Ghugri*, *Gryllus gryllo-talpa*.

*Thoya haṭ chal*, a little of the bark of *Holarrhena antidysenterica*, Wall.

*Thoya karhani hoyo ata*, a little fried paddy of a certain black variety.

Grind together, make into a ball and give to eat.

*If when there are no more evacuations he seems about to collapse :*

*Nim kaḍḍē*, twigs of *Melia Azadirachta*, L.

Heat these and wrap round both his arms and both his legs.

*If the saliva dries up :*

*Kasi sakam*, the leaves of *Saccharum spontaneum*, L.

*Turam da*, the bulb of

*Gua*, *Areca Catechu*, L.

Grind these and give to drink ; or if these are not readily obtainable, then

*Akar baha*, *Limnophila Roxburghiana*, G. Don.

*Tursi sakam*, the leaves of *Ocimum sanctum*, Willd.

*Oroṣ da*, the bulb of *Costus speciosa*, Sm.

Grind these, mix with *cini*, sugar, and give to drink ; or give him to eat *jithimond*, *Clerodendron Siphonanthus*, R. Br.

*If he has gripes :* grind *peṭcambrā*, *Helicteres Isora*, L., and plaster it on the stomach and give a little to drink. You must invoke the spirits *Kali mae*, *Nag nagin*. The sacrifices to be offered in the event of recovery are a black goat and two pairs of pigeons.

*If there is pain in the stomach :*

(vv) *Nanha god*,

*Ul chal*, the bark of *Mangifera indica*, L.

*Sarjom chal*, the bark of *Shorea robusta*, Gärtn.

*Thoya cun*, a little shell lime.

Stir together a little and give to drink.

(ww) *Sahya chal*, the bark of *Streblus asper*, Lour.

*Thoya aphim*, a little opium.

*Tejo mala*, *Cissampelos Pareira*, L.

*Seyoan*, *Vigna vexillata*, Benth.

*Haṭ chal*, the bark of *Holarrhena antidysenterica*, Wall.

Mix the juice of these in opium and give to drink.

(xx) *Niuri chal*, the bark of *Elaeodendron Roxburghii*, W. and A.

*Jhinjit chal*, ,, ,, ,, *Bauhinia retusa*, Roxb.

To be drunk.

If both urine and evacuations are stopped

(yy) *Akaona chal*, the bark of *Calotropis gigantea*, R. Br. or C. procera, R. Br.

*Muñga chal*, the bark of *Moringa pterygosperma*, Gärtn.  
*Gol maric*, black pepper.

Grind these and plaster over the abdomen ; or

(zz) grind all the ingredients prescribed to be drunk together, and give to drink.

245. *Marañ kutha laç haso se amsam*. Dysentery.

*Symptoms*. In this blood is passed with the excrement and there is great pain in the abdomen and navel. In this complaint no bitter medicine whatever should be given, otherwise death will certainly ensue. Astringent, viscid or slimy medicines should be administered.

*Medicines*: (a) *Biñdi mutha ghās rehel*, the roots of *Fimbristylis monostachya*, Hassk.

*Sukri mutha ghās rehel*, the roots of *Scirpus monostachyus*, Kön.

*Nanha dudhi lota rehel*, the roots of *Ichnocarpus frutescens*, R. Br.

*Pitua arak*, *Spermacoce hispida*, Linn.

*Sim kata rehel*, the roots of *Vitex peduncularis*.

*Suruñ mukhi arak rehel*, the roots of *Helianthus annuus*, Willd.

*Dundukit rehel*, the roots of *Gardenia turgida*, Roxb.

*Pađer rehel*, the roots of *Stereospermum suaveolens*, DC.

*Turam rehel*, ,, ,, ,,

*Tiṣoç rehel*, ,, ,, ,,

*Piñḍa dare chal*, the bark of *Randia uliginosa*, DC.

*Babla chal*, ,, ,, ,, *Acacia arabica*, Willd.

*Paiñjot chal*, ,, ,, ,, *Clerodendron phlomoides*, Willd.

*Atnak chal*, ,, ,, ,, *Terminalia tomentosa*, W. and A.

*Anḍia moron arak rehel*, the roots of *Gymnema hirsutus*, W. and A., var. *Decaisneanum*, Wight.

*Cihūt laç*, *Spatholobus Roxburghii*, Benth.

*Ḷem laç dare chal*, the bark of *Bauhinia Vahlia*, W. and A.

*Baraṅgom rehel*, the roots of *Vernonia cineria*, Less. or *Glossogyne pinnatifida*, DC.

*Kaliā kuar se gai mula rehel*, the roots of

*Muç arak rehel*, the roots of *Polygonum plebejum*, Br.

*Pusi toa rehel*, the roots of *Euphorbia pilulifera*, Linn.

*Dud baraṅgom rehel*, the roots of

*Barsa pakor rehel*, ,, ,, ,, *Grewia sapida*, Roxb.

*Seta kaṭa rehel*, ,, ,, ,, *Grewia polygama*, Roxb.

*Tarse kotap rehel*, ,, ,, ,, *Grewia villosa*, Willd.

*Matha arak rehel*, ,, ,, ,, *Antidesma diandrum*, Tulas.

*Halim*, *Lepidium sativum*, L.

*Murqa dare chal*, the bark of *Pterocarpus Marsupium*, Roxb.

*Rot chal*, „ „ „ *Ougeenia dalbergioides*, Benth.

*Kedok arak rehel*, the roots of *Argyrea speciosa*, Sweet.

Pound all these small and boil them in about four pounds of water in a new vessel, and soak them ; to be drunk daily.

(b) *Turam*,

*Tipoc*,

*Andia moron arak*, *Gymnema hirsutus*, W. and A., var.

*Decaisneanum*, Wight.

Grind these and mix them with flour making it into unleavened or hand bread and give to eat. If the two latter ingredients are unobtainable, then give the first only.

(c) *Campa rehel*, the roots of *Ochna squarrosa*, L.

*Atkir rehel*, „ „ „ *Smilax ovalifolia*, Roxb.

*Dhalka hatkan rehel*, the roots of *Leea macrophylla*, Roxb.

*Tarse kotap rehel*, „ „ „ *Grewia villosa*, Willd.

*Babla chal*, the bark of *Acacia arabica*, Willd.

*Panjot chal*, „ „ „ *Clerodendron phlomoides*, Willd.

Pound all these, boil in a new vessel and give daily to drink.

(d) *Halim*, *Lepidium sativum*, L.

*Matha arak rehel*, the roots of *Antidesma diandrum*, Tulas.

Grind these together, make into unleavened or hand bread with flour and give to eat.

(e) *Murqa chal*, the bark of *Pterocarpus Marsupium*, Roxb.

*Rot chal*, „ „ „ *Ougeenia dalbergioides*, Benth.

*Jugia chal*, „ „ „ *Cordia Macleodii*, H. f. and T.

*Nangrauta rehel*, the roots of *Nardostachys Jatamansi*, DC.

*Atnak chal*, the bark of *Terminalia tomentosa*, W. and A.

*Dare murup chal*, „ „ „ *Butea frondosa*, Roxb.

*Dura da*, the bulb of

*Bayan da*, „ „ „ *Dioscorea crispata*, Roxb.

*Piska da*, „ „ „ *Dioscorea oppositifolia*, L.

Mix water with these and pound them, boil them and give daily to drink.

(f) *Bonkapsi rehel*, the roots of *Thespesia Lampas*, Benth. and

Hook. f.

*Pelcambra rehel*, „ „ „ *Helicteres Isora*, L.

*Saparom chal*, the bark of *Nyctanthes Arbor-tristis*, L.

*Icak rehel*, the roots of *Woodfordia floribunda*, Salisb.

*Duria hatkan rehel*, the roots of *Leea hirta*, Herb. Banks.

Pound and boil these and give daily to drink.

(g) *Khode baha arak*,

*Muc arak rehel*, the roots of *Polygonum plebejum*, Br.



Grind, mix with flour and make into unleavened or hard bread and give to eat.

- (h) *Bele sinjo*, the ripe fruit of *Ægle Marmelos*, Correa.  
*Misri*, sugar candy.

Mix up the former in hot water with the latter, *i.e.* make a sherbet, and give to drink.

- (i) *Loḥḥan arak*, *Ærua lanata*, Linn.

Roast these in an envelope of leaves and give to eat.

- (j) *Amsam dhiri*, stone beads of reddish, greyish and other colours.

To be rubbed on a stone in water, which is then given to children to drink, *i.e.* child patients.

- (k) *Campa rehet*, the roots of *Michelia champaca*, L.

*Badam jo gabeḥeḥ*, the kernel of almonds.

*Makarḥenda jo*, the fruit of *Diospyros embryopteris*, Pers.

*Rokot condon*, blood coloured sandal wood, *Santalum album*, L.

*Araḥ upal baha*, *Nymphaea rubra*, Roxb.

*Araḥ raj baha*, the red variety of *Nerium odorum*, Soland.

*Hq̄lim*, *Lepidium sativum*, L.

Parch or fry dry the last. Grind small and mix all the ingredients and make into pills, which should be dissolved in hot water just before being drunk.

- (l) *Ul chal*, the bark of *Mangifera indica*, L.

*Ambra chal*, ,, ,, ,, *Spondias mangifera*, Pers.

*Sahra chal*, ,, ,, ,, *Streblus asper*, Lour.

Mix and grind these and give to drink.

- (m) *Seta kata rehet*, the roots of *Grewia polygama*, Roxb.

*Bāriā kandhum rehet*, the roots of *Phyllanthus lanceolarius*, Mull-Arg.

11 *gol maric*, eleven black peppercorns.

Grind these together and give to drink.

(n) Grind *arak upal baha*, *Nymphaea rubra*, Roxb., and give to drink.

(o) Make him drink about a pound of buffalo milk as soon as it has been taken from the animal.

To cause the pain at the abdomen and navel to cease :—

- (p) *Darcini*, cinnamon.

*Rokot condon kaḥ*, blood coloured sandal wood, *Santalum album*, L.

*Sūt*, dry ginger.

Roast these three slightly and after grinding give a little to drink and apply externally over the abdomen and navel.

- (q) *Pond dhiri*, feldspar or quartz.

*Karkaḥ dog*, a shoot of *Zizyphus xylopyra*, Willd.

First heat the former red hot and throw it into water when it will fall to pieces. Then grind it with the latter and apply to the abdomen and navel.

(r) *Akaona lore*, the milky exudation of *Calotropis gigantea*, R.Br. Smear this over the abdomen and navel.

*Prohibited articles of diet*:—

(s) *Jel*, meat.

*Hako*, fish.

*Munga arak*, the leaves of *Moringa pterygosperma*, Gärtn.

*Kurmbi arak*, a certain potherb.

*Gandhari arak*, *Amaranthus gangeticus*, var. *angustifolia*, L.

*Garundi arak*, *Acternanthera sessilis*, R. Br.

*Alu*, potatoes.

*Bengar*, *Solanum Melangena*, L.

*Kesari dal*, *Lathyrus sativus*, L.

*But dal*, *Cicer arietinum*, L.

*Rambya dal*, *Phaeseolus Mungo*, var. *radiatus*, L.

*Mafor dal*, *Pisum arvense* and *P. sativum*, L.

*Harhat karla*, the bitter var. of *Momordica dioica*, Roxb.

*Herem tij*, anything sweet.

*Toa*, milk.

*Khajari*, parched rice.

*Masri dal*, *Ervum Lens*, L.

The only *dal* (or split grain) allowed is *horec*, *Dolichos biflorus*, L.

(t) *Ambra chal*, the bark of *Spondias mangifera*, Pers..

*Atkura rehel chal*, the bark of the roots of *Wrightia tomentosa*, R. and S.

*Tejo mala rehel*, the roots of *Cissampelos Pareira*, L.

Pound these together and of the resultant water give  $\frac{1}{3}$  oz. daily for three days.

If there is no amelioration, then

*Karkat sakam*, the leaves of *Zizyphus xylopyra*, Willd.

*Kalia jira*, *Nigella indica*, Roxb.

Grind these together and give to drink.

(u) *Bir but*, *Flemingia congesta*, L.

*Atkir rehel*, the roots of *Smilax ovalifolia*, Roxb.

*Bir camuk da*, the tuber of

Cook in mustard oil and give to eat.

(v) *Araak meral sakam*, the leaves of the red *Phyllanthus Emblica*, L.

*Campa rehel*, the roots of *Michelia champaca*, L.

*Andia moron arak rehel*, the roots of *Gymnema hirsutum*, W. and A., var. *Decaisneanum*, Wight.

*Sarjom chal*, the bark of *Shorea robusta*, Gärtn.

*Seta aṅḍir rehet*, the roots of *Grewia polygama*, Roxb.

*Sahra chal*, the bark of *Streblus asper*, Lour.

*Biṅḍi mutha rehet*, the roots of *Fimbristylis monostachya*, Hassk.

*Bhedwa datel*, the tuber of *Hibiscus cancellatus*, Roscoe, var. *fusiformis*, Willd.

Collect all these and let him drink them with hot water.

(w) *Doka*, *Odina Wodier*, Roxb.

*Murga*, *Pterocarpus Marsupium*, Roxb.

*Atnaḱ chal*, the bark of *Terminalia tomentosa*, W. and A.

*Sarjom chal*, ,, ,, ,, *Shorea robusta*, Gärtn.

*Gua*, *Areca Catechu*, L.

*Utri dudhi lota*, *Cryptolepis Buchanani*, R. and S.

*Koṅga*, *Agave americana*, L.

*Rali*, *Piper longum*, Willd.

*Bir eraḍom*, the wild Castor oil plant.

*Jhik pota*, a porcupine's stomach.

*Sitka*,

*Kedok araḱ*, *Argyreia speciosa*, Sweet.

*Gargaḍi*, *Coix lachryma*, Willd.

*Aṅkir*, *Smilax ovalifolia*, Roxb.

(x) *Nanha pusi toa rehet*, the roots of *Euphorbia thymifolia*, Burm.

*Patni bele rehet*, the roots of *Helianthus annuus*, Willd.

*Aṅkir rehetlak gabetel*, the flesh of the roots of *Smilax ovalifolia*, Roxb.

*Baye jorq reak bale ḍog*, the fresh shoot of an aerial root of *Ficus bengalensis*, L.

*Aphim*, opium, about the size of fly's head.

Grind these together and make into pills the size of hares' excrement; give one such pill three times a day.

(y) *Biṅḍi mutha rehet*, the roots of *Fimbristylis monostachya*, Hassk.

*Bir barangom rehet*, the roots of *Glossogyne pinnatifida*, DC.

*Opomom rehet*, the roots of *Angelica glauca*, Edgew.

*Duṅḍukit rehet*, ,, ,, ,, *Gardenia turgida*, Roxb.

*Toyo caṅḍbol rehet*, the roots of *Desmodium gangeticum*, DC.

*Bir jhuṅka rehet*, ,, ,, ,, *Crotalaria calycina*, Shrank.

Pound these and squeeze out the juice, which the patient is to drink.

(z) *Biṅḍi mutha*, *Fimbristylis monostachya*, Hassk.

*Tikin sin*,

*Icaḱ sakam*, the leaves of *Woodfordia floribunda*, Salisb.

(aa) *Etkëç*, Euphorbia antiquorum, L.

*Buluñ*, salt.

*Ghikūāri*, Yucca gloriosa.

*Araķ upal*, Nymphaea rubra, Roxb.

(bb) *Campa rehel*, the roots of Michelia champaca, L.

*Terel jø*, the fruit of Diospyros tomentosa, Roxb.

*Hař rehel*, the roots of Holarrhena antidysenterica, Wall.

*Goře rehel*, ,, ,, ,, Croton oblongifolius, Roxb.

*Pader rehel*, ,, ,, ,, Stereospermum suaveolens, DC.

*Sauri rehel*, ,, ,, ,, Heteropogon contortus, R. and S.

*Bød lař baklak*, the bark of Vitis adnata, Wall.

*Pařni bele*, Helianthus annuus, Willd.

*Sq darç reaķ chal*, the bark of Eugenia Jambolana, Lamk.

Grind and mix all these and give to drink. Afterwards let him eat *pan*, the leaf of Piper Betle, L., and *khayar*, Acacia Catechu, Willd.

(cc) *Dundukil rehel*, the roots of Gardenia turgida, Roxb.

*Seta pan*, Monochoria plantaginea, Kunth.

*Binđi mutha da*, the bulb of Fimbristylis monostachya, Hassk.

*Ul chal*, the bark of Mangifera indica, L.

*Doka chal*, ,, ,, ,, Odina Wodier, Roxb.

*Ambya chal*, ,, ,, ,, Spondias mangifera, Pers.

Grind and give to drink.

(dd) *Surju muni rehel*, the roots of

*Turam rehel*, ,, ,, ,,

Grind these, make into pills to be eaten.

(ee) *Binđi mutha*, Fimbristylis monostachya, Hassk.

*Ambya chal*, the bark of Spondias mangifera, Pers.

Mix these with some *cun*, lime, and give to drink.

(ff) *Terel jø*, the fruit of Diospyros tomentosa, Roxb.

*Daka*, boiled rice.

*Taben*, rice soaked and flattened.

Mix these thoroughly and give to eat.

*Ođokoķ jøkhëç hasokore*. When there is pain at stool.

(gg) *Lëbel çendëñ janum rehel*, the roots of trodden down Zizyphus

Jujuba, Lamk.

*Tejo mala rehel*, the roots of Cissampelos Pareira, L.

*Miru baha rehel*, ,, ,, ,, Abutilon indicum, Don.

*Sarjøm chal*, the bark of Shorea robusta, Gärtn.

*Buc chal*, ,, ,, ,, Cordia Myxa, L.

*Buđhi gasiç rehel*, the roots of Pavetta indica, L., var. tomentosa, Roxb., or Callicarpa macrophylla, Vahl.

*Terel đog*, a shoot of Diospyros tomentosa, Roxb.

Mix, grind and give to drink.

- (hh) *Campa rehel*, the roots of *Michelia champaca*, L.  
*Haṭ rehel*, „ „ „ *Holarrhena antidysenterica*, Wall.  
*Paḍer rehel*, „ „ „ *Stereospermum suaveolens*, DC.

Grind and give to drink.

- (ii) *Turam rehel*, the roots of  
*Anḍia moron arak rehel*, the roots of *Gymnema hirsutum*, W.  
 and A., var. *Decaisneanum*, Wight.  
*Tipoc rehel*, the roots of  
*Kedoḱ arak rehel*, the roots of *Arygyreia speciosa*, Sweet.  
*Barṣa paḱoṛ rehel*, „ „ „ *Grewia sapida*, Roxb.  
*Seta kaṭa rehel*, „ „ „ *Grewia polygama*, Roxb.  
*Thora duṇḍukit rehel*, the roots of *Gardenia turgida*, Roxb.  
 (a little).  
*Thora paḍer rehel*, the roots of *Stereospermum suaveolens*,  
 DC. (a little).  
*Baraṅgom rehel*, the roots of *Vernonia cineria*, Less., or *Glos-*  
*sogyne pinnatifida*, DC.  
*Bindi mutha rehel*, the roots of *Fimbristylis monostachya*,  
 Hassk.  
*Sukri mutha rehel*, the roots of *Scirpus monostachyus*, Kön.  
*Nanha dudhi loṭa rehel*, the roots of *Ichnocarpus frutescens*,  
 R. Br.  
*Dhalka haṭkaṅ rehel*, the roots of *Leea macrophylla*, Roxb.  
*Maṭha arak rehel*, the roots of *Antidesma diandrum*, Tulas.  
*Hālim*, *Lepidium sativum*, L.  
*Gai mula se hāliā kuāri mula rehel*, the roots of

Boil all these and after cooling give to drink ; persevere with this for 15 to 26 days, giving it some 5 times in the day and some 6 times at night. The evacuations will have the appearance of the medicine, but still keep on with it. If there is pain at the navel smear *ahaona loṛe*, the sticky exudation of *Calotropis gigantea*, R. Br., on daily and the pain will cease. Until recovery a gruel of *ṣagu dana*, sago, should be taken flavoured with salt or sugar, but no rice. The water drunk should be warm, not cold.

*N.B.*—The last named of above has thin tendrils and leaves and yields a sticky exudation like that of *kedoḱ arak*, *Argyreia speciosa*, Sweet, while the bulb is like that of *bhedḍwa*, *Hibiscus cancellatus*, Roscoe, var. *fusiformis*, Willd.

*For children.*

- (jj) *Turam rehel*, the roots of  
*Baraṅgom rehel*, the roots of *Vernonia cineria*, Less., or *Glos-*  
*sogyne pinnatifida*, DC.

Make into hand bread with wheat flour and give to eat daily until recovery.

(kk) *Dhalka hatkan*, *Leea macrophylla*, Roxb.

Make into hand bread with wheat flour and give to eat.

(ll) *Tiṣoḍ da*, the bulb of

Make into hand bread with wheat flour and give to eat.

(mm) *Tilmiñ saham*, the leaves of *Sesamum orientale*, Willd.

Soak in water and give that water to drink. Knead the leaves and squeeze out the water which will be viscid, and give that water to drink.

For pain at the navel:—

(nn) Roast *ponḍ dhiri*, quartz, to burning point, throw it into water when it will splutter and crack and become loose. Taking it out grind with *janum dog*, a shoot of *Zizyphus Jujuba*, Lam., and it will swell up. Apply that as an ointment to the navel. Give also to drink

*Tarse kotap rehel*, the roots of *Grewia villosa*, Willd.

*Kamraj rehel*, the roots of *Buettneria herbacea*, Roxb.

(oo) *Jom laṣ chal*, the bark of *Bauhinia Vahlia*, W. and A.

*Cihūt laṣ rehel*, the roots of *Spatholobus Roxburghii*, Benth.

*Kadam chal*, the bark of *Anthocephalus Cadamba*, Benth. and Hook. f.

*Sarjom chal*, the bark of *Shorea robusta*, Gärtn.

*Hesaḱ chal*, „ „ „ *Ficus religiosa*, Willd.

*Doka chal*, „ „ „ *Odina Wodier*, Roxb.

*Ambya chal*, „ „ „ *Spondias mangifera*, Pers.

*Bir hoyeḱ*, *Atylosia scarabaedois*, Benth.

*Campa rehel*, the roots of *Michelia champaca*, L.

*Pañjot dare chal*, the bark of *Clerodendron phlomoides*, Benth.

*Berdor rehel*, the roots of *Combretum nanum*, Hamilt.

*Aṭkir rehel*, „ „ „ *Smilax ovalifolia*, Roxb.

Grind all these and boil well, then throw away the barks and give to drink daily. Give no boiled rice to eat till the child asks for it, for if eaten the medicines will not act promptly. Give only a gruel of sago with the addition of salt. This disease is a sequel of measles. There is nothing bitter in the medicines, they are only insipid.

(pp) *Murga chal*, the bark of *Pterocarpus Marsupium*, Roxb.

*Satsayar chal*, „ „ „ *Dalbergia latifolia*, Roxb.

*Jom laṣ chal*, „ „ „ *Bauhinia Vahlia*, W. and A.

*Cihūt laṣ chal*, „ „ „ *Spatholobus Roxburghii*, Benth.

*Atnaḱ chal*, „ „ „ *Terminalia tomentosa*, W. and A.

*Caole ata rongo*, rice fried to burning point.

*Siñjo sakam*, the leaves of *Ægle Marmelos*, Correa.

Boil all these together, and give the water to drink daily: he will surely recover.

(qq) *Campa rehel*, the roots of *Michelia champaca*, L.

*Haṭ rehel*, „ „ „ *Holarrhena antidiysenterica*, Wall.

*Pader rehel*, „ „ „ *Stereospermum suaveolens*, DC.

Grind these together and give to drink.

(rr) *Bindi mutha da*, the bulb of *Fimbristylis monostachya*, Hassk.

*Ambra chal*, the bark of *Spondias mangifera*, Pers.

Grind these together, squeeze through a cloth and after mixing with *kāra kauḍi cun*, the lime from the small shells used as money in India, give to drink.

(ss) *Qhoç arak rehel*, the roots of *Boerhaavia procumbens*, Herb. Banks.

*Aṭkir rehel*, „ „ „ *Smilax ovalifolia*, Roxb.

*Icak rehel*, „ „ „ *Woodfordia floribunda*, Salisb.

*Tejo mala rehel*, „ „ „ *Cissampelos Pareira*, L

Grind together and give to drink.

(tt) *Mare taben*, old rice soaked and flattened to be washed seven times.

*Ghōra laḍauri*, *Vitis tomentosa*, Heyne.

*Bindi mutha*, *Fimbristylis monostachya*, Hassk.

Grind the last two together and mix with the first into a clammy mixture, and give for three days, when a cure will follow. If on going to stool there should be prolapsus ani, then give

(uu) *Mutha da*, the bulb of

*Bindi mutha da*, the bulb of *Fimbristylis monostachya*, Hassk.

*Araḅ upal baha da*, the bulb of *Nymphæa rubra*, Roxb.

*Bare baha rehel*, the roots of *Pentapetes phoenicia*, L.

Grind and mix these and give to drink, or mix with above and give to eat.

If no gas is expelled,

(vv) *Ḵom ḵanum rehel*, the roots of *Zizyphus Jujuba*, Lam.

Pound and give to drink.

If the urine cannot be voided,

(ww) *Dare cetan reak hesak rehel chal*, the bark of the roots of *Ficus religiosa*, Willd., growing on another tree.

Pound and give, and normal conditions will return.

If there is an internal scraping pain, *i.e.* as if there was no more excrement to come away, then

(yy) *Mutha da*, the bulb of *Fimbristylis monostachya*, Hassk.

*Suruj mukhi rehel*, the roots of *Helianthus annuus*, L.

Grind together and give to drink.

246. *Māyām ar suluc leka oḍokoḅ.*

Blood and slime in the excretions.

*Medicines:* *Camḵa rehel*, the roots of *Michelia champaca*, L.

*Terel ḵo*, the fruit of *Diospyros tomentosa*, Roxb.

*Hat rehel*, the root of *Holarrhena antidysenterica*, Wall.

247. *Khoḥ*. Cough.

*Medicines*: (a) *Pipol*, Piper longum, Willd.

*Dumur rasa*, the honey of the small honey bee.

Grind these together and let him eat some every morning.

(b) *Rohor adhe*, dried ginger, Zingiber officinalis, Roscoe.

Grind fine, mix with melted butter and sugar and after warming a little give to drink.

(c) Touch the uvula with the fruit of *soso*, Semecarpus Anacardium, L.

When the phlegm is tenacious :—

(d) *Thadīa turi*, a variety of Brassica campestris, L.

*Rangāini rehel*, the roots of Solanum Jacquini, Willd.

*Sasañ bohok*, a knot of turmeric, Curcuma longa, Roxb.

To be drunk.

(e) *Bengar betahel rehel*, the roots of Solanum stramonifolium, Jacq.

*Adagathīa rehel*, the roots of Panicum repens, L.

*Kūs* and *kasi*, Themuda gigantea, Haskel, and Saccharum spontaneum, L.

*Badgocak*, Lygodium flexuosum, Sw.

*Binḍi mutha*, Fimbristylis monostachya, Hassk.

*Bar chal*, the bark of Mimusops Elengi, L.

*Banat arakak*, a bit of a red woollen blanket.

*Bir barāngom*, Glossogyne pinnatifida, DC.

*Sega janum rehel*, the roots of Mimosa rubicaulis, Lamk.

*Caulia*, Ruellia suffruticosa, Roxb.

*Kadar*, Bonnaya veronicæfolia, Spreng.

*Dhiri banda*,

*Etka rehel*, the roots of Mucuna pruriens, DC.

*Anḍiā gongha*, the shell of a male snail.

*Upel baha arakak*, Nymphæa rubra, Roxb.

*Kamraj*, Buettneria herbacea, Roxb.

Grind these together, cook in oil, and after making into pills give to eat.

(f) *Adagathīa rehel*, the roots of Panicum repens, L.

*Kasi rehel*, „ „ „ Saccharum spontaneum, L.

*Bengar betahel rehel*, the roots of Solanum stramonifolium, Jacq.

*Kūs rehel*, the roots of Themuda gigantea, Haskel.

*Arak upal baha*, Nymphæa rubra, Roxb.

*Banat arakak*, bit of a red woollen blanket.

*Etka rehel*, the roots of Mucuna pruriens, DC.

*Bar chal*, the bark of Mimusops Elengi, L.

*Rol jo*, the fruit of Terminalia Chebula, Retz.



Grind all these together, cook in melted butter and give to eat. Give most of the third of above named roots.

(g) *Nanha dudhi lota rehēl*, the roots of *Ichnocarpus frutescens*, R. Br.

*Musna jān*, the seeds of *Linum usitatissimum*, L.

Boil each separately in a brass cup of the size sold for 8 annas and strain ; boil again, mix and then give to drink.

(h) *Lilkāthi*, *Polygala crotalarioides*, Buch. and Ham.

*Gol maric*, black pepper.

*Tursi sakam*, the leaves of *Ocymum sanctum*, Willd.

*Adwa caole*, rice made from sundried, not boiled, paddy.

Grind all these together and give to drink.

(i) *Hesēl chal*, the bark of *Anogeissus latifolia*, Wall.

*Sekrēç chal*, „ „ „, *Lagerstroemia parviflora*, Roxb.

Let him chew these daily ; if the patient is an infant plaster *joka sakam*, the leaves of *Sida humilis*, Willd., on the fontanel.

If the cough seems to be bronchial or asthmatic :

(j) bring a little of the bark of each of all the trees in the forest, grind this along with some *gol maric*, black pepper, make into pills and give one pill daily each forenoon and one each afternoon.

248. *Ṭhae kхоk*. Dry cough.

*Medicines* : *Gol maric* (4), 4 black peppercorns.

*Lilkāthi rehēl*, the roots of *Polygala crotalarioides*, Buch. and Ham.

Grind together, cook in oil and give to drink.

249. *Selesa*. (Bronchitis or a cold or a chill.)

*Symptoms*. If a person bathes for a long time in water, and then his head gets hot and thereby cold strikes his chest or lungs, he will wheeze, and the middle of the head, where an infant's fontanel is, will become as hot as fire. Both children and adults may get this. Some people get from this *Pachiari betha* (pneumonia). These have a pain in the chest and all the ribs, they breathe with difficulty and experience a piercing pain. The Santals when suffering from *Pachiari betha* call it a stabbing by the evil spirits, but it is a consequence of *selesa*.

*Medicines* : (a) *Latha cip cip rehēl*, the roots of

*Sūi* and *pīpol*, ginger and *Piper longum*, Willd.

*Darcini*, cinnamon.

*Adagathia ghās da*, the bulbs of *Panicum repens*, L.

Grind all these small and after mixing with *niele rāsa*, honey, give to eat.

(b) *Chatni chal*, the bark of *Alstonia scholaris*, R. Br.

*Haṭ chal*, „ „ „, *Holarrhena antidysenterica*, Wall.

10 *goteç gol maric*, 10 black peppercorns.

Mix the juice extracted from these and give to drink.

*Berel sasan*, raw turmeric, *Curcuma longa*, Roxb.

*Maric*, chilli, *Capsicum frutescens*, Willd.

Grind these and after shaving over the fontanel, apply there.

*If there is pain in the chest or ribs :*

(c) *Rai turi*, *Brassica campestris*.

Grind and apply without heating (a sinapism).

(d) *Isabgul*, *Plantago ispaghala*, R. Fleming.

Grind and apply warm

(e) *Chatni chal*, the bark of *Alstonia scholaris*, R. Br.

Mix with the milk of a black goat and apply warm.

(f) *Tejo mala rehet*, the roots of *Cissampelos Pareira*, L.

5 *gol maric*, 5 black peppercorns.

Grind together and give to drink.

250. *Khoḥ manda*. Cough and cold.

*Medicines :* (a) *Rasun*, garlic.

*Adagathia ghās da*, the bulbs of *Panicum repens*, Linn.

*Buluñ*, salt.

Grind these together, make into pills to be taken daily, and the cold will certainly get well.

(b) *Nawa sim bele*, new laid fowl's egg.

*Buluñ*, salt.

*Maric*, chilli, *Capsicum frutescens*, Willd.

*Sasan*, turmeric, *Curcuma longa*, Roxb.

To be cooked together and taken 3 or 4 times, when he will get well.

(c) *Beṅgar belahet jḡ*, the fruit of *Solanum stramonifolium*, Jacq.

*Gai gotom*, melted butter made from cows' milk.

The former to be cooked in the latter and then eaten.

(d) *Adagathia ghās da*, the bulbs of *Panicum repens*, Linn.

*Edhe ranḡaini janum, dareko joko*, the entire plant and fruits of *Solanum xanthocarpum*, Schrad. et Waudl.

Boil these together and after adding salt make the patient drink it.

(e) *Soso*, *Semecarpus Anacardium*, Linn., var. *cuneifolia*.

Grind with roasted rice and let the patient eat it.

(f) *Heijel jḡ*, the fruit of *Solanum stramonifolium*, Jacq.

*Caole ata*, roasted rice.

Both to be roasted, then ground together and eaten with the addition of a little salt.

(g) *Adagathia da*, the bulbs of *Panicum repens*, Linn.

To be cooked in oil and eaten.

(h) *Ranḡaini janum rehet, dare, sakam*, the entire plant, roots and leaves of *Solanum Jacquini*, Willd.

*Adagathia ghās da*, the bulbs of *Panicum repens*, L.

Boil these together and give to drink with salt every morning till recovery.

- (i) *Mare jojo ar amtha*, the old fruit and inspissated juice of *Tamarindus indica*, L.

First brown this like curry, then add 8 ounces water and 2 ounces *misri*, sugar-candy, and after boiling well till amalgamated, give to drink.

- (j) *Heşel chal*, the bark of *Anogeissus latifolia*, Wall.  
*Sekreç chal*, „ „ „, *Lagerstroemia parviflora*, Roxb.

Let him chew these daily.

- (k) *Adagathia da*, the bulb of *Panicum repens*, L.  
*Posto dana*, the seeds of the opium poppy.  
*Lönphul*, cloves.  
*Jawan*, *Carum Ajowan*, DC.  
*Biş buluş*, factitious salt containing sulphur.

Grind all these together fine, make into pills the size of a small pea, one pill to be eaten every morning, and a little *ganja*, *Cannabis sativa*, Willd., to be licked.

- (l) *Raᅅgāini janum rehel ar sakam*, the roots and leaves of *Solanum Jacquini* Willd.  
*Adagathia*, *Panicum repens*, L.

Boil these together, and after adding salt to be drunk.

- (m) *Jojo amtha*, the dried flesh of the fruit of *Tamarindus indica*, L.

Boil in 8 ounces of water, add a little *misri*, sugar-candy, and give to drink.

251. *Kaçiç gidraço mandak*. Cold in infants.

*Medicines*: (a) *Adagathia ghās*, *Panicum repens*, Linn.

*Darcini*, cinnamon.

*Süt*, dry ginger.

*Pipol*, *Piper longum*, Willd.

Grind these together, then mix with *nele rāsa*, honey, and let them lick it. Babies to lick honey only.

- (b) *Thoᅅa darcini*, a little cinnamon.  
*Süt*, dry ginger.

Grind together, stir in honey of either the ordinary or humble bee and give to lick.

- (c) *Heñjeç rehel*, the roots of *Solanum stramonifolium*, Jacq.  
*Soso jan miltēn gan*, about one seed of *Semecarpus Anacardium*, L.

*Caole ata roᅅgoak*, rice fried to burning point.

Grind all together and give to eat like a porridge mess.

- (d) *Darcini*, cinnamon.  
*Süt*, dry ginger.

Grind and mix with honey of the ordinary or small bee and give it a little *ganja*, *Cannabis sativa*, Willd., to lick, and smear a little on the fontanel.

(e) *Joka sakam*, the leaves of *Sida humilis*, Willd.

Grind and plaster on the fontanel and some to be licked.

252. *Dhōk*. Phthisis previous to hæmoptysia, also bronchitis and asthma.

*Medicines*: (a) *Kāhu botke rēhel*, the roots of *Bryonia lacinosa*, L.

*Campa rēhel*, „ „ „, *Michelia champaca*, L.

Grind these together, cook in melted butter and give to eat.

(b) *Cae cirotā*, *Gentiana cherayta*, Roxb.

*Korpur*, camphor.

*Elaci*, cardamums, *Alpinia cardamomum*, Roxb.

*Mahabari boc*, *Zingiber zerumbet*, Roscoe.

*Darcini*, cinnamon.

*Sūt pipol*, dry ginger and *Piper longum*, Willd.

*Kabab cini*, *Cubeba officinalis*, Miqu.

*Gol maric*, black pepper.

Mix a little of each of these, grind dry and give to eat.

(c) *Loṅphul*, cloves.

*Phoṭ kapur*,

*Cirotā*, *Gentiana cherayta*, Roxb.

*Pipol*, *Piper longum*, Willd.

*Darcini*, cinnamon.

*Kabab cini*, *Cubeba officinalis*, Miqu.

*Adaḡaṭhiā rēhel*, the roots of *Panicum repens*, L.

*Mahabari boc*, *Zingiber zerumbet*, Roscoe.

*Gol maric*, black pepper.

Grind these together, cook in mustard oil and give to eat. Afterwards let him eat *pan sakam*, the leaves of *Pipér Betle*, L., with *khayar*, *Acacia Catechu*, L.

(d) Bring the heart of all kinds of trees from the forest and boil in a new vessel; strain off the blood coloured water and boil that water down. Then let him eat the residue very early in the morning. This will cause him to vomit. When he is exhausted with vomiting let him eat hot boiled rice with *gai dahe*, curds made from cow's milk.

(e) *Sū hako im*, the liver of a porpoise, *Delphinus Gangeticus*.

*Poṅṅ raṅḡaini rēhel*, the roots of the white *Solanum xanthocarpum*, Schrad. et Wendl.

*Taruṣ nandri*, a leopard's windpipe.

*Khikrī nandri*, a fox's windpipe.

Grind and mix these and after cooking in mustard oil give to eat.

(f) *Kāsi rēhel*, the roots of *Saccharum spontaneum*, L.

*Matkom mañj*, the heart of *Bassia latifolia*, Roxb.

*Kaṅṭa siris mañj*, the heart of *Albizzia myriophylla*, Bl.

Boil all these down in a new vessel to the consistency of the raw molasses made from *Bassia latifolia*, Roxb. and after grinding *ul banda*, the parasitic plant found on the mango tree, mix this, make into pills and give to eat.

(g) *Orsoyēñ da*, the bulb of *Zingiber Cassumunar*, Roxb.

*Kañta kuca arāk*,

*Kañta saru da*, the bulb of *Lasia heterophylla*, Schott.

*Oroṣ da*, „ „ „ *Costus speciosa*, Sm.

*Berel sasan*, raw turmeric.

*Gol maric*, black pepper.

*Sanam lekan gorom moṣola thoṛa thoṛa*, mix a little of all kinds of pungent spices.

Grind to a powder and give to eat.

When blood is mixed :

(h) *Araḥ upāl baha se uldhatel*, the flower of *Nymphœa rubra*, Roxb., or the tubers of the same.

*Pond raṅgaini dare se rehel sakam jotoḡe*, the roots, leaves or entire white *Solanum xanthocarpum*, Schrad. et Wendl.

Cook in melted butter of cows' milk, mixing also *pader chal*, the bark of *Stereospermum suaveolens*, DC., make into pills to be taken daily.

(i) the same as (a) above till the cough ceases when

(j) the same as (b) above with the addition of *ghor*, buttermilk, until recovery.

(k) *Adagathia da*, the bulb of *Panicum repens*, L.

*Kāhu botke da*, „ „ „ *Bryonia laciosa*, L.

*Bindi mutha rehel*, the roots of *Fimbristylis monostachya*, Hassk.

*Sukri mutha rehel*, the roots of *Scirpus monostachyus*, Kön.

*Camṛa baha*, *Michelia champaca* L.

Grind all these together, mix with *matkom mañj reaṅ gur*, molasses extracted from the heart of *Bassia latifolia*, Roxb., cook the whole and give about a spoonful only to drink as it is a very powerful medicine.

(l) *Sūt*, dry ginger.

*Pipol*, *Piper longum*, Willd.

*Sinid baha*,

*Dhela chal*, the bark of *Alangium Lamarckii*, Thws.

*Gol maric*, black pepper.

*Camṛa baha*, *Michelia champaca*, L.

Grind all these together and give to eat without cooking. *Forbidden diet* : Browned curries, pork, curry of the fruit or leaves of *Cucurbita moscheta*, Duchesne, buffalo meat, mutton, and the leaves of *Kantha arāk*, *Euphorbia granulata*, Forsk.

(m) *Kasi rehel*, the roots of *Saccharum spontaneum*, L.

*Karsare rehel*, the roots of *Thysanolaena acarifera*, Nees.

*Tarop rehet reak chal*, the bark of the roots of *Buchanania latifolia*, Roxb.

*Matkom dare reak manij*, the heart of *Bassia latifolia* Roxb.

Grind together, cook in mustard oil, make into pills and give to eat.

(n) *Hünd baha rehet*, the roots of *Jasminum arborescens*, Roxb.

*Nanha dudhi lota rehet*, the roots of *Ichnocarpus frutescens*, R.Br.

*Mahabari boc*, *Zingiber zerumbet*, Roscoe.

*Süt*, dry ginger.

*Pipol*, *Piper longum*, Willd.

*Gol maric*, black pepper.

*Kalia jira*, *Nigella indica*, Roxb.

*Lõnphul*, cloves.

Grind all together and give to eat.

(o) *Adhe*, ginger, *Zingiber officinalis*, Roscoe.

*Etkéc loye*, the sticky exudation of *Euphorbia antiquorum*, L.

*Hemsagor*, *Cotyledon laciniata*, Willd.

*Karsaye da*, the bulb of *Thysanotæna acarifera*, Nees.

(p) *Kasi da*, the bulb of *Saccharum spontaneum*, L.

*Mõron arak rehet*, the roots of *Gymnema hirsutum*, W. and A., var. *Decaisneanum*, Wight.

*Kalmeg*, *Andrographis paniculata*, Nees.

*Beñgar betahel*, *Solanum stramonifolium*, Jacq.

(q) *Kasi ghäs rehet*, the roots of *Saccharum spontaneum*, L.

*Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Dhela chal*, the bark of *Alangium Lamarckii*, Thws.

*Sëkrçë sakam*, the leaves of *Lagerstroemia parviflora*, Roxb.

*Çatni chal*, the bark of *Alstonia scholaris*, R.Br.

*Arak raj baha*, the red var. of *Nerium odoratum*, Soland.

*Matkom chal*, the bark of *Bassia latifolia*, Roxb.

Pound all these and put them in a new earthen pot with about a pint of water. Cover with a leaf plate and boil thoroughly. Drain off the water and add to it the following after grinding them small and throwing away the barks :—

*Darcini*, cinnamon.

*Kabab cini*, Cubebs piper.

*Pipol*, *Piper longum*, Willd.

*Süt*, dry ginger.

*Thoça boc*, a little of the root stock of *Acorus Calamus*, Willd.

*Elaci*, *Alpinia cardamomum*, Roxb.

Then boil thoroughly again after covering with a leaf plate, as the remedy will lose its efficacy if the steam escapes. Some 4 to 8 ounces will remain,

which give for about a week. When the cough is easier, discontinue it and give the following for about a couple of days :

*Hende bulun*, black salt.

*Khairi bulun*, brown or dirty coloured salt.

*Bit bulun*, a factitious salt containing sulphur.

*Pond bulun*, white salt.

*Rangaini janum rehet*, the roots of *Solanum Jacquini*, Willd.

*Adagathia ghās da*, the bulb of *Panicum repens*, L.

To be ground together and made into pills. If the cough returns stop the medicine. If the three following medicines are bought in Calcutta and given in succession, he will certainly get well :—

*Sasaro*,

*Darka ristū*,

*Someson rosayon*.

*Kāsi dama*, asthma :—

(r) *Kāsi rehet*, the roots of *Saccharum spontaneum*, L.

*Kūs rehet*, „ „ „ *Themuda gigantea*, Haskel.

*Kōc bel chal*, the bark of *Feronia Elephantum*, Correa.

*Kāda beinjāk rehet*, the roots of

*Andia moron arāk rehet*, the roots of *Gymnema hirsutus*, W. and A., var. *Decaisneanum*, Wight.

*Sūt*, dry ginger.

*Pīpol*, *Piper longum*, Willd.

*Loṅphul*, cloves.

*Pōstu*, poppy seed.

*Halim*, *Lepidium sativum*, L.

*Raj baha*, *Nerium odorum*, Soland.

*Bir karla rehet*, the roots of the wild *Momordica dioica*, Roxb.

Make into pills without cooking and give daily in the morning and he will recover.

*Dama dhōk*, asthma.

(s) *Hünd baha rehet*, the roots of *Jasminum arborescens*, Roxb.

*Ghi kūāri rehet*, „ „ „ *Yucca gloriosa*, or

*Nanha dudhi lotā rehet*, the roots of *Ichnocarpus frutescens*, R. Br.

*Rohor adhe*, dried *Zingiber officinalis*, Roscoe.

*Pīpol*, *Piper longum*, Willd.

*Mahabari boc*, *Zingiber zerumbet*, Roscoe.

21 *ganda gol maric*, 84 black peppercorns.

Grind all these together and make into pills, one of which to be taken thrice daily.

If the wheezing does not cease,

(t) *Caubia rehel*, the roots of *Ruellia suffruticosa*, Roxb.  
Pound and give the liquid to drink daily.

*Khadar khod̄or dhōk*, bronchitis.

*Symptoms.* There is a rattling or wheezing sound in breathing.

(u) *Hasa araḅ*,

*Tol lumam tejo*, a silkworm chrysalis.

Grind together and give to drink.

253. *Raj rog, thae khoḅ ar kasi dhōk.*

Consumption (*i.e.* hæmoptysis), dry cough and bronchitis.

*Symptoms.* This begins with a cough which is very severe; what is eaten is not digested, there is much vomiting. Such is the case in dry cough and bronchitis, and when it has lasted some time it develops into consumption and blood is brought up when coughing.

*Medicines:* (a) There are eight kinds of salt, viz.

*Bit buluñ*, a factitious salt containing sulphur.

*Khairi buluñ*, brown or dirty coloured salt.

*Hendē buluñ*, black salt.

*Pond buluñ*, white salt.

The names of the other kinds I do not know, but if you ask the shopkeeper for them he will give you.

*Darcini*, cinnamon.

*Kabab cini*, *Cubeba officinalis*, Miqu.

*Cae cirotā*, *Gentiana cheraḃta*, Roxb.

*Sūt*, dry ginger.

*Adhe*, *Zingiber officinalis*, Roscoe.

*Pipol se roli jo*, *Piper longum*, Willd.

*Juṅgi phol jo*,

*Jutri phol jo*,

*Boṛo elaci jo*, large cardamums.

*Chota elaci jo*, small cardamums.

Grind all these together very fine, dry, *i.e.* without any water. Then kill a young pigeon and fry its meat in mustard oil. Add the 8 kinds of salt and spices you have mixed, about two mussel shells full, and when the cooking is done let this suffice to be taken once a day for four days with a meal. Repeat this treatment daily for one or two months and recovery will follow.

(b) The 8 kinds of salt mentioned in (a)

*Oroḅ dare reak jañ*, the stone of *Costus speciosa*, Sm.

*Ede raṅgāini jañum rehel*, the roots of *Solanum xanthocarpum*, Schrad. et Wendl.

*Heñjel rehel*, the roots of *Solanum stramonifolium*, Jacq.

*Adagaṭhia ghās da*, the bulb of *Panicum repens*, Linn.



Grind these four ingredients together, mix with the different kinds of salt and make into pills to be eaten daily till the cough stops, when the medicine is to cease.

(c) *Darcini*, cinnamon.

*Kabab cini*, *Cubeba officinalis*, Miqu.

*Pipol*, *Piper longum*, Willd.

*Sohga*, borax.

Grind these four together into a powder, then mix with sugar-candy and grind, to be swallowed as a powder with the help of a little warm water.

(d) *Kita dal*, the kernel of *Phoenix acaulis*, Buch. } to be mixed  
*Dahe*, curds. } together and  
*Taben*, rice soaked and flattened. } eaten daily.

*Baṛ baha chal*, the skin of the flower of *Mimusops Elengi*, L.

*Raj baha arakaḥ*, the red variety oleander, *Nerium odorum*, Soland.

*Upal bahatēl*, the flower of the lotus, *Nymphæa Lotus*, Willd.

*Saphur rehel*,

*Parwa māyām*, pigeon's blood.

*Pauna*,

*Kaṇṭa saru*, *Lasia heterophylla*, Schott.

*Adagathiā*, *Panicum repens*, Linn.

*Rol jo*, the fruit of *Terminalia Chebula*, Retz.

*Khayar qjon*, *Acacia Catechu*, Willd.

*Niuri dare*, *Elæodendron Roxburghii*, W. and A.

*Kaṭiḥ talaṅ seṅgel siṅ*, a little of *Tragia involucrata*, Jacq.

*Bhuku chata*, a termites' nest.

To be eaten nine days.

(e) *Araḥ raj baha*, the red oleander flower, *Nerium odorum*, Soland.

*Heṇḍe merom reāḥ māvām*, the blood of a black goat.

*Dherkaete geḍḍe māyām*, especially ducks' blood.

To be made into a soup and taken.

(f) *Araḥ upal baha*, the red lotus flower, *Nymphaea rubra*, Roxb.

*Bir campa rehel*, the roots of *Ochna squarrosa*, Willd.

*Khayar maiṅj*, the heart of *Acacia Catechu*, L.

*Matkom maiṅj*, ,, ,, ,, *Bassia latifolia*, Roxb

*Heṇḍe sim māyām*, the blood of a black fowl.

All to be boiled together and drunk.

When there is a copious expectoration of blood :

(g) *Heṇḍe sim māyām*, the blood of a black fowl,

*Heṇḍe merom māyām*, the blood of a black goat.

To be drunk.

- (h) *Kahu botke*, Bryonia lacinoso, Linn.  
*Campa*, Michelia champaca, L.  
*Harhal hotot*, a bitter pumpkin, Cucurbita lagenaria, Willd.  
*Sega janum*, Mimosa rubicaulis, Lamk.  
*Adagathia*, Panicum repens, Linn.

To be cooked with melted butter.

- (i) *Japhir phol*,  
*Banat arakaak*, thick European made woollen red cloth.  
*Upal baha arakaake*, the red lotus flower, Nymphaea rubra,  
 Roxb.

*Jaephol*, nutmeg.

Grind all these together, cook in melted butter and then to be eaten.

If a woman with a cough has no milk then give her to eat

- (j) *Banda*, a parasitical plant.

If a woman will not stay with her coughing husband then make her eat

- (k) *Daharreko namok potom tejo*, a chrysalis found on the roads,  
 or those found on trees will also do.

- (l) *Kahu botke*, Bryonia lacinoso, Linn.  
*Campa*, Michelia champaca, L.

Let the patient eat these first, and then proceed with

- Boc*, Acorus Calamus, Willd.  
*Cirota*, Gentiana cherayta, Roxb.  
*Kur*,  
*Kaphor*, camphor.  
*Elaci*, Alpinia cardamomum, Roxb.  
*Mahabari boc*, Zingiber zerumbet, Roscoe.  
*Sut*, dry ginger.  
*Pipol*, Piper longum, Willd.  
*Gol maric*, black pepper.  
*Darcini*, cinnamon.  
*Kabab cini*, Cubeba officinalis, Miqu.  
*Basok*, Justicia Adhatoda, L.

Grind all these together and make into pills to be taken. Give only a little, not much.

- (m) *Bar chal*, the bark of Mimusops Elengi, L.  
*Arak upal baha da*, the tuber of the red Nymphaea rubra,  
 Roxb.  
*Adagathia rehel*, the roots of Panicum repens, Linn.  
*Banat arakaak*, thick European made woollen red cloth.  
*Kasi rehel*, the roots of Saccharum spontaneum, Linn.  
*Kus rehel*, " " " Themuda gigantea, Haskel.  
*Kanta kucq rehel*, the roots of Mimosa rubicaulis, Willd.

*Andia moron arak rehet*, the roots of *Gymnema hirsutus*, W. and A., var. *Decaisneanum*, Wight.

*Lonphul*, 4 or more cloves.

*Jithimond chal*, the bark of *Clerodendron Siphonanthus*, R. Br.

All these to be ground together, boiled in mustard oil and eaten.

(n) *Kondro chal*, the bark of *Acacia Intsia*, Willd.

*Jugi tupri rehet*, the roots of

*Lodam chal*, the bark of *Symplocos racemosa*, Roxb.

Grind together and give to drink with boiling water.

(o) *Miru baha rehet*, the roots of *Abutilon indicum*, Don.

*Thora hat chal*, a little bark of *Holarrhena antidysenterica*, Wall.

*Arak joba baha*, the red flower of *Hibiscus rosa-sinensis*, L.

*Arak raj baha*, „ „ „ „ *Nerium odorum*, Soland.

*Arak upal baha*, „ „ „ „ *Nymphaea rubra*, Roxb.

Grind these all fine together, then add 2 annas worth of *aphim*, opium, and grind again ; make into pills of which 3 to be taken daily. If this does not cure, then

(p) *Biṭ buluṅ thora*, a little of the factitious sulphur containing salt.

*Ponḍ buluṅ thora*, a little white salt.

*Darcini*, cinnamon.

*Kabab cini*, *Cubeba officinalis*, Miqu.

*Sūt*, dry ginger.

*Pipol jo*, *Piper longum*, Willd.

*Kaliq jira*, *Nigella indica*, Roxb.

*Lubui jira*,

*Jawan jira*, *Carum Ajowan*, DC.

*Se joto mosqla ran mesalme*, or mix all spices.

Grind all these very fine. First fry the meat of a *parwa*, pigeon, in mustard oil till it frizzles, then add a mussel shell full (about a dessert spoonful) of what you have ground. If the oil seems drying up, add a little more until cooked. Give this to eat for some five days and recovery is sure to follow.

(q) *Salok misri*, a kind of sugar-candy.

Mix this with cow's milk and boil ; make into pills of which three to be taken daily for three days.

(r) *Kəbol jo*,

*Rokoi condon*, blood coloured sandal wood.

*Ros manik*,

*Ros sindur*, a sort of factitious cinnabar.

*Jaephəl*, nutmeg.

*Chobra*,

*Elaci*, *Alpinia cardamomum*, Roxb.

*Jithimond*, *Clerodendron Siphonanthus*, R. Br.

*Mahabari boc*, *Zingiber zerumbet*, Roscoe.

*Hortoki*, the fruit of *Terminalia Chebula*, Retz.

*Jungi hortoki (rol)*, *Terminalia Chebula*, Retz. (?).

Grind together, mix with the blood of a *risa sim*, fowl with bristling or up standing feathers, and make into 9 pills to be taken. For 21 days let him eat exclusively pulses as curry. If this is ineffective give the preceding one (*p*).

(s) *Raj baha*, *Nerium odorum*, Soland.

*Pani phol*, *Trapa bispinosa*, Roxb.

*Araḅ upal*, *Nymphaea rubra*, Roxb.

*Sūt*, dry ginger.

*Pipol*, *Piper longum*, Willd.

*Bonga bari*,

(t) *Bonkapsi jaṅ*, the kernel of *Thespesia Lampas*, Benth. and Hook. f.

*Haṭ jaṅ*, the kernel of *Holarrhena antidysenterica*, Wall.

*Naṅgrauṭa reḡel*, the roots of *Nardostachys jatamansi*, DC.

*Adagaṭhia da*, the tuber of *Panicum repens*, L.

*Kūs reḡel*, the roots of *Themuda gigantea*, Haskel.

*Kaḡhu botke da*, the tuber of *Bryonia lacinosa*, L.

*Gai phol*,

*Kanda saru da*, the tuber of a var. of *Celocasia antiquorum*, Schott.

*Mahabari boc*, *Zingiber zerumbet*, Roscoe.

*Kabab cini*, *Cubeba officinalis*, Miqu.

*Jawan*, *Carum Ajowan*, DC.

*Gol maric*, black pepper.

*Pipol*, *Piper longum*, Willd.

*Kalmeg*, *Andrographis paniculata*, Nees.

Grind all these together, boil in *utiṅ sunum*, mustard oil, and give to eat. If he has bronchial asthma, then cook above ingredients in melted butter and give to eat.

(u) *Kasi reḡel*, the roots of *Saccharum spontaneum*, L.

*Taroḡ reḡel*, „ „ „, *Buchanania latifolia*, Roxb.

*Matkom maṅj*, the heart of *Bassia latifolia*, Roxb.

*Karsarc*, *Thysanolaena acarifera*, Nees.

*Caulia*, *Ruellia suffruticosa*, Roxb.

Grind these together, cook in *utiṅ sunum*, mustard oil and give to eat three times a day.

(v) *Miru baha reḡel*, the roots of *Abutilon indicum*, Don.

*Thora haṭ chal*, a little of the bark of *Holarrhena antidysenterica*, Wall.

*Araĕ joba baha*, the red *Hibiscus rosa-sinensis*, L.

*Araĕ raj baha*, „ „ *Nerium odorum*, Soland.

*Araĕ upal baha*, „ „ *Nymphaea rubra*, Roxb.

Grind all these to a fine powder, then add a little *aphim*, opium, and grind again, make into pills, of which three to be taken daily.

(w) *Biĕ buluh*, a factitious salt containing sulphur.

*Ponĕ se paŅga buluh*, white salt.

*Joto lekan moŅola*, all kinds of spices.

Mix these with the ingredients mentioned in the previous one (u) make into pills of which three to be taken daily.

(x) *Pe sakam pan*, 3 leaves of *Piper Betle*, L.

*Thorā khayar*, a little *Acacia Catechu*, L.

*Kūs rehĕl*, the roots of *Themuda gigantea*, Haskel.

*Araĕ upal baha*, the red *Nymphaea rubra*, Roxb.

*Bare baha*, *Pentapetes phoenicia*, L.

*Araĕ gandhari*, the red *Amarantus gangeticus*, var. *angustifolia*, L.

*Saram māyām*, the blood of the sambar stag, *Rusa aristotelis*.

*Caole maric rehĕl*, the roots of a kind of capsicum, the fruit-like grains of rice.

*LoŅphul*, cloves.

*Kaliā jira*, *Nigella indica*, Roxb.

*Terel ceĕĕe*, the thin skin on the bark of *Diospyros tomentosa*, Roxb.

Grind all these along with the ingredients in (u) above, mixing them, cook in *gai gotom*, melted butter from cow's milk, to be eaten every morning.

254. *Pathri ruā se betha*.

(? Pleurisy; supposed to be caused by a witch's charm.)

*Symptoms*. In this there is intense pain in the chest, as if it were splitting; the pain shifts about in the chest and is not stationary, and sometimes the breathing is stopped.

*Medicines*: *Badgoĕak rehĕl*, the roots of *Lygodium flexuosum*, Sw.

*Sega rehĕl*, „ „ „ *Mimosa rubicaulis*, Lam.

*Kondro jamum rehĕl*, the roots of *Acacia Intsia*, Willd.

*Kadar rehĕl*, the roots of *Asparagus racemosus*, Willd.

*Salga jer se chal*, the sticky exudation or bark of *Boswellia thurifera*, Colebroke.

Grind together, mix with water and give to drink.

255. *Betha*.

(Intercostal neuralgia, Pleurisy, Pneumonia.)

*Symptoms*. This is an aggravated form of *haĕi*. If one lifts anything

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very heavy or something of the kind, it is followed by a sharp pain under the ribs or in the chest.

*Medicines:* (a) *Dhalka hatkan*, *Leea macrophylla*, Roxb.  
5 *gotèc gol maric*, 5 black peppercorns.

Extract the juice of the former, mix with the latter and plaster therewith, giving also a little to drink.

(b) *Duriq hatkan*, *Leea hirta*, Herb. Banks.  
*Sandi saba hatkan*,

Grind these separately, plaster and give some to drink.

(c) *Chatni chal*, the bark of *Alstonia scholaris*, R.Br.  
10 *gotèc gol maric*, 10 black peppercorns.

Extract the juice of the former, mix and give to drink, and warming some a little plaster therewith.

(d) *Gada terel*, *Diospyros montana*, Roxb.  
*Kauha chal*, the bark of *Terminalia Arjuna*, Redd.  
*Baru chal*, „ „ „ *Schleichera trijuga*, Willd.  
*Aşariq chal*, „ „ „ *Capparis horrida*, L. f.  
*Ruhen chal*, „ „ „ *Soymida febrifuga*, Juss.  
*Jhingur da*, the bulb of *Arum campanulatum*, Roxb.  
*Dare japak jo*, the fruit of *Scindapsus officinalis*, Schott.  
*Maþha arak chal*, the bark of *Antidesma diandrum*, Tulas.  
*Akaona rehçel*, the roots of *Calotropis gigantea*, R. Br.

Grind whichever of these you can get and apply as a plaster and give to drink any of the first five, but the remainder may only be applied as a plaster.

(e) *Ghoya lada rehçel*, the roots of *Vitis tomentosa*, Heyne.

Warm a little of this and apply to the painful part. Then cutting into thin slices mix with 12 black peppercorns and after cooking in mustard oil give to eat daily. Even if of years' standing it will cure.

(f) *Edel chal*, the bark of *Bombax malabaricum*, DC.  
*Jur juri da*, the bulb of

Grind together and smear on. If there is no alleviation, then

*Totnopak chal se rehçel*, the bark or roots of *Eugenia operculata*, Roxb.

Boil and smear on.

*Bhabri chal*, the bark of *Embelia robusta*, Roxb.  
*Dundukil rehçel*, the roots of *Gardenia turgida*, Roxb.  
*Andia moron rehçel*, the roots of *Gymnema hirsutum*, W. and  
A., var. *Decaisneanum*, Wight.  
*Terel poha rehçel*, the roots of a seedling of *Diospyros tomentosa*, Roxb.  
*Pond hqçç*, white *Dolichos biflorus*, L.

Cook these in melted butter and give to eat.

- (g) *Haṭkaṅ chal*, the bark of *Leea macrophylla*, Roxb.  
*Ruhen chal*, ,, ,, ,, *Soymida febrifuga*, Juss.  
*Duriṅ haṭkaṅ rehel*, the roots of *Leea hirta*, Herb. Banks.  
*Jīoti*, the entire *Sesbania aegyptiaca*, Pers.

Grind together, some to be drunk, some to be smeared on.

If the pain does not cease, then afterwards

*Coḍra chal*, the bark of

Grind and smear on.

- (h) *Dhalka haṭkaṅ*, *Leea macrophylla*, Roxb.  
*Duriṅ haṭkaṅ*, *Leea hirta*, Herb. Banks.  
*Ruhen*, *Soymida febrifuga*, Juss.

Grind together and plaster therewith. The patient to eat hand bread made of the millet *Eleusine corocana*, Gärtn.

- (i) *Ghoṛa lada rehel*, the roots of *Vitis tomentosa*, Heyne.

*Motā haṭkaṅ*, *Leea macrophylla*, Roxb.

- (j) *Duriṅ haṭkaṅ*, *Leea hirta*, Herb. Banks.

*Baṛu chal*, the bark of *Schleichera trijuga*, Willd.

*Corco chal*, ,, ,, ,, *Casearea tomentosa*, Roxb.

*Jīoti*, *Sesbania aegyptiaca*, Pers.

*Goṭe chal*, the bark of *Croton oblongifolius*, Roxb.

- (k) *Ruhen chal*, the bark of *Soymida febrifuga*, Juss.

*Ghoṛa laḍaḡuri da*, the bulb of *Vitis tomentosa*, Heyne.

*Kaḡuḥa chal*, the bark of *Terminalia Arjuna*, Bedd.

*Bherṇḍa loṛe*, the exudation from *Jatropha Curcas*, L.

*Baṛu chal*, the bark of *Schleichera trijuga*, Willd.

*Sahaṛ chal*, ,, ,, ,, *Dillenia pentagyna*, Roxb.

Grind these together, warm somewhat and apply to the seat of pain.

- (l) *Jel dereṅ*, a deer's horn.

Grind fine, warm slightly and apply to the painful part.

If there is pain in the chest

- (m) *Dhalka haṭkaṅ da*, the tuberous root of *Leea macrophylla*,  
 Roxb.

Grind fine with water, and after warming slightly plaster on to the painful part, and if it stays thus all day it will do no harm.

256. *Pachiṛa betha*. Pneumonia.

*Medicines*: (a) *Muṅḡa dare se rehel chal*, the bark of the tree or roots of  
*Moringa pterygosperma*, Gärtn.

3 *ḡaṇḍa gol maric*, 12 black peppercorns.

Grind together and apply without warming.

- (b) *Raṣun*, garlic.

Grind and apply without warming, and when this begins to cause pain remove it, otherwise it may cause the skin to break.

(c) *Rai turi*, *Brassica campestris*, L.

Grind and apply without warming.

(d) *Thaḍiā turi*, a variety of *Brassica campestris*, L.

*Lutni turi*, „ „ „ „ „ „ „

Grind together and apply ; a complete cure will soon follow.

(e) *Dare japak io*, the fruit of *Scindapsus officinalis*, Schott.

Warm and apply.

(f) *Ic ewer da*, the bulb of *Vitis latifolia*, Roxb.

Grind, warm and apply.

*Pachia betha* (on the right side).

(g) *Jonok carec*, a broom splinter.

First break this in two and make passes over the patient repeating charms; and then

(h) *Halim*, *Lepidium sativum*, L.

A little to be drunk and a little to be smeared on ; if this is not enough, then mix

(i) *Dhalka hatkan*, *Leea macrophylla*, Roxb.

and apply

(j) *Duria hatkan*, *Leea hirta*, Herb. Banks.

*Jiōti mil khudri gan*, a little bit of *Sesbania aegyptiaca*, Pers.

Smear the former only on, and the latter to be drunk.

(k) *Kode piṭha*, hand bread made of *Eleusine corocana*, Gärtn.

*Jondra dak mandī*, gruel of *Zea Mays*, L.

Both to be eaten ; rice gruel will not do.

(l) *Muṅga chal*, the bark of *Moringa pterygosperma*, Gärtn.

*Pe gaṇḍa gol maric*, 12 black peppercorns.

Grind both together and plaster on the painful part.

257. *Suk betha*. (? Pleuritis exsudativa.)

*Symptoms*. There is a pain in the ribs or sides, which gradually increases and the breath comes heavily.

*Medicines*: (a) *Dhalka hatkan rehel*, the roots of *Leea macrophylla*, Roxb.

Grind, warm and apply to the seat of pain. If the pain is

deep seated then cut the above into slices and after mixing

3 *gaṇḍa gol maric*, 12 black peppercorns, cook in mustard

oil and give to eat, when the pain will rise to the surface.

(b) *Baru chal*, the bark of *Schleichera trijuga*, Willd.

Heat and apply as an ointment, and after mixing black pepper with its juice give to drink.

(c) *Ruhen chal*, the bark of *Soymida febrifuga*, Juss.

Warm and apply as an ointment and give some also to drink.

(d) *Sim kata hatkan*,

Warm and apply.



(e) *Asariq chal*, the bark of *Capparis horrida*, L. f.

Warm and apply and after mixing black pepper give some to drink.

(f) *Ghora ladauri da*, the bulb of *Vitis tomentosa*, Heyne.

Warm and give to drink, and cut some into slices, add 12 black peppercorns and cook in mustard oil and then give to eat ; the pain will come to the surface.

(g) *Gada terel chal*, the bark of *Diospyros montana*, Roxb.

Warm and apply.

(h) *Sandi saba rehel*, the roots of *Briedelia stipularis*, Bl.

Warm and apply.

(i) *Sandi saba hatkan rehel*, the roots of

Warm and apply.

(j) *Duria hatkan se dhalka hatkan rehel*, the roots of *Leea hirta*, Herb. Banks., or *Leea macrophylla*, Roxb.

*Dare japaik jo*, the fruit of *Scindapsus officinalis*, Schott.

*Etka rehel*, the roots of *Mucuna pruriens*, DC.

*Jioti dog*, the tips of *Sesbania aegyptiaca*, Pers.

*Baru chal*, the bark of *Schleichera trijuga*, Willd.

Grind all these and plaster on the painful part.

If all these are unobtainable quickly, then

(k) *Dhalka hatkan*, *Leea macrophylla*, Roxb.

*Halim*, *Lepidium sativum*, L.

Grind and mix both these and give a little to drink and plaster a little where it pains.

258. *Murhuc jom*. Leprosy.

*Medicines*: (a) *Korouj sunum*, the oil obtained from the seeds of *Pongamia glabra*, Vent.

*Raekakarbak candbol*, the tail of a chameleon.

*Jhurjhuria*, the tinsel looking chrysalis of a certain butterfly (one).

*Hende tilmiin* (1 *pai gan*), about 1 lb. of the black *Sesamum orientale*, Willd.

*Soso* (5 *gan*), about 5 fruits of *Semecarpus Anacardium*, L.

*Gidi im*, the liver of a vulture.

Pulverise the last three together and give to eat. Cook in the first named the two following ingredients and anoint therewith daily.

(b) *Simbrit*, fresh shoots of *Bombax malabaricum*, DC.

*Rosomuni*,

*Ros sindur*, a sort of factitious cinnabar.

*Sora*, saltpetre.

*Batapi sindur*, a preparation of red lead.

*Sinduran rote*, a kind of frog with red coloured head.

Grind all these together fine, mix into three or four pounds of pure oil made from *ṭhaḍia turī*, a var. of *Brassica campestris*, L., and stir all together. The patient to anoint himself therewith daily. If the oil comes to an end add more.

*Proscribed*: meat and fish of any kind; beer and spirits; complete abstinence from sexual intercourse is essential.

*Permitted diet*: the split fruit of *hoṛeḥ*, *Delichos biflorus*, L., *maṣri*, *Ervum lens*, L., *raher*, *Cajanus indicus*, Spreng.

If there are open sores on the limbs, then grind all the above together and cook in above oil, and anoint therewith, when he will recover. •

After recovery he will feel numb, and then give:--

(c) *Postu dana*, poppy seed.

*Loṇphul*, cloves.

*Gol maṛic*, black pepper.

*Kāliā jira*, *Nigella indica*, Roxb.

*Ghikūāri*, *Yucca gloriosa*.

Grind together, mix with pure *gotom*, melted butter from cows' milk, and anoint therewith daily. Further let him boil the following together and bathe and wash the hands in the water:—

*Gabla chal*, the bark of *Acacia arabica*, Willd.

*Kauha chal*, „ „ „ *Terminalia Arjuna*, Bedd.

259. *Dhaot*. Sexual inopia.

*Symptoms*. This is where there is an absence of all desire for sexual intercourse in either sex with the other.

*Medicines*: (a) *Monkha*, 2 ounces.

*Kismis*, 2 „ raisins.

*Choṛa*, 8 „

*Kābhigolor*, 2 „

*Pista*, 2 „ poppy seeds.

*Bidaṃ*, 2 „

*Gukhur kaṭa*, 1 „

*Rasun*, 1 „ garlic.

*Misri*, 8 „ sugar candy.

Boil all these together in about two pounds of milk and make 30 pills. Then let the patient swallow one of these pills with half a pound of milk daily for 30 days. Then the former desire will return.

260. *Māyō koṛa*. Male impotency.

*Medicines*: (a) *Andiā mōron aṛak rēhel*, the roots of *Gymnema hirsutus*, W. and A., var. *Decaisneanum*, Wight.

*Sēṅgel siū rēhel*, the roots of *Tragia involucrata*, Jacq.

*Barāṅgom rēhel*, „ „ „ *Vernonia cineria*, Less., or *Glossogyne pinnatifida*, DC.

*Andiā gharwa*, a male sparrow.

Grind the first three and cook into a curry with the sparrow, and give to eat. He should eat only *rambrya dal*, the pulse of *Phaseolus Mungo*, var. *radiatus*, L.

(b) On Sunday kill a *gaḍa cañcir*, *Motacilla luzoniensis*, make a cup of its feathers in which he should eat his curry; dry the bird itself and cutting off a piece of it cook this in mustard oil and besmear the whole body therewith.

(c) *Señgel sin reḥel*, the roots of *Tragia involucrata*, Jacq.  
*Kūs reḥel*, the roots of *Themuda gigantea*, Haskel.  
*Korpur*, camphor.

Grind together and make into pills and let him take these for about a month.

261. *Bañḥi*. Barrenness in women.

*Remedies*: (a) Certain insects make lumps or knots on the branches of the *meral* tree, *Phyllanthus Emblica*, Linn., in appearance like the fruit of the *meral*. Saying the names of boy and girl break off the lumps on the branches of two trees leaving a lump on each. Then get two of the insects.

*Nira sindur*, genuine red lead.

*Biñḍi mutha ghās da*, the bulb of *Fimbristylis monostachya*, Hassk.

*Sukri mutha ghās da*, the bulb of *Scirpus monostachyus*, Kön.  
 2 *loñphul*, 2 cloves.

*Bale gidra reaḅ buka*, the navel of a newly born infant, if the midwife can keep it; if not then get

*Heñḍe merom hoḅon buka*, the navel of a black kid.

2 *bhelaonḍi*, 2 balls of sheep's or goat's dung.

Grind all these together, make into pills and give the woman to eat.

(b) This may be due to disease, or to the influence of malign spirits, or to the man being infructuous. First of all, they exorcise the spirits, then they make a low footstool of the wood of the *soḅḅ*, *Semecarpus Anacardium*, L. and buy a new *kañḍa*, full sized earthenware waterpot, and a new *kañḍi*, a woman's full sized cloth. At grey dawn on Sunday they take the husband and wife to the end of the village street, the woman carrying above pot full of water on her head along with her. The medicine man removes the obstruction by passing a mottled fowl three times round them. The woman seats herself on above stool, and at sunrise they pour the pot of water over her. Then she changes her cloth, putting on the above new one and leaving the old wet one there, and then goes straight home without looking back. The man too after beating the pot to pieces goes straight home. Then the rest of the party follow there leaving the wet cloth where

it was abandoned. After reaching the house the medicine man naming the Sun god, gives an ear of paddy to the woman who puts it into the front fold of her cloth. After a little while he tells her to look at the ear of paddy. They look at it to see how many of the ears have fallen off and tell her so many of her children will die by and by. Afterwards he gives her medicine, viz.,

*Nahelre janamak ol*, a mushroom that has sprung up on a plough.

*Oka kanthay khub jōka ona darere arakege baisaukoē, onam husit chadaoa*, the scraped off red excrescence that appears on a richly fruit-bearing *Artocarpus integrifolia*, L.

*Meral daveren tejo*, the insects described at the beginning of this above.

Having got these he tells her, "I won't give you the medicine to-day; first of all both of you become priests (i.e. they must sleep apart on mats on the floor, a ceremonial purification), and I will give it you to-morrow morning." Both husband and wife do as they are told. Next morning he grinds together the above ingredients, and after smearing cowdung on the courtyard in front of the house he names the spirits *Garbhu* and *Kūār* and puts strokes of red lead on the prepared spot, and the medicine also he offers there, and after pronouncing an invocation he gives her the medicine to drink. He gives her it to drink for five Sundays, and they wait for a month to see if she has conceived. If not, the spirits are exorcised again. When she bears a child it is named after the medicine man.

262. *Bahu jemon aloe dar*. To prevent the wife running away.

*Medicines*: (a) *Okatakre daka tukuc ko argoe binḍi*, the soot of a straw-ring on which cooking pots are placed when taken off the fire.

*Datani reak hatar giḍi icetel*, the fibres of a wooden tooth-brush spat out after using it.

*Kadec' tejo*, a certain caterpillar.

Grind these together and give them to her without her being aware of it on a Sunday, and she won't run away any more.

(b) If a woman will not stay with her husband then make her eat

*Daharreko uamok' potom tejo*, a chrysalis found on the road, or those found on trees will also do.

263. *Kukhi marao rean*. To shut up the womb.

*Medicines*: (a) *Pan rehcl*, the roots of *Piper Betle*, L.

*Manngri hako baha*, the gills of *Macropteronotus magur* (fish).

*Aphim*, opium.

Grind these together and give to eat, after which she will bear no more children.

264. *Gidrajon rean*. To get children.

*Medicines*: (a) *Meralren tejo*, the caterpillar found on the *Phyllanthus Emblica*, L.

*Kun̄kalren tejo ar oṛak̄teṭ' hō*, the clay house and caterpillars stored in it by a species of wasp.

Grind these together and give to drink.

*Gabur chal*, the bark of *Acacia Farnesiana*, Willd.

To be put in a hollow metal receptacle and worn on the string or girdle round the waist by both husband and wife.

(b) *Kun̄del tejo*, a certain caterpillar.

*Kaḍeḍ tejo*, „ „

*Kun̄kal tejo ar oṛak̄teṭ*, „ „  
*Meralren tejo*, } as above in (a)

Grind together and make into pills, three to be taken on the morning of the Sunday after the cessation of the menses and three more on the following Sunday morning.

(c) *Ḡatur baha reḥeṭ*, the roots of

*Ato rean munga chal*, the bark of a village *Moringa pterygosperma*, Gärtn.

Grind these together and put into a hollow metal receptacle, which should be worn attached to the string or girdle round the waist, or to a thread amulet suspended on the arm.

*N.B.*—Midwives are in the habit of taking a piece of the umbilical cord of a newly born male child, drying it and giving it to a woman who only gives birth to girls.

265. *Ritu hoyok̄*. To cure Amenorrhoea.

(Medicine to produce regular menses.)

*Medicines*: (a) *Pond peaj*, white onions.

*Rasun*, garlic.

*Adhe*, ginger, *Zingiber officinalis*, Roscoe.

*Rokot condon kat*, blood coloured sandal wood.

Boil all these together and let her drink it daily for about a week.

(b) One "authority" prescribes the same ingredients as above, but says they are to be pounded to pieces, then boiled in a one rupee brass cup of water, to be drunk daily every morning for a week, the preparation being renewed if necessary.

266. *Pordhql*. Menorrhagia or Flooding.

*Symptoms*. An abnormally profuse discharge of the menses.

*Medicines*: (a) *Araḱ upal baha*, *Nymphaea rubra*, Roxb.

*Joba baha*, *Hibiscus rosa-sinensis*, Linn.

*Suruḱ mukhi reḥeṭ*, the roots of *Helianthus annuus*, Willd.

*Makarṅkenda jō reāk gabe*, the flesh of the fruit of *Diospyros embryopteris*, Pers.

*Marār baha*, *Erythrina indica*, Lam.

*Mackunda baha*, *Pterospermum acerifolium*, Willd.

*Saparom baha se sakam, chal*, the flower, leaf or bark of *Nyctanthes Arbor-tristis*, Linn.

Boil all these together, give the patient to drink daily and the discharge will gradually cease.

(b) *Araḅ upal baha*, *Nymphaea rubra*, Roxb.

*Joba*, *Hibiscus rosa-sinensis*, Linn.

*Mackunda baha*, *Pterospermum acerifolium*, Willd.

*Rokot condon*, blood coloured sandal wood.

*Suruḅ mukhi rehel*, the roots of *Helianthus annuus*, Willd.

Grind all these together, make into pills and let her take them daily.

(c) *Miru baha*, *Abutilon indicum*, Don.

*Haḅ chal*, the bark of *Holarrhena antidysenterica*, Wall.

*Sahya chal*, ,, ,, ,, *Strebilus asper*, Lour.

*Aphim*, opium.

Grind a little of the first three with some opium and make pills. After cleaning the teeth with twigs of the second of above, let her take the pills, swallowing them with the juice of figs. The fig juice to be obtained thus: sever the root of the tree (*Ficus glomerata*, Roxb.) and receive the juice that will exude in a small earthen vessel. Take about a quarter of a gallon and let her swallow the pills as above daily with some of this.

(d) *Dabha jō reāk gabe*, the flesh of the fruit of *Citrus Aurantium*, Willd.

*Joba baha*, *Hibiscus rosa-sinensis*, Linn.

*Araḅ upal baha*, *Nymphaea rubra*, Roxb.

*Pe ganda gol maric*, 12 black peppercorns.

Grind all together and make 21 pills. Then let her take one 3 times a day with about an ounce of spirit, and she will certainly get well.

(e) *Araḅ upal baha*, *Nymphaea rubra*, Roxb.

*Suruḅ mukhi rehel*, the roots of *Helianthus annuus*, Willd.

*Joba baha*, *Hibiscus rosa-sinensis*, Linn.

*Raj baha*, *Nerium odorum*, Soland.

*Mackunda baha*, *Pterospermum acerifolium*, Willd.

*Miru baha rehel*, the root of *Abutilon indicum*, Don.

*Aphim*, opium.

Grind all these together, make into pills and give daily, when she will certainly recover.

(f) *Campa rehel*, the roots of *Michelia champaca*, L.

*Rokot condon*, blood coloured sandal wood.

*Makarġenda jo reaġ gabe*, the flesh of the fruit of *Diospyros embryopteris*, Pers.

*Icaġ rehġ*, the roots of *Woodfordia floribunda*, Salisb.

Grind all these fine together, omitting the last named if unobtainable, and after boiling them in water, give the patient to drink. Every time it is drunk add to the mixture saltpetre and *akorkora*, *Anthemis pyrethrum*. Among all the remedies for this complaint enumerated above these last two are the most important. They have been tried and proved efficacious. Both the thirst and burning will cease.

(g) *Upaġ baha*, *Nymphaea lotus*, Willd.

*Pordhol baha*,

*Saluk baha*, the flower of *Nymphaea rubra*, Roxb.

Collect together and give to drink for three days.

(h) *Podho bahatġ*, the flower of

21 *ganġa gol maric*, 84 black peppercorns.

Grind and give to drink twice.

(i) *Patal kohnda*, *Pueraria tuberosa*, DC.

*Ato kundri*, *Cephalandra indica*, Nand.

*Sora*, saltpetre.

*Gur*, molasses.

*Oponom*, *Angelica glauca*, Edgew.

*Rambra janum*,

*Catom araġ*, *Marsilia quadrifolia*, L.

Grind together and give to drink.

(j) *Upaġ baha da*, the bulb of *Nymphaea rubra*, Roxb.

*Banat araġak*, thick European made woollen red cloth.

*Baġ chal*, the bark of *Minusops Elengi*, L.

*Khodġ baha da*, the bulb of

*Bod laj poha rehġ*, the roots of a seedling of *Vitis adnata*, Wall.

*Kamraj rehġ*, the roots of *Buettneria herbacea*, Roxb.

Grind and give to drink.

(k) *Huter baha rehġ*, the roots of *Indigofera pulchella*, Roxb.

*Tanġi catom araġ rehġ*, the roots of *Desmodium triflorum*, DC.

*Orsa araġ rehġ*, the roots of *Commelina suffruticosa*, Bl.

*Karhani horo reaġ adwa caole*, the rice made from the sun-dried grain of a variety of black paddy.

*Mahut gur*, the refuse of molasses.

Grind all but the last together, mix in the last and give to drink.

(l) *Kadġġe tejo*, a certain caterpillar.

*Horo bohok*, the head of a tortoise.

- (m) *Campa rehel*, the roots of *Michelia champaca*, L.  
*Rokot condon kat*, blood coloured sandal wood.  
*Joba baha*, *Hibiscus rosa-sinensis*, L.  
*Araḱ upal baha*, *Nymphaea rubra*, Roxb.

Grind all these, boil them together in water and give to drink for 15 days.

- (n) *Araḱ upal baha ar datel*, the flower and bulb of *Nymphaea rubra*, Roxb.

*Suruḱ mukhi rehel*, the roots of *Helianthus annuus*, Willd.  
*Joba baha*, *Hibiscus rosa-sinensis*, L.  
*Thoṛa aḱhim*, a little opium.

Collect these, make into pills and give to eat daily.

- (o) *Miru baha rehel*, the roots of *Abutilon indicum*, Don.  
*Haṭ rehel*, the roots of *Holarrhena antidysenterica*, Wall.  
*Edel poha rehel*, the roots of a seedling of *Bombax malabarium*, DC.  
*Thoṛa sahra chal*, a little of the bark of *Streblus asper*, Lour.  
*Aḱhim*, opium.

Grind together, make into pills to be eaten.

- (p) *Mackunda baha*, *Pterospermum acerifolium*, Willd.  
*Gaḁa terel jo*, the fruit of *Diospyros montana*, Roxb.  
*Turaḱ rehel*, the roots of  
*Rokot condon kat*, blood coloured sandal wood.

Grind together, and make into pills of which one to be taken daily.

- (q) *Campa rehel*, the roots of *Michelia champaca*, L.  
*Araḱ upal baha da ar baha*, the tuber and flower of *Nymphaea rubra*, Roxb.  
*Muruḱ chal*, the bark of *Butea frondosa*, Roxb.  
*Murga chal*, ,, ,, ,, *Pterocarpus Marsupium*, Roxb.  
(r) *Karhani hoṛo caole*, rice made from a certain variety of black paddy.

*Bhaya bhagwa rehel*, the roots of *Polygonum plebejum*, Br.  
*Dhalka catom araḱ rehel*, the roots of  
*Tale maṅij*, the heart of *Borassus flabelliformis*, L.

Grind these together, mix with *gur*, molasses, and give to drink.

## 267. *Gorob Pordhol*.

*Symptoms.* In this women during pregnancy get a discharge resembling blood or ash water.

*Medicines :* *Icaḱ rehel*, the roots of *Woodfordia floribunda*, Salisb.  
*Bhaḱri rehel*, ,, ,, ,, *Embelia robusta*, Roxb.  
*Saparom chal*, the bark of *Nyctanthes Arbor-tristis*, L.  
*Rokot condon kat*, blood coloured sandalwood.  
*Edhe campā rehel*, the roots of



Mix and grind these to a powder, boil and give the patient slightly warm to drink.

268. *Gorob siṭka.*

*Symptoms.* This occurs during pregnancy. Sometimes the lower extremities ache and the pain spreads up to the whole body. They swell up as in dropsy, and the appearance is the same as in dropsy and the saliva dries up.

This is *gorob* or *dud siṭka*.

*Medicines:* (a) Slice into round pieces the roots of *edḡl poha*, a seedling of *Bombax malabaricum*, DC., and mixing it with something sticky as sugar, let the patient eat this for about 15 days.

Boil the same medicine with the refuse of molasses, smear the body therewith for about 15 days, and she will get well.

(b) An unguent.

*Sengel siṭ reḡel*, the roots of *Tragia involucrata*, Willd.

*Eṭka reḡel*, " " " *Mucuna pruriens*, DC.

*Bir malhan reḡel*, " " " *Atylosia mollis*, Bth.

*Utri dudhi loṭa*, " " " *Cryptolepis Buchanani*, R. and S.

*Alagjari reḡel*, " " " *Cuscuta chinensis*, Lamk.

After grinding these five kinds of roots together boil them in mustard oil and anoint the whole body daily.

(c) *Tampa tura mit reḡel*, one root of

*Caulia bar reḡel*, two roots of *Ruellia suffruticosa*, Roxb.

Let her chew these, not more, and swallow the juice twice, and then expel the roots from her mouth.

*Kuri tukuc bele*, the egg of the *Lobivanellus goensis*.

*Atmak chal*, the bark of *Terminalia tomentosa*, W. and A.

*Gaḡa icaḡ reḡel*, the roots of *Woodfordia floribunda*, Salisb. growing near rivers.

Grind and mix these together, mix with lukewarm water and rub it into her head.

269. *Gorob hoṛko ṭan ruḡlenre.* Continuous fever during pregnancy.

*Medicines:* (a) *Nim sakam*, the leaves of *Melia Azadirachta*, Linn., to be boiled, the water to be drained off and then with the addition of *maḡhut guṛ*, molasses refuse, to be drunk like tea. All the symptoms will disappear and no harm ensue.

(b) *Kaḡa beṅjak reḡel*, the roots of

An infusion of these may be drunk daily without injury. Molasses refuse may be added to this.

270. *Gidra hako pako bako hoc hoḡlen khan.* Protracted labour.

*Medicines:* (a) *Ciṭ ciṭiṭ reḡel se daretel*, the roots or entire plant of *Achyranthes aspera*, L.

Stick this into the top of the doorway while holding your breath, and as soon as ever the child is born remove it ; otherwise all kinds of things will be discharged.

(b) The midwife may demand the production of a "thunderbolt," i.e. an implement of the stone age, believed by the Santals to be a "thunderbolt". It may be made use of in three ways, which, however, may be combined. One is to rub the "thunderbolt" against a stone, generally that on which they grind their spices, having first poured water on this. The water, which will contain something of the "bolt," is then given to the woman to drink. Another way is to keep the "bolt" above the head of the woman and pour water over it in such a manner that it flows down on her forehead and face, The third way is to put the stone into the eaves just outside the door ; and care must be taken that the person performing this operation holds his breath. This last precaution is absolutely necessary for the desired effect of the application of this kind of "medicine." Probably this holding of the breath is meant to secure the efficacy of the remedy by keeping it free from any defilement from extraneous influences. When a "thunderbolt" is not procurable, twigs of certain trees (e.g. as stated in (a) above) may be used for the same purpose and in the same manner, or even a bullet that has been shot from a gun.

(c) *Tursi rehēt*, the roots of *Ocimum sanctum*, Willd.

Dig this up partially and then with one breath pull it out and tell the midwife also with one breath to insert it in the mother's hair of the head.

(d) *Akaona rehēt*, the roots of *Calotropis gigantea*, R. Br., or *C. procera*, R. Br.

5 *golēç gol maric*, 5 black peppercorns.

Extract about 2 ounces of the juice of the former, add the latter and give some to drink, and after warming the rest apply it over the abdomen.

(e) *Latha ciṣ ciṣiṣ rehēt*, the roots of *Gol maric*, black pepper.

Grind and give some to drink, and after grinding the rest very small apply as an ointment to the abdomen.

(f) Stick *baṛe baha rehēt*, the roots of *Pentapetes phoenicia*, L. in the head of the mother.

After the child is born and if the afterbirth does not come away, then let her drink the above roots together with *gol maric*, black pepper.

If fever ensues then

*Saram lutur rehet*, the roots of *Clerodendron serratum*, Spreng.  
*Selep samanom*, *Gloriosa superba*, Willd.

Grind these and after warming a little smear over the navel.

- (g) Pour water over a "thunderbolt" (as described in (b) above) on the woman, or if such be unobtainable then over a chip of a tree that has been struck by lightning.
- (h) Fetch the husband's elder brother, let him stand quite nude in the doorway and shake out his loin apron and the hair of his head; if this does not answer, then
- (i) Invoke the spirits *Ulum paika* and *Julum paika* and scatter some uncooked grains of rice, and do with *tursi sakam rehet*, the roots of *Ocimum sanctum*, Willd., as detailed in (c) above.

Protracted labour is sometimes considered due to misbehaviour on the part of the woman. Women friends will gather round the woman in labour. If they think that it is unduly protracted they will urge the poor woman to name the men with whom she may have had illicit intercourse.

271. *Maejiu hoy gidraho hoyoktakore vacate bondlenre*. Retention of urine during parturition.

*Medicines*: *Munga chal rehet*, the roots of *Moringa pterygosperma*, Gärtn.

*Pe ganda golmaric*, 12 black peppercorns.

Grind together and place on the abdomen without heating.

272. *Baha ban odoklen khan*. When the afterbirth does not come away.

It might be noted that the afterbirth is buried inside the house in a corner, care being taken that it is buried below the space between two rafters, and not below a rafter.

*Medicines*: (a) *Kanṭhar baha se dogtel*, the flower or shoot of *Artocarpus integrifolia*, L.

*Hārū reak āwār*, the afterbirth of a monkey, obtainable from Bir hoy, a small Muṇḍa tribe who eat monkeys.

Grind together and give to drink.

If the afterbirth of a monkey is unobtainable, then

(b) *Ciṣ ciṣ rehet*, the roots of *Achyranthes aspera*, L.

*Kanṭhar baha*, the flower of *Artocarpus integrifolia*, L.

Grind together and give to drink.

273. *Hōymo algaolen khan gidra hockate*. *Prolapsus uteri* after childbirth.

*Medicines*: (a) *Dak hōro bohok*, the head of a tortoise, *Trionix gangeticus*.

*Bāriā kaṇḍhum rehet*, the roots of *Phyllanthus lanceolarius*, Mull-Arg.

*Mare kaskom dare rehel*, the roots of an old cotton plant,  
Gossypium arboreum, L.

*Baskom reak tulam*, the cotton of Pollinia eriopoda, Hance.  
(found at the base of the plant).

Grind together, give her a little to drink and let her also apply a little herself to her private parts. Let her place a fire of *merom bhelaonđi*, goats' dung, under her bed.

(b) First let the midwife foment her and try to replace the womb; if unsuccessful,

(c) *Horo bohok*, the head of a tortoise, Trionix gangeticus.

and after grinding the other 3 ingredients mentioned in (a) above foment her therewith. Then make a still fire of *merom bhelaonđi*, goats' dung, and blow the smoke into her.

274. *Gidra hoekate rog*. Complaints after childbirth.

*Symptoms*. This is when after childbirth the limbs and whole body are in pain as if broken and bruised.

*Medicines*: *Jali sinjo jo*, unripe fruit of *Ægle Marmelos*, Correa.

*Tursi sakam*, the leaves of *Ocimum sanctum*, Willd.

21 *ganda gol maric*, 84 black peppercorns.

*Adhg*, ginger.

Grind these together and plaster her therewith; she will get well at once. Only the top of the flesh of the fruit to be scraped off and used.

275. *Sitka*. Puerperal fever. (The name *sitka* is used also about other fevers in women during pregnancy and after birth when the fever is accompanied by intense thirst and a dry mouth.)

*Symptoms*. This attacks women at childbirth. Sometimes the blood clots or collects in the abdomen and they have great pain there. The saliva thickens and dries up and they have intense thirst.

*Medicines*: (a) *Campa rehel*, the roots of *Michelia champaca*, Linn.

*Sora*, saltpetre.

Mix and prepare like tea; let the patient drink this and the thirst will be immediately quenched.

(b) If the blood is clotted in the abdomen, grind small the *jhingur*, *Arum campanulatum*, tuber, heat it a little and apply it warm to the abdomen, when the blood will dissolve and come entirely away.

(c) *Gada terel chal*, the bark of *Diospyros montana*, Roxb.  
*Gol maric*, black pepper.

Take some of the bark and reduce it to juice, and grinding it together with five peppercorns slightly warm it and make the patient drink it. Then

taking more of the bark grind it fine and after heating it apply it over the abdomen. The blood will then dissolve. Then make the patient stand up and the liquefied blood will all flow out. *Note*, that saltpetre is added to the remedies in all kinds of *siṭṭā* except the following *Haga siṭṭā*.

- (d) *Porospoka ṣe*,  
20 *gol maṛic*, 20 black peppercorns.

*Daḥ ghoya lada rehel*, the roots of *Vitis tomentosa*, Heyne.

Grind these three together and make about 21 pills (the size of goat's excrement) and give daily one in the morning, at noon, 3 P.M., evening and after supper, to be swallowed. This if the saliva fails to exude, and then it will flow.

- (e) *Jiṭhimond*, *Clerodendron Siphonanthus*, R. Br.

*Rali*, *Piper longum*, Willd.

*Akor kora*, *Anthemis pyrethrum*.

*Thoṛa gan boc*, a little kalmus.

*Darcini*, cinnamon.

*Kababcini*, *Cubeba officinalis*, Miqu.

*Mackundā baha*, *Pterospermum acerifolium*, Willd.

*Gol maṛic*, black pepper.

Grind these 8 ingredients together and make into pills: one to be kept in the mouth all day long and the saliva will flow freely.

- (f) *Tara* (like cotton in appearance and red) to be soaked in water.

*Uldḥa da*, root of a *Nymphaea*.

*Dhiri kaṭṭom jaṅga*, the leg of a certain crab found under stones.

Grind the last two together, then mix with the above water, strain and let the patient drink this daily for 4 or 5 days and she will certainly recover.

- (g) *Kindel rehel se chal*, the root or bark of the wild date tree.

*Jaephol*, nutmeg.

*Jāwān*, *Carum Ajowan*, DC.

Soak all these together: to be drunk with spirit twice a day.

- (h) *Sasaṅ bḥḥok*, a knot of turmeric, *Curcuma longa*, L.

*Mandargom sakam*, custard apple leaves, *Anona squamosa*, L.

Grind and apply as a plaster over where the pain is. If this does not remove the pain then grind the bark of the *ruhen* tree, *Soyimida febrifuga*, Juss., and apply that as a plaster.

- (i) *Muruṣ poha rehel*, the roots of a seedling of *Butea frondosa*, Roxb.

*Ṣon pat rehel*, the roots of *Hibiscus cannabinus*, Willd.

*Darcini*, cinnamon.

*Gol maric*, black pepper.

*Sūt*, dry ginger.

*Jithimond chal*, the bark of *Clerodendron Siphonanthus*,  
R. Br.

*Pipol*, *Piper longum*, Willd.

Grind all together, make into small pills, cook in melted butter of cows' milk, and let the patient put one or two each hour in her mouth, so that she keeps swallowing the juice. Also once or twice grind *bir barangom rehet*, the roots of \_\_\_\_\_, in fact the whole plant with water, and let her drink this water after warming it.

(j) *Campa rehet*, the roots of *Michelia champaca*, L.

*Rali rehet*, the roots of *Piper longa*, L.

*Cae cirota*, *Gentiana cherayta*, Roxb.

*Pipol*, *Piper longum*, Willd.

*Sūt*, dry ginger.

*Adhe*, *Zingiber officinalis*, Roscoe.

Boil, add some *sora*, saltpetre, and give to drink. After the child is born, in order to obviate *sitha*, boil some *Campa rehet*, roots of *Michelia champaca*, L., in water and give her to drink like tea.

(k) *Bele siiiyo gabe laçetko*, the entire contents scraped out of a ripe fruit of *Ægle Marmelos*, Correa.

*Mil choçak hao japulkom*, 2 ounces of a kind of red ants, *Oecophylla smaragdina*.

*Mare ul qmsi*, old dried inspissated juice of the fruit of *Mangifera indica*, L.

*Thoça buluh*, a little salt.

Boil in 2 lbs. of water of which give about 2 ounces to drink, which will clean the stomach. Then make her stand up and the blood will flow out, or if it fails to do so foment her a little.

(l) *Garunçi arak rehet*, the roots of *Acternanthera sessilis*, R.Br.

*Jera qphim*, a little opium.

*Thoça phuçia kauçi cum*, a little lime from the shells used in India as money.

Mix and give to drink.

(m) *Gargaçi rehet*, 1 *powa*, 8 oz. of the roots of *Coix lachryma*, Willd.

*Mare backom ghās* 1 *açi*, 1 bundle of old *Pollinia eriopoda*, Hance.

Grind the first, boil the second down, throw the grass away, then mix the two and give to drink once in the morning.

(n) *Kadar rehet*, the roots of *Bonnaya veronicæfolia*, Spreng.

*Gargaçi rehet*, ,, ,, ,, *Coix lachryma*, Willd.

*Jithimond chal*, the bark of *Clerodendron Siphonanthus*,  
R. Br.

*Caulia rehēt*, the roots of *Ruellia suffruticosa*, Roxb.

Grind and give to drink.

(o) *Kita manj*, the heart of *Phoenix acaulis*, Buch.

Boil this in water, and let the patient drink this water for some two days.

(p) *Daḥ içaḳ rehēt*, the roots of *Jussiaea suffruticosa*, L.

*Tañḍi içaḳ rehēt*, ,, ,, ,, *Woodfordia floribunda*, Salisb.

*Soso chal*, the bark of *Semecarpus Anacardium*, L.

*Caulia*, *Ruellia suffruticosa*, Roxb.

*Thoṛa oroḍ da*, a little of the tuber of *Costus speciosa*, Sm.

Grind all these together, mix with *cini*, sugar, and give to drink.

276. *Haga siṭṭa*.

*Symptoms*. This variety of childbed complaint is characterised by profuse diarrhœa.

*Medicines*: (a) *Niuri chal*, the bark of *Elæodendron Roxburghii*, W. and A.

*Kawēt rehēt*, the root of *Abrus precatorius*, L.

*Gargaḍi rehēt*, the root of *Coix lachryma*, Willd.

*Bhaḅri rehēt*, the root of *Embelia robusta*, Roxb.

*Poṇḍ peaḷ*, white onion.

*Corco chal*, the bark of *Casearea tomentosa*, Roxb.

*Rasun*, garlic.

*Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Tursi sakam*, the leaves of *Ocimum sanctum*, Willd.

*Meral chal se rehēt*, the bark or root of *Phyllanthus Emblica*,  
Linn.

*Adhe da*, the tuber of ginger, *Zingiber officinalis*, Roscoe.

*Rali rehēt*, the root of *Piper longum*, Willd.

*Paṛo da*, the tuber of *Curcuma angustifolia*, Roxb.

Grind all these together and after boiling the mixture with *maḥūt gur*, the refuse of molasses, give the patient to drink and then the diarrhœa will stop and she will recover.

(b) Take Nos. 1, 2, 3, 5, 11, 12 of above and *caulia rehēt*, the roots of *Ruellia suffruticosa*, Roxb., and prepare and administer as in (a) above.

(c) *Jhingur da*, the bulb of *Arum campanulatum*, Roxb.

Grind to a pulp, warm and apply warm over the abdomen, which will liquefy the blood. Also take *kaera ḍar*, the leaf-stalk of *Musa paradisiaca*, L., pound it to fibre, toast at the fire and take the juice thereof and after adding 5 *goṭeḍ gol maṛic*, 5 black pepper-corns, give to drink.

(d) *Gaḍa terel chal*, the bark of *Diospyros montana*, Roxb.

Grind, warm and apply as an ointment over the abdomen. Take also 2 ounces of the juice, and after adding 5 black pepper-corns give to drink.

277. *Jolon sitka.*

*Symptoms.* In this there is pain in the abdomen and great thirst. In fact it may be classified with No. 275.

*Medicines:* (a) To cause the pain to cease and to liquefy and expel the blood:

*Sinjō bele joto gabekoge*, all the flesh of a ripe bael, *Ægle Marmelos*, Correa.

*Hao ad choṭak gan*, about an ounce of a kind of red ants, *Oecophylla smaragdina*.

*Mare ul amsi*, old sundried, impissated flesh of the mango.

*Thora buluñ*, a little salt.

Boil all the above in some four pounds of water and let the patient drink this. Foment her over the abdomen, and a little later let her sit up. The abdomen will then make a noise and all the blood flow out. Afterwards boil the roots of *campa*, *Michelia champaca*, L., and give it her to drink. The blood will be completely stanchd.

(b) *Kedar rehet*, the roots of *Bonnaya veronicaefolia*, Spreng.

*Surukuc rehet*, the roots of *Salix tetrasperma*, Roxb.

Grind together and apply under the navel on the abdomen where it pains her.

(c) When the flow of saliva is dried up:

*Lilkaṭhi rehet*, the roots of *Polygala crotalarioides*, Buch. and Ham.

*Tampar rehet*, the roots of

*Gol maric*, black pepper.

To be ground and drunk by the patient.

(d) *Meral rehet ar sakam*, the roots and leaves of *Phyllanthus Emblica*, L.

*Kedar rehet*, the roots of *Bonnaya veronicaefolia*, Spreng.

Grind both these together, add some of her husband's *aḍo*, urine, and after mixing all together, tell her husband to rub it on her stomach, abdomen and buttocks; it will not do for any one else to rub it on.

278. *Toa añjedok.* The drying up of milk.

*Symptoms.* Sometimes women's milk does not flow after giving birth to a child, sometimes the same happens in fever or something similar.

*Medicines:* (a) *Pusi toa*, *Euphorbia pilulifera*, Linn.

Root up the entire plant and grind it small, strain off the water and let the patient drink it mixed with sugar or sugarcandy, which will cause the milk to flow. There are three varieties of this plant, any of which will do.

(b) *Chaṭni chal*, the bark of *Alstonia scholaris*, R. Br.

*Daḱ catom arak*, *Marsilia quadrifolia*, L.



Grind these two small together, give a little to the patient to drink and apply a little as a plaster to her chest till she gets well.

(c) *Moṭa barāṅgom*, *Vernonia cineria*, Less., or *Glossogyne pinnatifida*, DC.

Take the leaves of this close to the ground, and after adding water make into pills which the patient should swallow till the milk flows.

(d) *Eraḍom*, *Ricinus communis*, Linn.

Boil some three of the leaves and let her drink the water daily till well. In the evening plaster the breasts with the leaves all over except the nipples, leaving room for the child to suckle.

(e) *Loa banda*, the parasitical plant (a *Loranthus*) found on *Ficus glomerata*, Roxb.

Tie this on the patient, and her milk will certainly flow.

(f) *Audiā kongat' rehet*, the roots of *Dregia volubilis*, Benth.

Grind these and make into pills. Then let her take some uncooked rice made from paddy that has been boiled, and masticate this well, and then chew one of the pills with that before swallowing. This to be done for some five days and you will see the milk is secreted.

(g) *Audiā moron araḅ rehet*, the roots of *Gymnema hirsutus*, W. and A., var. *Decaisneanum*, Wight.

Grind and give her some to drink and apply some to the chest.

(h) *Dud barāṅgom*,

to be drunk.

(i) *Kamraj rehet*, the roots of *Buettneria herbacea*, Roxb.

*Sakarkenda araḅ*, the leaves of *Ipomoea Batatas*, Lamk.

*Sasaṅ bhoḅḅ da*, the bulb of *Curcuma longa*, Roxb.

*Kaliā jira*, *Nigella indica*, Roxb.

*Puḷhi hako*, small fish, *Barbus stigma*.

Mix and grind these, roast on hot embers wrapped in leaves and let her eat for four consecutive days. Also let her drink *nim daḅ maṇḍi*, rice gruel with the addition of the leaves of *Melia Azadirachta*, L.

279. *Toa seteṅ ocoe*. To cause the milk to flow.

Medicines: (a) *Sunum muḅ*, a kind of black ant.

When these are on the move take three of those that separate to the right.

*Chātṅi chal*, the bark of *Alstonia scholaris*, R.Br.

*Bir mula*,

Grind these three together and mixing thoroughly with *cini*, sugar, give to drink; and let her apply some to the breasts and chew *audiā moron araḅ rehet*, the roots of *Gymnema hirsutus*, W. and A., var. *Decaisneanum*, Wight., slightly covered with dust.

If the mother's milk is drying up because the infant is suffering from atrophy, then add to above

*Bhorikonā chal dare cetan reāk*, the upper bark of *Hymenodictyon excelsum*, Wall.

280. *Toa anjēt ocoe*. To cause the milk to dry up.

*Medicines*: Let the woman extract her milk and bury it in a plough furrow, when the flow of milk will cease at once, but remember the woman herself will dry away to a stick.

281. *Toa haso sē bele tanaā lenre toa anjēt ocoe reāk*.

To check the flow of milk when the breasts pain or suppurate.

*Symptoms*. Many women on giving birth to a child have a copious flow of milk which induces pain, and sometimes the breasts suppurate. If the flow is not checked, the breasts may be injured.

*Medicines*: (a) *Bana haṭāk chal*, the bark of *Oroxylon indicum*, Benth.

*Isor muli god rehet sē sakam*, the roots or leaves of *Aristolochia indica*, Willd.

*Asariā chal*, the bark of *Capparis horrida*, Linn. f.

Grind the second and warm it, heat the third, mix all three and plaster the mixture on and the pain will cease.

(b) *Corco sakam sē chal*, the leaves or bark of *Casearea tomentosa*, Roxb.

Grind fine, warm a little and smear it on: let her comb the breasts and she will certainly get quickly well.

(c) *Nahēl sambhaurā hasa*, the earth heaped in front of a plough when ploughing.

Moisten some of this in water and apply daily till recovery.

(d) *Qt dare japāk rehet*, the roots of  
*Jugi ḍuriā aṛāk*,

Grind, warm and apply daily, each medicine separately, and the flow of milk will be checked.

(e) *Arel daā*, melted hail.

*Goḍo gelçē hasa*, earth excavated by rats.

*Jurite jōk siñjo*, a pair of *Ægle Marmelos*, *Correa*, fruit growing two together.

Mix these and smear on her.

(f) *Eṭkeç loṛe*, the exudation of *Euphorbia antiquorum*, Linn.

*Pusi toa sakam*, the leaves of *Euphorbia pilulifera*, Linn.

*Tāṇḍi catom aṛāk, sakam*, the leaves of *Desmodium triflorum*, DC.

Grind together and plaster her therewith.

- (g) *Kidiñ baha*, an entire Ipomaea Quamoclit, Willd.  
*Nanha pusi toa*, an entire Euphorbia thymifolia, Burm.

Grind all together and plaster her with the whole.

- (h) *Matkom chal*, the bark of Bassia latifolia, Roxb.  
*Nanha pusi toa*, Euphorbia thymifolia, Burm.  
*Turam da*, the bulb of

Grind all together and plaster her therewith.

- (i) Apply *arel*, hail, and if it does not cease with that then  
*Eskar nahel reaĳ hasa*, only the earth turned by a plough and  
*Araĳ reaĳ mahadeb reaĳ*, the scrapings of the centre of the  
yoke.

To be plastered on her.

- (j) *Loĳo sakam*, the leaves of Randia dumetorum, Lam.

Grind and apply as a plaster.

- (k) *Jonoĳ careĳte jhar*, charm away by passing over a splinter of  
a broom.

Some people do this to a woman, and some women do it to themselves with  
the splinter from a house broom.

- (l) *Kidiñ baha rehĳ*, the roots of Ipomaea Quamoclit, Willd.  
*Corco bhituĳaĳ*, the leaf stem of Casearea tomentosa, Roxb.  
*Sekreĳ dog*, a leaf bud of Lagerstroemia parviflora, Roxb.

Grind together and after warming it slightly plaster on the breast.

282. *Datra jomte bul hoĳ reaĳ ran.*

Remedy for stupor or intoxication induced by Datura.

*Symptoms.* In this cause also the lips turn black.

*Medicines:* (a) *Kasmar chal*, the bark of Gmelina arborea, Roxb.

*Siñ araĳ chal*, ,, ,, ,, *Bauhinia purpurea*, L.

Grind together and give to drink with stale rice water, recovery will  
follow.

283. *Ol jomte bul hoĳ ar ĩtaĳ ĩtaĳ bul ran.*

Remedy for stupor or intoxication due to eating any of the following :—

*Ol*, mushrooms.

*Janhe*, *Paspalum scrobiculatum*, Linn.

*Jera janhe*, *Panicum flavidium*, Retz.

*Jāhān araĳ*, any pot herb.

*Biñ ol*, a certain poisonous mushroom.

*Biñ ĳimbu*,

*Hañĳi iūte māyāmkho uchlaĳ reaĳ*, rice beer followed by the  
vomiting of blood.

*Bubul ghās (gai sĳ hoĳ hō)*, any intoxicating grass (both cattle  
and human beings).

*Medicines* : (a) *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Sin̄ arāk chal*, ,, ,, ,, *Bauhinia purpurea*, L.

Grind together and give to drink with stale rice water ; they will recover.

284. *Maḥur bis reaḥ ran.*

Remedy for stupor or intoxication due to a kind of Nematode worm.

*Symptoms.* The lips and tongue turn black.

*Medicines* : (a) *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Sin̄ arāk chal*, the bark of *Bauhinia purpurea*, L.

Grind together and give to drink with stale rice water.

(b) *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Ul chal*, ,, ,, ,, *Mangifera indica*, L.

*Sin̄ arāk chal*, ,, ,, ,, *Bauhinia purpurea*, L.

Take a pound of each of the first two, and 4 ounces of the last, and grind them with six pounds *kañji daḥ*, stale rice water, and mix the whole together. Of this mixture give 2 to 4 ounces to drink at a time, and you will see no one will die from this cause. It should be given also to cattle or all animals when poisoned.

Whenever any one, human being or animal, is suffering from poison or the effects of

*Jera janhe*, *Panicum flavidium*, Retz.

*Tisi*, *Linum usitatissimum*, Willd.

*Eraḍom*, *Ricinus communis*, L.

*Daṭra*, *Datura alba*, Willd., or *D. fastuosa*, Willd., or *D. Metel*,

L.

*Bin̄ ḍimbu*,

*Bin̄ ol*,

*Jāhān ol*, any mushroom,

then give without delay to drink,

*Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Sin̄ arāk chal*, ,, ,, ,, *Bauhinia purpurea*, L.,

a little along with stale rice water, and all intoxication or stupefaction will disappear.

285. *Bhaloḥ toyo s̄ bhaloḥ sela ger bis ran.*

Remedy for the bite of a rabid jackal or dog, Rabies.

*Medicines* : (a) *Caroṛiñ*, the longicorn beetle.

*Maṭha arāk rehel*, the roots on *Antidesma diandrum*, Tulas.

*Ad choṭak gan paṛa*, about an ounce of spirits.

Grind the first two together and make him drink with the third. Then to increase the discharge of urine give him tea with sugar to drink, or, grind about 3 ounces of *orop' da*, the bulb of *Costus speciosa*, Sm., and give him to drink. As long as the urine is of a greenish colour, you will know the medicine has taken effect.

From the day he has taken the medicine let him urinate in a large pot-  
sherd so as to see it.

- (b) *Icaṅ rehet*, the roots of *Woodfordia floribunda*, Salisb.  
*Akaona rehet*, „ „ „ *Calotropis gigantea*, R. Br.  
*Sēngel-siñ rehet*, „ „ „ *Tragia involucrata*, Jacq.  
*Etka rehet*, „ „ „ *Mucuna pruriens*, DC.

Grind these and give to drink daily.

- (c) If bitten by a rabid jackal or dog then take the hair of a  
 healthy jackal or dog and let him eat it with the ripe fruit  
 of the plantain, *Musa paradisiaca*, Linn.  
 (d) *Saparom chal ros*, the juice of the bark of *Nyctanthes Arbor-*  
*tristis*, L.

*Kārwāt rehet ros*, the juice of the roots of *Carissa Carandas*,  
 Linn.

Mix these and give the patient to drink whether a human being or cattle.

- (e) *Sēngel siñ rehet*, the roots of *Tragia involucrata*, Jacq.  
*Kalmeg*, *Andrographis paniculata*, Nees.  
*Latha ciṅ ciṅiṅ rehet*, the roots of  
*Garuṅḍi aṅak rehet*, the roots of *Actarnanthera sessilis*, R. Br.  
*Corco chal*, the bark of *Casearea tomentosa*, Roxb.  
*Koto da*, the bulb of *Dioscorea daemonum*, Roxb.  
*Etka rehet*, the roots of *Mucuna pruriens*, DC.  
*Tursi rehet*, „ „ „ *Ocimum sanctum*, Willd.  
*Bharbhari rehet*, the roots of *Ocimum basilicum*, Linn. or  
*Ocimum canum*, Sims.  
*Haṭ rehet*, the roots of *Holarrhena antidysenterica*, Wall.  
*Goṭe rehet*, „ „ „ *Croton oblongifolius*, Roxb.  
*Jiōti ḍog pea ṭusa*, 3 tips of a certain grass, *Sesbania ægyptiaca*,  
 Pers.

*Hin ar aphim*, asafoetida and opium, as much as a pea of  
 each.

Grind all the above into liquid and mix with a lb. or two of spirit and give  
 an ounce of the mixture to drink daily. (Refer to the directions under (a)  
 above.)

- (f) *Hao*, a kind of large red ants, *Oecophylla smaragdina*.  
*Sēngel siñ rehet*, the roots of *Tragia involucrata*, Jacq.  
*Nanha dudhi loṭa rehet*, the roots of *Ichnocarpus frutescens*,  
 R. Br.

Kill some of the first and with 2 ounces of them grind the other two  
 together to make a dose, and give such a dose daily to be drunk.

- (g) *Adhe*, ginger.  
*Gol maric*, black pepper.  
*Buluñ*, salt.

Grind together ; to be eaten three times every week for a year.

(h) *Kārṃwāt rehel*, the roots of *Carissa Carandas*, Linn.

Plaster him with this and give him daily a little to drink—after the second or third day subsequent to being bitten.

(i) *Kārṃwāt rehel*, the roots of *Carissa Carandas*, Linn.

*Dhela chal*, the bark of *Alangium Lamarckii*, Thunb.

Make into a juice, cook in melted butter and anoint therewith the whole body from head to foot. For internal administration grind the first of these, make them into pills the size of goats' or sheep's excrement and give him to eat.

(j) *Maṭha araḅ rehel*, the roots of *Antidesma diandrum*, Tulas.

*Carṃrii*, the longicorn beetle.

*Mare naᅅgle*, an old leathern thong used for binding the yoke to the plough beam.

Grind the first two together, then roast the third to burning point and grind it, mix all three and make into pills, to be taken one at a time, thrice a day for three days. When the urine discharged in a potsherd has an oily film on the top know that a cure has been effected.

(k) *Carṃrii*, one longicorn beetle.

*Dare baᅅki sakam*, the leaves of an epiphytic orchid.

*ṛ sim bele*, a hen's egg.

After squeezing the juice from the leaves of the second mix well together all three ingredients, roast in a leaf cup and let the patient eat it one day.

(l) *Akaona chal se baha*, the bark or flower of *Calotropis gigantea*, R. Br.

*Seᅅreᅅ banda*, parasitical plant growing on the *Lagerstroemia parviflora*, Roxb.

*Carṃrii*, the longicorn beetle.

*Mare sauri reaᅅ guᅅᅅa*, the powdery refuse of old *Heteropogon contortus*, R. and S.

Grind all these together and give him to drink.

(m) *Bir baraᅅgom*, *Glossogyne pinnatifida*, DC.

*Duᅅᅅukil rehel*, the roots of *Gardenia turgida*, Roxb.

*Mare naᅅgle rapaᅅ*, old leathern yoke thong roasted.

Grind all together, mix and give him to drink.

*Kolo rehel*, the roots of *Dioscorea daᅅmonum*, Roxb.

To be ground and the whole body anointed therewith.

(n) *Carṃrii*, one longicorn beetle.

*Maṭha araᅅ rehel*, the roots of *Antidesma diandrum*, Tulas.

Grind together and make into pills; for an adult mix one pill with 2 ounces of water and give to drink daily and every two or three hours give tea to drink which will increase the discharge of urine, which should be passed into a potsherd so as to be seen. The dose for a child is half a pill and for an infant  $\frac{1}{4}$  pill.

- (o) *Saparom chal ros*, the juice of the bark of *Nyctanthes Arbor-tristis*, L.

*Mare nangle rapak rongo*, an old leathern yoke thong roasted to burning point.

Mix and give to drink daily. This answers for cattle also.

- (p) As soon as bitten give 2 ounces *kārwāt rehel*, the roots of *Carissa Carandas*, L., to drink which will cause the poison to be vomited out, and also plaster the whole body with the same which will neutralize the poison.

- (q) *Latha cip cip rehel*, the roots of *Senegal sin rehel*, the roots of *Tragia involucrata*, Jacq.

*Etka rehel*, the roots of *Mucuna pruriens*, D.C.

*Thoya kolo da*, a little of the bulb of *Dioscorea dæmonum*, Roxb.

*Thoya kalmeg*, a little of *Andrographis paniculata*, Nees.

*Aphim*, 2 annas worth of opium.

Pound these and mix with four annas worth of spirits, and give to drink daily, preserving the urine as above, and you will see the larvæ come out like puppies.

- (r) *Gidi jan*, the bones of a vulture. } Both to be roasted  
*Mare nangle*, an old leathern yoke thong. } to burning point.

Wash 12 pice in water and take the dirt. Then rub an unalloyed brass cup on a stone with water, and take this water and the other ingredients and put them in this cup and give the whole to drink daily. This is efficacious for both human beings and cattle or any animal bitten. Mix with the medicine also 2 ounces of the red ants that make their nests on trees. Recovery is certain.

- (s) *Senegal sin rehel*, the roots of *Tragia involucrata*, Jacq.

*Tejo mala rehel*, ,, ,, ,, *Cissampelos Pareira*, L.

*Dodhar rehel*, ,, ,, ,, *Adiantum lunulatum* Burm., or *A. concinum*.

*Anḍia kongal rehel*, the roots of *Dregia volubilis*, Benth.

*Bhadu chal rehel*, the bark and roots of *Vitex alata*, Roxb.

*Carorin*, a longicorn beetle.

Grind these and give to drink with *handi*, rice beer, and he will get well.

- (t) *Bir barangom*,

*Dahar tala reak dundukil chal*, the bark of a *Gardenia turgida*, Roxb., growing in the middle of a road.

*Mare nangle*, an old leathern yoke thong.

*Barea caya*, two *Leptocoris varicornis*.

Half roast the last two, then grind all four together and give to drink.

Next day give the same as (s) above, save that there should be two longicorn beetles.

One "authority" says: When a person is bitten by a mad dog, the poison (the larvæ) grows like puppies to the size of red ants, and the person becomes "mad" gradually. If he becomes really "mad," there is no recovery. Some become "mad" in five days, others in 15 days, others in one month, or three months, or even six months.

286. *Bana ger ghao*. Wound from bears' bite.

*Medicines*: (a) *Dhubi ghās*, *Cynodon dactylon*, Pers.

*Adwa caole*, rice that has been husked without boiling.

Grind together and apply as a plaster to the wound.

(b) *Bq̄ lay*, *Vitis adnata*, Wall.

*Tīpōc̄ da*, the bulb of

Dry a little of each of these, grind without water and sprinkle on the wound.

To extract the pus:—

(c) *Turbīṭa nāyī*,

Pound and plaster on the wound.

287. *Cund ger bis reaḅ ran*.

Remedy for the poison of the bite of the musk rat, *Sorex caerulescens*.

*Medicines*: *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Siñ aṛaḅ chal*, ,, ,, ,, *Bauhinia purpurea*, Linn.

Grind and give to drink with stale rice water, and plaster the whole body therewith. If there is no amendment, give some snake-bite medicine to take.

288. *Kul ger bis ran*.

Remedy for the poison of the bite of a tiger.

*Medicines*: (a) *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Siñ aṛaḅ chal*, ,, ,, ,, *Bauhinia purpurea*, L.

*Sēngel siñ rehel*, the roots of *Tragia involucrata*, Jacq.

*Suruḅ mukhi ghās rehel*, the roots of *Helianthus annuus*, Willd.

*Bir sōn rehel*, the roots of

Make him drink a mixture of these with stale rice water.

(b) *Barsa pakōṛ rehel*, the roots of *Grewia sapida*, Roxb.

*Tarse koṭaḅ rehel*, ,, ,, ,, *Grewia villosa*, Willd.

*Kamraj rehel*, ,, ,, ,, *Buettneria herbacea*, Roxb.

*Seta kaṭa rehel*, ,, ,, ,, *Grewia polygama*, Roxb.

Grind whichever of these you can get and apply as a plaster to the wound.

(c) *Baṛ chal*, the bark of *Mimusops Elengi*, L.

*Kauha chal*, ,, ,, ,, *Terminalia Arjuna*, Bedd.

Grind together and apply as a plaster.



- (d) *Khode baha*,  
*Poha bqd lay*, a seedling of *Vitis adnata*, Wall.  
*Kamraj*, *Buettneria herbacea*, Roxb.

Grind these three together and apply as a plaster; applicable for both human beings and animals.

- (e) *Turam rehel*, the roots of  
*Ot tipoc rehel*, " " "  
*Dare tipoc rehel*, " " "

Grind together and apply as a plaster; apply the first of above quickly.

- (f) *Baghut bongam ocok pahilkedea*, first of all exorcise the spirit who is supposed to be the herdsman of wild animals.  
 (g) *Bqd lay rehel*, the roots of *Vitis adnata*, Wall.

- Ot tipoc*,  
*Turam*,  
*Cip cipi rehel*, the roots of *Achyranthes aspera*, L.

Grind these together and smear or plaster on.

N.B.—This remedy may also be used in bites of bears or jackals.

289. *Tayan ger bis ran.*

Remedy for the poison of the broad headed crocodile, *Crocodilus trigonops*.

- Medicines: (a) *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.  
*Sin arak chal*, " " " *Bauhinia purpurea*, L.  
*Sengel sin rehel*, the roots of *Tragia involucrata*, Jacq.  
*Etka rehel*, the roots of *Mucuna pruriens*, DC.  
*Gote rehel*, " " " *Croton oblongifolius*, Roxb.

Make him drink a mixture of these with stale rice water.

If cattle or animals are bitten, then

- (b) *Jhol*, sooty cobwebs.  
*Caole*, raw rice.  
*Maric*, chilli or capsicum, *Capsicum frutescens*, Willd.  
*Gol maric*, black pepper.  
*Pond peaj*, white onions.

Grind these together and give to drink.

The remedies given in No. 288 for tiger bite may also be given advantageously in crocodile bite.

290. *Sanam lekan bin ger bis ran.*

Antidotes for the poison of all kinds of snake-bite.

- Medicines: (a) *Sin arak*, *Bauhinia purpurea*, Linn.  
*Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

After grinding these two make him drink some with *kanji da*, stale rice water, and anoint him with some of the mixture.

N.B.—If this remedy is given to drink in cases of intoxication from *kucla*, *Strychnos potatorum*, L. f., the intoxication will disappear.

(b) *Nim chal*, the bark of *Melia Azadirachta*, Linn.

*Sinjō chal*, ,, ,, ,, *Ægle Marmelos*, Correa.

Take these from an old tree, grind them together and give him to drink, anoint him with a little, and drop some on the fontanel.

(c) *Kadar rehel*, the roots of *Bonnaya veronicæfolia*, Spreng.

*Goṭe chal*, the bark of *Croton oblongifolius*, Roxb.

Grind these together, give him to drink and anoint him therewith.

(d) *Kumbir chal*, the bark of *Careya arborea*, Roxb.

Grind and give him to drink and anoint him therewith.

(e) *Marar baha chal*, the bark of *Erythrina indica*, Lam.

Give this to drink and wet a towel or some cloth in it and wrap him therein.

(f) *Jhiñjit chal*, the bark of *Bauhinia retusa*, Ham.

Grind this and give an adult not more than 2 oz. or a child not more than 1 oz. to drink. If he becomes intoxicated by this medicine, then mix *kasmar*, *Gmelina arborea*, Roxb., with sugar and let him drink it, the poison will not stay.

(g) *Mota god*, the thick *Aristolochia indica*, Willd.

Grind all parts of the plant and give to drink, anoint also.

(h) *Isor muli god*, *Aristolochia indica*, Willd.

Grind, give to drink and anoint.

(i) *Sisu god*,

Grind, give to drink and anoint.

(j) *Ic ewer da*, the bulb of *Vitis latifolia*, Roxb.

*Candogar god*,

Mix these and rub in or anoint therewith.

(k) *Hemca arak sakam*, the leaves of *Enhydra fluctuans*.

Grind and give to drink as well as plaster the body therewith.

(l) *Goṭe*, the roots of *Croton oblongifolius*, Roxb.

*Kadar rehel*, ,, ,, ,, *Bonnaya veronicæfolia*, Spreng.

Grind together, give to drink and anoint; he will certainly get well.

(m) *Seṅgel sin rehel*, the roots of *Tragia involucrata*, Jacq.

*Dudhi lota rehel*, ,, ,, ,, *Ichnocarpus frutescens*, R. Br.

Grind these together, give to drink and anoint the whole body therewith.

(n) *Etka rehel*, the roots of *Mucuna pruriens*, DC.

*Seṅgel sin rehel*, the roots of *Tragia involucrata*, Jacq.

Mix, give to drink and anoint.

(o) *Tursi rehel*, the roots of *Ocimum sanctum*, Willd.

*Bharbhari rehel*, ,, ,, ,, *Ocimum basilicum*, Linn. or

*Ocimum canum*, Sims.

Grind and mix these two and give to drink, and take the leaves of both, grind them and anoint therewith.

(p) *Sondhaeni sakam*, the leaves of *Tylophora longifolia*, Wight.  
Grind, give to drink and anoint therewith.

(q) *Marañ catom arak rehet*, the roots of *Marsilea quadrifolia*, L.  
Grind, give to drink and anoint therewith.

(r) *Anđia kongal rehet*, the roots of *Dregia volubilis*, Benth.  
*Nanha toyo cañbol rehet*, the roots of  
Grind, give to drink and anoint therewith.

(s) *Nāri hund baha reak sakam*, the leaves of  
Grind fine, give to drink and anoint therewith. Continue giving to drink till it tastes bitter.

(t) *Niuri chal*, the bark of *Elæodendron Roxburghii*, W. and A.  
Grind, give 2 oz. to drink and plaster the whole body therewith. If he is quite unconscious, then grind together above and *bana hatak chal*, the bark of *Oroxylon indicum*, Benth., stir together in a basin of water and wet a new piece of cloth or dip it therein. Then after anointing with the medicine, wrap him in the cloth; after an hour he will get well.

(u) *Orop' da*, the bulb of *Costus speciosa*, Sm.  
Make him drink of this, and plaster the whole body therewith.

(v) *Tarop chal*, the bark of *Buchanania latifolia*, Roxb.  
Grind, give to drink and anoint the whole body therewith.

(w) *Lopon chal*, the bark of *Terminalia bellerica*, Roxb.  
*Popro chal*, „ „ „ *Gardenia latifolia*, Ait.  
Grind these together and give to drink.

(x) *Bilati thamakur*, imported tobacco.  
*Munga chal*, the bark of *Moringa pterygosperma*, Gärtn.  
Grind together and anoint therewith; and one gulp of the latter only to be drunk.

(y) *Gabur chal*, the bark of *Acacia Farnesiana*, Willd.  
Grind, give a little to drink and anoint therewith.

(z) *Adhe*, ginger.  
*Gol maric*, black pepper.  
*Thoza bulun*, a little salt.  
Grind these together and let him drink the mixture till he feels it pungent and plaster him with it also.

(aa) *Suruñ mukhi ghas rehet'*, the roots of *Helianthus annuus*, Willd.  
*Latha cip' cirip' rehet'*, „ „ „  
*Gol maric*, black pepper.

Grind these together and give him to drink only.

(bb) *Bonga bari rehet'*, the roots of  
Grind, give to drink and anoint the whole body therewith. When the patient feels cool it will show the medicine has worked.

(cc) *Kuclā chal*, the bark of *Strychnos potatorum*, L. f.

Grind and give about a mussel shell full to an adult and half that quantity to a child. This is a powerful poison so only the amount should be given. Should there be any intoxication then let the patient drink No. (a) remedy given above and it will disappear.

(dd) *Utri dudhi lota*, *Cryptolepis Buchanani*, R. and S.

*Hemca arak*, *Enhydra fluctuans*.

*Kucla chal*, the bark of *Strychnos potatorum*, L. f.

*Isor muli god sakam, rehet'*, the leaves and roots of *Aristolochia indica*, Willd.

*Candogar god sakam, rehet'*, the leaves and roots of

*Ic ewer nāyī du*, the bulb of *Vitis latifolia*, Roxb.

*Bana hatak' chal*, the bark of *Oroxylon indicum*, Benth.

*Mota god rehet'*, *sakamko*, the roots and leaves of the thick *Aristolochia indica*, Willd.

*Jhūnjit' chal*, the bark of *Bauhinia retusa*, Ham.

After grinding all these together first plaster the whole body therewith. Then dip a clean cloth in the medicine and wrap the entire body in that cloth. Take notice, however, that if the evacuations contain blood or resemble mustard oil, you should take no further trouble, as he will not be saved.

(ee) *Dhela rehet' chal se dare chal*, the bark of the root or stem of *Alangium Lamarckii*, Thws.

Grind, give a little to drink and anoint the whole body therewith.

(ff) *Saram lutur rehet'*, the roots of *Clerodendron serratum*, Spreng.

*Sega rehet'*, the roots of *Mimosa rubicaulis*, Lamk.

Grind together and then to be drunk only.

If the bite is by a *bandphora biñ*, *Bungarus fasciatus*, then

(gg) let him drink some of the oilcake left after expressing oil from the kernel of the fruit of *Bassia latifolia*, Roxb., and put a plaster of the same over the navel, then something like the banded appearance of the snake will be voided in a thin form with the excreta, or he will vomit it up, or the medicine will dissolve.

When the poison of this snake takes effect it grows in the stomach like the snake that bit, and incantations and charms are of no use.

(hh) *Niuri chal*, the bark of *Elæodendron Roxburghii*, W. and A.

*Bir horec*, *Atyllosia scarabaedois*, Benth.

The patient to be anointed with a mixture of these.

(ii) *Andia dhurup arak se rehet'*, the leaves or roots of *Leucas cephalotes*, Spreng.

*Cip ciriñ rehettel'*, the roots of *Achyranthes aspera*, Linn.

Grind these two together and plaster him therewith, or he may drink a little.

(jj) *Thamakur*, tobacco.

*Cun*, shell lime.

To be eaten.

(kk) *Bir god sakam*, the leaves of

Grind and rub him therewith and he may eat a little.

*Ponđ dhubi ghās*, the white *Cynodon dactylon*, Pers. Apply as in the previous one.

*Mare oṛaḱ saṛim reaḱ kana aṛaḱteḷ*, *Commelyna bengalensis*, Linn., growing on the roof of an old house.

*Ponđ raṅgāini rehel*, the roots of the white *Solanum xanthocarpum*, Schrad. et Wendl. Apply as in the first two above.

*Thamakur*, tobacco.

*Hukaḱ daḱ*, hookah water.

*Muṅga chal*, the bark of *Moringa pterygosperma*, Gärtn.

Get quickly together as many of above as you can, grind all together, give him a little to drink and apply the rest as an ointment over the whole body.

(ll) *Niuri rehel*, the roots of *Elæodendron Roxburghii*, W. and A., to be dug and brought on the day of the Monsa or Hindu serpent goddess festival when they fast.

Grind and give half to the bitten person and anoint him with the other half. (This remedy was first given by a Dusad, and not a Santal *oḱha*.)

(mm) *Loṇṇ aṛaḱ rehel*, the roots of *Ærua lanata*, Linn.

Grind, give him a little to drink and anoint his head therewith.

(nn) *Candogaṛ god rehel*, the roots of

Grind and give to drink, and also grind the leaves of the same and plaster him therewith. If the poison has spread over the whole body, the medicine must be repeated three or four times. The leaves of this and the leaves of *Vitis latifolia*, Roxb. should be mixed, ground and plastered on him.

(oo) *Kumbiṛ chal*, the bark of *Careya arborea*, Roxb.

(pp) *Niuri chal*, „ „ „ *Elæodendron Roxburghii*, W. and A.

(qq) *Corco chal*, „ „ „ *Casearea tomentosa*, Roxb.

These three should severally be ground and given to drink.

(rr) If the poison is latent to make it apparent :—

*Duṅḍukiḷ rehel*, the roots of *Gardenia turgida*, Roxb.

*Suruḱ mukhi rehel*, „ „ „ *Helianthus annuus*, Willd.

Pound and give to drink about an ounce, when the action of the snake poison will at once become apparent. Then quickly give him *god*, *Aristolochia indica*, Willd. ; make no delay.

(ss) *Isor muli god*, *Aristolochia indica*, Willd.

*Candogaṛ god*,

Grind these together, or whichever of them may be obtainable and give to drink. If much poison has been absorbed the medicine will not taste bitter,

so continue giving it till he feels it bitter, by which you will know the poison is overcome. Continue giving the medicine till he vomits, when you may know the medicine has taken effect, and the poison is gradually losing its effect. This rule is to be observed in many of the remedies.

- (tt) *Moṭa god*,  
 (uu) *Niuri chal*, the bark of *Elæodendron Roxburghii*, W. and A. { to be applied  
 in same way  
 as (ss).  
 (vv) *Kumbir chal*, ,, ,, ,, *Careya arborea*, Roxb.

Give 2 ounces of this to drink at intervals. This is a poison, so an overdose must be avoided; see that the first dose is ineffectual before giving a second, and so on.

- (ww) *Jhinjit chal*, the bark of *Bauhinia retusa*, Ham., to be used in same way.

- (xx) The most powerful remedy is *kuclā chal*, the bark of *Strychnos potatorum*, L. f., but it must be administered very carefully as if more of it is given than the poison absorbed it will prove fatal. If there is great stupefaction give 2 ounces. If he recovers consciousness after an hour give another 2 ounces, and if effectual, then give to drink

*Kasmar chal*, the bark of *Gmelina arborea*, Roxb., and  
*Sin ayak rehēt chal*, the bark of the roots of *Bauhinia purpurea*, L.,

along with *kāñji*, stale rice water, and all will be well.

- (yy) *Marar baha dare chal*, the bark of *Erythrina indica*, Lam.

Give to drink and also plaster therewith; he is sure to recover.

- (zz) *Mil goṭeç lenḍel*, an earthworm.

Grind and mix with about a dessert spoonful of water, and give the patient to drink without letting him know what it is, and he will get well at once.

- (a1) First give to drink *kumbir chal thoṛa*, a little bark of *Careya arborea*, Roxb., and five minutes later give him to drink about an ounce of *kuiṇḍi kare*, the oilcake left after expressing oil from the kernel of the fruit of *Bassia latifolia*, Roxb. If this does not cause him to vomit, repeat the dose at intervals until he does vomit, when you will see the appearance of the snake in the stomach is brought up. Also warm this oilcake slightly and spread it thinly over the whole stomach from the navel downwards. This remedy is also good against the bite of the *tutri* (*Eryx conicus*, non-poisonous) snake. In fact give something to cause vomiting in all cases of snake bite, such as—

- (b1) *Thoṛa bilāti thamakur*, a little imported tobacco.

*Muṅga dare rehēt chal*, the bark of the roots of *Moringa pterygosperma*, Gärtn.

Prepare about 8 ounces, and give at intervals 1 ounce of it to drink, till he vomits.

(c1) Give in the same way *gābur rehet*, the roots of *Acacia Farnesiana*, Willd.

(d1) „ „ „ „ „ *dhela chal*, the bark of *Alangium Lamarckii*, Thws.

(e1) *Barge reaḱ laḥa ciḡ ciḡiḡaḱ rehet*, the roots of

Grind and smear on from the bitten spot and give a little too to drink ; but be sure the poison has entered the system, otherwise it is not good to give this.

(f1) *Bir nim chal*, the bark of *Melia Azadirachta*, L., growing in forests.

*Kumbiḡ ḡhal*, „ „ „ *Careya arborea*, Roxb.

*Sirom chal*, *Andropogon muricatus*, Retz.

(g1) Some 4 or 5 inches above the place where he was bitten smear all round some *jh inuk cun*, shell lime, such as is eaten with tobacco. This to prevent the poison from spreading through the body.

(h1) *Taroḡ chal*, the bark of *Buchanania latifolia*, Roxb.

*Sirom rehet*, the roots of *Andropogon muricatus*, Retz.

Grind and give to drink, and after grinding the latter smear it over the whole body.

(i1) *Etka jañ*, the seeds of *Mucuna pruriens*, DC.

Split these, wet them in water and make them adhere to the bitten spot, and when the poison is eliminated they will drop off spontaneously.

(j1) *Taroḡ chal*, the bark of *Buchanania latifolia*, Roxb.

*Poṇḡ kaḥu botke*, *Bryonia lacinosa*, L., white variety.

*Karla da*, the tuber of *Momordica muricata*, Willd.

*Sindrit*, a fresh shoot of *Bombax malabaricum*, DC.

Make him drink these with water and smear him with *maraḡ baha*, *Erythrina indica*, Lam.

(k1) *Bheḡa dereñ rehet*, the roots of *Cassia Tora*, L.

*Haḡhaḡ hoḡoḡ rehet*, the roots of a bitter *Cucurbita lagenaria*, Willd.

Grind these with *huka dak*, hookah water, and give to drink. There is a variety of *sura ḡhās*, *Cyperus tegetum*, Roxb., which bears a white flower like a *kanphul*, ear ornament ; pour that into his nose or make him smell it ; break a *ḡḡḡ jañ*, seed of *Tamarindus indica*, L., in two and apply so that it sticks fast.

(l1) *Salgaḡchal*, the bark of *Boswellia serrata*, Wall.

*Sondhaeni*, *Tylophora longifolia*, Wight.

Grind and smear on him, or

(mI) mix with (mI) *God sakam*, the leaves of *Aristolochia indica*, Willd. and

*Ic ewer hasa*, the earth from *Vitis latifolia*, Roxb.,

and smear this on him while you give to drink after grinding them

*Ic ewer rehel'*, the roots of *Vitis latifolia*, Roxb.

*Candoggar god rehel'*, the roots of

*Note*.—There is no measure of the amount to be drunk of the above written medicines: one must exercise one's discretion in accordance with the way medicine is given. After giving one dose wait till it is assimilated before giving another. Two or three such doses should suffice.

Signs of the bites of snakes and other (supposed) poisonous reptiles:—

- (1) *Ambaitar biin*, *Vipera Russellii*, Russell's viper (?). Their bite produces swelling and a splitting or bursting at the same time.
- (2) *Boda biin*, *Python molurus*. A brown rock snake, a python: the whole body swells up in lumps.
- (3) *Bandphoza biin*, *Bungarus fasciatus*, the banded Karait. The poison rises in the stomach of the victim with a banded appearance as in the body of the snake.
- (4) Snake-bite causes the pulse to become less frequent and weaker.
- (5) *Raekakarbak*, the chameleon. The chameleon's poison causes spots as in their own body to appear in that of the victim whose body sways.
- (6) *Pokol roge*, *Bufo curinatus*, the keiled nosed toad causes the body to appear spiky.
- (7) *Kidiin katkom*, the scorpion's poison causes profuse perspiration of the whole body.
- (8) *Sengel marmar*, *Scolopendra versicolor* or *S. marsitans*, causes the pulse to move with jerks and creeping like their gait.

To recognise when the snake was not seen to bite, and whether death is due to snake-bite or not:—

- (1) If one has been bitten or breathed on by a snake then observe the person's or animal's eyes. You will see (a) he will be drowsy; (b) the eyes get blood red; (c) sometimes they look slate coloured; (d) the hair on the body stands on end, and comes out; (e) the body becomes cold as water; (f) the breath from the side on which he was bitten feels cold, the ears of animals become limp and the saliva dribbles from the mouth. By these signs you may know he has been bitten by a snake.
- (2) The breath from the side on which the snake has bitten is cold, and warm from the other side.



- (3) To know whether an unconscious snake-bitten person is alive or dead :—
- (a) first feel the chest, if not dead it will be a little warm ;
  - (b) put a little old cotton into the nostril, and if not dead it will move slightly by the breath ;
  - (c) look at the tongue, if dead it will be drawn inside, i.e. it will be doubly thick and short ;
  - (d) if dead the eyes will be turned over.
- (4) To know that death is due to snake-bite: (a) blood and a fluid like mustard oil will issue from the mouth: (b) the same will issue from the nose: (c) if the excrements have the same appearance, know that he is dead and give no medicine.

It might be remarked that the Santals believe that nearly all snakes and reptiles are poisonous. This influences them. Fear may bring on collapse. The following will show how fear works: A young and otherwise sensible woman had in the early morning heard a snake hiss not far from where she was. She had not seen the snake, but was sure it was a cobra. Some three or four hours later this happening fear took hold of her; she became frightened and was very near a collapse, showing quite alarming symptoms. We had great trouble in getting her round.

291. *Cercetec ado.* Lizards' urine (causes blisters).  
*Medicines:* Roast red hot *kuindi hare*, the refuse in the oil press after extracting the oil from the kernel of the fruit of *Bassia latifolia*, Roxb., and then throw it into a basin of water. Steam the affected part with that water twice a day. If larvae appear it will get well.
292. *Ghirri ger bis reak ran.*  
 Remedy for the bite of the lizard *Tiliqua rubriventris*.  
*Medicines:* *Latha cip cipiŕ rehel*, the roots of  
*Garundi arak rehel*, the roots of *Acternanthera sessilis*, R. Br.  
*Suruŕ mukhi arak rehel*, the roots of *Helianthus annuus*, Willd.  
 Mix these together and give to drink with stale rice water.
293. *Kakya ger bis ran.*  
 Remedy for the bite of a large lizard, *Colotis veructor*.  
*Medicines:* *Latha cip cipiŕ rehel*, the roots of  
*Garundi arak rehel*, the roots of *Acternanthera sessilis*, R. Br.  
 Grind and give to drink with stale rice water, also plaster him therewith and apply some as an ointment to the bitten spot.
294. *Kul scren ger bis reak ran.*  
 Remedy for the bite of the lizard *Uromastix hardwickii*.  
*Medicines:* (a) *Isor muli god*, *Aristolochia indica*, Willd.  
 Grind and give him to drink.

(b) *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Siñ arak chal*, „ „ „ *Bauhinia purpurea*, Linn.

Grind and give to drink with stale rice water, and also plaster him therewith.

(c) *Udal rehel*, the roots of *Sterculia villosa*, Roxb.

*Karkat rehel*, „ „ „ *Zizyphus xylopyra*, Willd.

*Kaera rehel*, „ „ „ *Musa paradisiaca*, L.

Grind together and give to drink.

295. *Pokot rote ger bis ran.*

Medicine for the bite of *bufo curinatus*.

*Symptoms.* The spiky appearance of their own bodies appears on that of the person bitten.

*Medicines:* *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Siñ arak chal*, „ „ „ *Bauhinia purpurea*, Linn.

*Kañji dak*, stale rice water.

Mix the two former with the last, give him some to drink and plaster him therewith. If he does not get better use another snake-bite antidote.

296. *Raekakarbak ger bis ran.*

Medicine for chameleon's bite.

*Symptoms.* Spots appear on the body of the bitten person as on the chameleon's body.

*Medicines:* (a) *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Siñ arak chal*, „ „ „ *Bauhinia purpurea*, Linn.

*Kañji dak*, stale rice water.

Mix the two former with the last, give him some to drink and plaster him therewith. If he does not get better try another snake-bite antidote.

(b) *Upal baha reak da*, the tuber of *Nymphaea rubra*, Roxb.

*Hat chal se rehel*, the bark or roots of *Holarrhena antidysenterica*, Wall.

Grind together and give to drink.

297. *Torhot ger bis reak ran.*

Remedy for the bite of the guana, *Varanus flavescens*.

*Medicines:* *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Siñ arak chal*, „ „ „ *Bauhinia purpurea*, Linn.

*Latha ciß cipiß rehel*, the roots of

Grind and give to drink with stale rice water, and plaster the whole body therewith.

298. *Bindi ger reak bis ran.*

Medicine for spider lick.

*Medicines:* (a) *Buru ghora lada rehel*, the roots of *Vitis tomentosa*, Heyne.

Grind and plaster him therewith either hot or cold, and give him also a little to drink. The poison causes much swelling.

(b) *Edel poha rehēt*, the roots of a seedling of *Bombax malabaricum*, DC.

*Giru dhiri*, a certain kind of red stone used as a pigment.

First rub the stone with an addition of water; then anoint him with the water thus obtained. Then grind the roots and plaster or anoint him therewith. The swelling will entirely subside.

If the spot attacked does not swell it will break out into an open sore, say on the hands or legs. Treatment:—

(c) *Laṭha ciṣ ciriṣ*,

*Bhidi janateṣ*, *Urena sinuata*, Linn., or *Triumfetta rhomboidea*, Jac.

*Bir jhunka*, *Crotalaria calycina*, Shrank.

*Nanha dudhi loṭa rehēt*, the roots of *Ichnocarpus frutescens*, R. Br.

*Anḍia moron araḅ rehēt*, the roots of *Gymnema hirsutum*, W. and A., var. *Decaisneanum*, Wight.

*Buru ghora lada*, *Vitis tomentosa*, Heyne.

*Edel poha rehēt*, the roots of a seedling of *Bombax malabaricum*, DC.

*Mare naṅgle*, an old leathern thong used for binding the yoke to the plough.

*Anḍia tale baha*, the flower of the male *Borassus flabelliformis*, L.

Grind all these together and apply daily with a feather together with a little mustard oil, or if there is a watery discharge dust it on.

299. *Kul bindi ger.*

Bite of a large supposed poisonous spider, *Mygale monstrosa*.

*Medicines*: (a) *Gada terel chal*, the bark of *Diospyros montana*, Roxb.

*Meṛom mēt chal*, „ „ „ *Ixora parviflora*, Vahl., or *Olox nana*, Wall.

*Spsṣ dare chal*, „ „ „ *Semecarpus Anacardium*, L.

Grind together and apply as a plaster.

(b) *Ghōra lada da rehēt*, the roots of *Vitis tomentosa*, Heyne.

Give some to drink and apply some as an ointment.

300. *Ghugri ger bis reaḅ ran.*

Remedy for the bite of the mole cricket, *Gryllus gryllo-talpa*.

*Medicines*: *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Siṅ araḅ chal*, „ „ „ *Bauhinia purpurea*, Linn.

Grind and give to drink with stale rice water.

301. *Kidiñ katkom se jiol hako toy bis.*

The poison of the sting of a scorpion or of a certain fish.

*Symptoms.* The person stung at once gets hot, i.e. the perspiration drops from the whole body, and there is intense pain.

*Medicines:* (a) *Tarop chal*, the bark of *Buchanania latifolia*, Roxb.

Grind and make him drink some and smear him with some also.

(b) *Raŋgainsi janum*, *Solanum Jacquini*, Willd.

Take 3 leaves, chew them small and retaining them in the mouth blow into both his ears till the pain is relieved. Do not let it be known you have anything in the mouth.

(c) *Raŋgainsi janum rehet*, the roots of above.

Grind and give him to drink.

(d) *Raŋgainsi janum*, same as above.

*Bilati thamakur*, imported tobacco.

Grind together and plaster him therewith.

(e) *Dhāi da*, the bulb of *Grislea tomentosa*, Willd.

Grind small and apply to the place stung.

(f) If he is intoxicated or the poison produces perspiration, the body turning into goose flesh:—

*Sengel siñ rehet*, *Tragia involucrata*, Jacq.

*Latha cip' cip'*,

*Suruñ mukhi ghās rehet*, the roots of *Helianthus annuus*, Willd.

*Duñdukil rehet*, the roots of *Gardenia turgida*, Roxb.

*Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Siñ araḱ chal*, the bark of *Bauhinia purpurea*, Linn.

Grind all these together, give to drink with stale rice water and smear over the whole body.

(g) Before the poison rises pass urine quickly on the spot.

(h) Get on the top of a termite hill and call out in imitation of a peacock's cry and apply the kernel of a tamarind seed, *jojo jañ*, *Tamarindus indica*, L., so that it adheres to the spot.

(i) *Tarop chal*, the bark of *Buchanania latifolia*, Roxb.

*Sauri rehet*, the roots of *Heteropogon contortus*, R.S.

Grind together and plaster on the spot and chewing them quickly spit on the spot, or you may add to above, after grinding,

*Pitua rehet*, the roots of *Spermocoe hispida*, L.

(j) *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Siñ araḱ chal*, ,, ,, ,, *Bauhinia purpurea*, L.

*Sengel siñ rehet*, the roots of *Tragia involucrata*, Jacq.

*Etka rehet*, the roots of *Mucuna pruriens*, DC.

*Raṅgāini rehel*, the roots of *Solanum Jacquini*, Willd.

*Taroṭ chal*, the bark of *Buchanania latifolia*, Roxb.

*Latha ciṭ ciṭiṭ rehel*, the roots of

*Gol maric*, black pepper.

*Adhe*, *Zingiber officinalis*, Roscoe.

Grind all these together, stir in *kañji daḥ*, stale rice water, and give to drink.

302. *Kidiñ kathom*, *seṅgel marmar*, *bindi emt. reak toy*.

The sting of scorpions, centipedes, spiders, etc. (see also No. 298, 300).

*Medicines*: (a) *Edel chal*, the bark of *Bombax malabaricum*, DC.

*Muṅga rehel*, the roots, of *Moringa pterygosperma*, Gärtn.

Pound and apply to the stung part.

(b) *Raṅgāini janum rehel*, the roots of *Solanum Jacquini*, Willd.

Grind and apply as a plaster to the stung part.

(c) *Soso sunum*, the oil distilled from the seeds of *Semecarpus Anacardium*, L.

Dot this on, i.e. apply a drop or so.

(d) *Taroṭ chal*, the bark of *Buchanania latifolia*, Roxb.

Grind and apply some as a plaster and let him chew some.

(e) *Araḥ peaj*, a red onion.

Squeeze the juice out into the eye on the opposite side to that on which he has been stung.

(f) *Saṅci maric*, black pepper.

*Thamakur*, tobacco.

Grind together and apply to the spot.

(g) *Kasmar chal thoṛa*, a little of the bark of *Gmelina arborea*, Roxb.

*Siñ araḥ chal*, the bark of *Bauhinia purpurea*, L.

*Seṅgel siñ rehel*, the roots of *Tragia involucrata*, Jacq.

*Eṭka rehel*, the roots of *Mucuna pruriens*, DC.

*Raṅgāini janum rehel*, the roots of *Solanum Jacquini*, Willd.

*Taroṭ chal*, the bark of *Buchanania latifolia*, Roxb.

*Latha ciṭ ciṭiṭ rehel*, the roots of

Pound all these and mix *adhe*, ginger, and *gol maric*, black pepper, and then add *khub jojo kañji daḥ*, very sour stale rice water, and give to drink, applying some too as a plaster; he is sure to get well.

As soon as stung :—

(h) *Bilati thamakur*, imported tobacco.

*Raṅgāini janum rehel*, the roots of *Solanum Jacquini*, Willd.

Grind together and apply; he will get quite well.

(i) Grind and apply *dhāi da*, the bulb of *Grislea tomentosa*, Willd.

- (j) *Edhe rangaini janum sakam pea, janum salaḱ*, 3 leaves, thorns included, of *Solanum xanthocarpum*, Schrad. et Wendl.

Put these with the thorns in your mouth and chew them slowly, and while they are in your mouth blow into both ears of the patient, and he will recover at once. Blow on till he is deaf. Spit on the stung spot and continue rubbing it with the medicine until it has become insipid and then spit it out. All the time until you have finished neither you nor the patient must let yourselves be seen by any one.

- (k) *Taroḡ chal*, the bark of *Buchanania latifolia*, Roxb.

*Srom rehel*, the roots of *Andropogon muricatus*, Retz.

Grind together and plaster on the spot.

- (l) *Etha jañ dalkate*, the split seeds of *Mucuna pruriens*, DC.

Wet in water, apply your spittle and make it stick to the stung spot.

- (m) *Jojo jañ dalkate*, the split seeds of *Tamarindus indica*, L.

Make these stick to the stung spot and squeeze out the juice of *araḱ peaj*, red onions and *buluñ*, salt, into the eye on the same side as he has been stung.

- (n) *Loṅphul*, cloves.

*Gol maric*, black pepper.

Grind together and give to drink.

303. *Mahle kidiñ ar seṅgel marmar bis ran.*

Antidote to the poison of two kinds of scolopenders.

*Symptoms.* The pulse of the person stung moves with jerks and a creeping or crawling sensation.

*Medicines:* (a) *Mare matkom*, the old dried flowers of *Bassia latifolia*, Roxb.

Grind and apply as a plaster.

- (b) *Leṅḡel hasa*, the earth thrown up by earthworms.

Daub or smear him over with this.

- (c) *Qhoḱ araḱ rehel*, the roots of *Boerhaavia procumbens*, Herb. Banks.

Grind and apply as a plaster.

- (d) Same as (a) above, only with the addition it should be warmed.

304. *Néle tor.* Bees' sting.

*Medicines:* (a) Grind *mare matkom*, the old dried flowers of *Bassia latifolia*, Roxb., and plaster it on.

- (b) *Raṅgaini janum rehel*, the roots of *Solanum Jacquinii*, Willd.

Grind and plaster on.

- (c) *Rasun*, garlic.

Grind and smear on the stung parts.

305. *Susurban, íele, liṭa tombr̄e toy.*

The sting of wasps, bees and hornets.

*Medicines: Mare mathom*, the old dried flowers of *Bassia latifolia*, Roxb.

Grind and apply as a plaster.

## VETERINARY MEDICINES.

### V. 1. *Gola Kanta*. Hæmorrhagic Septicæmia.<sup>1</sup>

*Symptoms.* The neck swells, the hair stands on end and falls off, the ears are limp and droop, the saliva drops and there is a little cough.

*Medicines :* (a) *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Sii arāk chal*, the bark of *Bauhinia purpurea*, L.

*Jhol*, soot covered cobwebs.

*Rasun*, garlic.

*Ponđ peaj*, white onions.

*Gol maric*, black pepper.

*Caole maric*, a kind of capsicum resembling grains of rice.

Grind and give to drink.

(b) Apply the oil distilled from the seeds of *soso*, *Semecarpus Anacardium*, L., var. *cuneifolia*, to the throat and between alternate ribs on the left side in three places.

(c) Thoroughly pound and crush the stem of the leaves of the palmyra palm, *Borassus flabellifer*, L., dip in melted butter and after warming apply to the end of the tongue and set fire to it. Rub the remainder of the melted butter on the throat.

(d) *Caole maric*, a kind of capsicum resembling grains of rice.

*Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Dare japāk rehel se nārī*, the roots or tendrils of *Scindapsus officinalis*, Schott.

*Sūt*, dry ginger.

Grind together, mix in water and give to drink. Rub capsicum freely on the throat externally.

(e) *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.

*Sii arāk chal*, the bark of *Bauhinia purpurea*, L.

26 *ganđa gol maric*, 104 black pepper-corns.

20 *ganđa caole maric*, 80 of a kind of capsicum like grains of rice.

4 *chimbrī rasun*, 4 clusters garlic, or

*Ponđ peaj se ina jom peaj*, white or the common onions will also do.

*Ato piñđā da*, the bulb of *Amorphophallus campanulatus*, Blume.

<sup>1</sup> I am indebted to Mr. N. C. Roy, Veterinary Assistant Surgeon, Dumka, for the proper names of this and the four following cattle diseases.



Grind all these with *kañji dañ*, stale rice water, and stir the whole in that stale rice water and give it them to drink.

As a prophylactic, at the commencement of the symptoms :

(f) *Sq̄o jañ*, the fruit of *Semecarpus Anacardium*, L.

Wrap this in grass and give them to eat daily and it will stop the progress of the disease.

(g) As soon as you know a cow or buffalo has been attacked by this disease, apply a burning medicine, viz., *kañic tale ñar*, a small branch of the *Borassus flabelliformis*, L., or *kaera ñar ge*, or a branch of *Musa paradisiaca*, L. Take about four fingers' breadth from the top and pound and fray it, besmear it freely with *gai gotom sunum*, clarified butter from cow's milk, and heat it over a glowing fire. Then pull out the animal's tongue and apply this 5 or 6 times to the swelling at the end of the throat and the end of the tongue, let the animal go and it will stand up. Smear the remainder of the medicine on the outside of the neck. Be careful, however, to begin the burning from the inside, as otherwise it will die on the spot. If applied as directed it will be an immediate cure.

(h) *Latha ciñ ciriñ rehel*, the roots of

*Tursi sakam*, the leaves of *Ocimum sanctum*, Willd.

*Malhan sakam*, ,, ,, ,, *Dolichos Lablab*, L.

*Akaona rehel*, the roots of *Calotropis gigantea*, R. Br., or *C. procera*, R. Br.

*Sq̄o sunum*, oil obtained from the seeds of *Semecarpus Anacardium*, L., var. *cuneifolia*.

Mix these and make them swallow the mixture. This remedy should be given promptly. Then obtain

(i) *Ghikuāri*, *Yucca gloriosa*.

*Ato pinde*, *Amorphophallus campanulatus*, Blume.

*Gol maric*, black pepper.

and mixing with the above (h) grind all together and make to drink.

#### V. 2. *Gai Khura*. Foot and mouth disease.

*Medicines*: (a) *Bandphora bin jañ*, the bones of the *Bungarus fasciatus* snake.

Tie these on the animal with yarn from the spinning wheel, and drive it daily into mud that no larvae may appear.

To prevent larvae : pour kerosene oil on the diseased parts.

(b) *Kadam rehel*, the roots of *Anthocephalus Cadamba*, Benth. and Hook. f.

Pound and fray this. In one breath make passes over the animal three times, rub a little where the larvae are, put the medicine on the ground, shake off, commencing from the head, anything from their whole body, and

dry the medicine in the heat of the fire-place or in the sun. The larvæ will fall off in five days.

(c) *Suruĵ mukhi reĥet*, the roots of *Helianthus annuus*, L.

Proceed in the same way with this. Do not tread in the footsteps of the animal, do not go to the house where it is. Let the person who administer the medicine continue chaste and have no intercourse with women until the larvæ have disappeared.

(d) First turn them into mud and let them trample about in this.

(e) *Sarĵom dal*, the kernel of the fruit of *Shorea robusta*, Gärtn.

Make this into bran and sprinkle on the sores, which will dry them up.

(f) *Merleç chal*, the bark of *Flacourtia Ramontchi*, L' Herit.

Grind this to a powder and sprinkle it on.

V. 3. *Gai boşontq*. Rinderpest.

Medicines: (a) *Salga chal*, the bark of *Boswellia serrata*, Wall.

*Campa reĥet*, the roots of *Michelia champaca*, L.

*Tarse koĵaş reĥet*, the roots of *Grewia villosa*, Willd.

*Sikuşar reĥet*, " " "

*Huşar reĥet*, " " "

*Bir munga chal*, the bark of

*Alagjari*, *Cuscuta chinensis*, Lamk.

Grind all these together, steep in an earthen pot and give to drink twice daily.

(b) *Karanat sim*, a fowl whose feathers, bones and skin are black.

Cut the throat of such and mix the blood in straw, and then give this straw to be eaten.

(c) *Ato pinða da*, the bulb of *Amorphophallus campanulatus*, Blume.

Grind and give to drink.

(d) *Bana haĵak chal*, the bark of *Oroxylon indicum*, Benth.

*Bir ĥreç sakam*, the leaves of *Atylosia scarabædois*, Benth.

*Ṭaṇḍi barangom*,

*Ainaĵ chal*, the bark of *Terminalia tomentosa*, W. & A.

*Sarĵom chal*, " " " *Shorea robusta*, Gärtn.

Grind and mix these, steep in an earthen pot and give that water to drink.

(e) *Sadom khura*, a horse's hoof.

*Pađer reĥet*, the roots of *Stereospermum suaveolens*, DC.

*Bana haĵak chal*, the bark of *Oroxylon indicum*, Benth.

*Bidħanta reĥet*, the roots of *Entada scandens*, Benth.

Grind and give to drink.

Before being attacked grind these and sprinkle it on straw daily so that they may be eaten with the straw. After being attacked mix these four ingredients in water in which *hoṛçé*, *Dolichos biflorus*, L., has been boiled and give to drink.

(f) *Soso chal rqs*, the juice of the bark of *Semecarpus Anacardium*, L., var. *cuneifolia*.

*Aphim*, opium.

*Hiñ*, *asafætida*, *Ferrula asafætida*, Willd.

Mix and give both sick and healthy cattle to drink.

(g) *Gabur baha rehêl*, the roots of *Acacia Farnesiana*, Willd.

*Bana haṭak rehêl*, ,, ,, ,, *Oroxylon indicum*, Benth.

*Bhalok seta reak ḍaṭa*, the tooth of a mad dog.

*Kul jomko sadom khura*, the hoof of a horse killed by a tiger.

*Kamarko dhukau reak hasa*, the earth from a blacksmith's bellows.

*Mêrhêl iê*, iron rust.

*Hesaḱ banda*, parasitical plant found on *Ficus religiosa*, Willd.

*Caole maric reak banda*, parasitical plant found on a variety of *capsicum*.

Grind these together and at cock-crow on Sunday morning bury them at the threshold of the cow house.

(h) When this disease attacks cattle tie them up for 9 days and do not let them leave the house. If allowed to graze at large they will drink water when they like and die off in heaps. Therefore tie them up for 9 days and give them only medicated water to drink twice or thrice daily, viz.

*Bir malhan rehêl*, the roots of *Atylosia mollis*, Bth.

*Bir hoṛçé*, *Atylosia scarabaedois*, Benth.

*Atore cas hoṛçé*, *Dolichos biflorus*, L.

*Babla chal*, the bark of *Acacia arabica*, Willd.

*Ul chal*, ,, ,, ,, *Mangifera indica*, L.

*Hesaḱ chal*, ,, ,, ,, *Ficus religiosa*, Willd.

*Meral chal*, ,, ,, ,, *Phyllanthus Emblica*, L.

*Kadam chal*, ,, ,, ,, *Anthocephalus Cadamba*, Benth. and Hook. f.

*Doka chal*, ,, ,, ,, *Odina Wodier*, Roxb.

*Kasmar chal*, ,, ,, ,, *Gmelina arborea*, Roxb.

*Siñ araḱ chal*, ,, ,, ,, *Bauhinia purpurea*, L.

*Ambra chal*, ,, ,, ,, *Spondias mangifera*, Pers.

*Matkom chal*, ,, ,, ,, *Bassia latifolia*, Roxb.

*Armu chal*, ,, ,, ,, *Bursera serrata*, Wall.

- Koebel chal*, the bork of *Feronia Elephantum*, Correa.  
*Sega rehet*, the roots of *Mimosa rubicaulis*, Lamk.  
*Makarkenda chal*, the bark of *Diospyros embryopteris*, Pers.  
*Alagjari nārī*, *Cuscuta chinensis*, Lamk.  
*Pani phol*, *Trapa bispinosa*, Roxb.  
*Gōrē chal*, the bark of *Stephegyne parvifolia*, Korth.  
*Karam chal*, „ „ „ *Adina cordifolia*, H. f. and B.  
*Jhiñjūt chal*, „ „ „ *Bauhinia retusa*, Ham.

Collect all these, put them in an earthen pot to soak in water and give to drink daily in the morning.

- (i) *Atnak chal*, the bark of *Terminalia tomentosa*, W. and A.  
*Terel chal*, „ „ „ *Diospyros tomentosa*, Roxb.  
*Sosō chal*, „ „ „ *Semecarpus Anacardium*, L.  
*Sahya chal*, „ „ „ *Streblus asper*, Lour.  
*Saram lutur rehet*, the roots of *Clerodendron serratum*, Spreng.  
*Hesel chal*, the bark of *Anogeissus latifolia*, Wall.  
*Çaili chal*, „ „ „ *Morinda tinctoria*, Roxb.  
*Ghoya lada da*, the bulb of *Vitis tomentosa*, Heyne.  
*Dhalka hatkan rehet*, the roots of *Leea macrophylla*, Roxb.

Collect all these and put them to soak in an earthen pot in water and give to drink daily in the evening.

- (j) *Bana hatak chal se rehet*, the bark of *Oroxylon indicum*, Benth., or its roots.  
*Pađer chal*, the bark of *Stereospermum suaveolens*, DC.  
*Mota sega chal*, the bark of the thick *Mimosa rubicaulis*, Lamk.  
*Edel rongga*, the knots of *Bombax malabaricum*, DC.  
*Kuril rama rehet*, the roots of *Zizyphus Oenoplia*, Mill.  
*Terel rehet*, the roots of *Diospyros tomentosa*, Roxb.  
*Oponom*, *Angelica glauca*, Edgew.  
*Amsi*, dried pulp of mango.

Grind all these together, stir in *kanji dak*, stale rice water, and make to drink; also continually wash the mouth with *horec dak*, the water in which *Dolichos biflorus*, L., has been boiled; do not let it get dry.

As a prophylactic the two following:—

- (k) *Edel chal*, the bark of *Bombax malabaricum*, DC.  
*Doka chal*, „ „ „ *Odina Wodier*, Roxb.  
*Ambra chal*, „ „ „ *Spondias mangifera*, Pers.  
*Baye chal*, „ „ „ *Ficus bengalensis*, L.  
*Pakaye chal*, „ „ „ *Ficus infectoria*, Willd.  
*Jom janum chal*, „ „ „ *Zizyphuz Jujuba*, Lam.

*Ome chal*, the bark of *Miliusa velutina*, Horask. fil. and Ths.  
*Kadar nāri rehel*, the roots of *Asparagus racemosus*, Willd.  
*Karkaṭ chal*, the bark of *Zizyphus xylopyra*, Willd.  
*Tilāi chal*, ,, ,, ,, *Wendlandia tinctoria*, DC.  
*Sekreç chal*, ,, ,, ,, *Lagerstroemia parviflora*, Roxb.  
*Sekra chal*, ,, ,, ,, *Zizyphus rugosa*, Lamk.  
*Ḷem laṛ chal*, ,, ,, ,, *Bauhinia Vahlia*, W. and A.  
*Cihūt laṛ nāri chal*, the bark of *Spatholobus Roxburghii*,  
 Benth.

*SarḶem chal*, the bark of *Shorea robusta*, Gärtn.

1 *ser dhūṛā*, 2 pounds of resin of *Shorea robusta*, Gärtn.

Soak all in a pot and give to drink.

- (l) *Bana haṭaḶ chal*, the bark of *Oroxylon indicum*, Benth.  
*Sinduṛari saḶam*, the leaves of *Vitex Negundo*, L.  
*Seṅgel gidi im*, the liver of the king vulture, *Ologyps calvus*.  
*Tayan boḶoḶ*, the head of a crocodile.  
*Kul jaṅ se boḶoḶ*, the bone or head of a tiger.

Rub these on a stone and stir and mix with the juice of above bark, and sprinkle it on grass or straw which the cattle should eat and they will be immune. Make some sliding bars for the entrance to the shed of the wood of the *Oroxylon indicum*, Benth., so that they may step over them on entrance and exit.

#### V. 4. *Pilhoi*. Anthrax.

*Medicines*: (a) Mark with *cua soso sunum*, the oil obtained by distilling the seeds of *Semecarpus Anacardium*, L., var. *cuneifolia*, from the left shoulder blade down to the spleen.

- (b) *PaiṅḶot saḶam*, the leaves of *Clerodendron phlomoides*, Willd.  
*Kasmar chal*, the bark of *Gmelina arborea*, Roxb.  
*Kamraj*, *Buettneria herbacea*, Roxb.

Pound these and give to drink.

- (c) *Orsoṛeṅi da*, the bulb of *Zingiber Cassumunar*, Roxb.  
*GargaḶi rehel*, the roots of *Coix lachryma*, Willd.  
*Bana haṭaḶ chal*, the bark of *Oroxylon indicum*, Benth.  
*Kanda saru da*, the tuber of a certain variety of *Celocasia antiquorum*, Schott.  
*Mare jojo*, old tamarinds, *Tamarindus indica*, L.  
*Cua soso*, distilled seeds of *Semecarpus Anacardium*, L., var. *cuneifolia*.

Grind all these, mix up with *kaṅḶi daḶ*, stale rice water, and give to drink.

- (d) *SarḶem baha*, the flowers of *Shorea robusta*, Gärtn., brought by unmarried girls at the *baha porob*, or flower festival.

*Kedar rehel*, the roots of *Bonnaya veronicæfolia*, Spreng.

*Sasañ baha*, the flowers of *Curcuma longa*, Roxb.

*Rasun*, garlic.

*Peaj*, onions.

*Meral chal*, the bark of *Phyllanthus Emblica*, L.

Grind and mix these and make to drink : also make dots between three of the ribs by applying the juice of the fruit of *śośo*, *Semecarpus Anacardium*, L., var. *cuneifolia*, with a bit of stick of the *nim*, *Melia Azadirachta*, L.

*N.B.*—This remedy is also used in *poça pilhoi*.

V. 5. *Gurmi janwarkore*. Black quarter.

*Medicines* : *Jhik pōta*, the stomach of a porcupine.

*Tirra da*, the bulb of *Pueraria tuberosa*, DC.

*Ahla chal*, the bark of

*Bir eraḍḍm da*, the bulb of the wild castor oil plant.

*Ghoṛa ladauri da*, the bulb of *Vitis tomentosa*, Heyne.

Grind these together, stir into stale rice water and give to drink.

V. 6. *Kharak muth janwarkore*. Gravel in cattle.

*Symptoms*. In this they double themselves up or the back is concaved and they are unable to pass urine.

*Medicines* : *Toṭnopak chal*, the bark of *Eugenia operculata*, Roxb.

*Kasmar chal*, „ „ „ *Gmelina arborea*, Roxb.

*Jiḥimond*, *Clerodendron Siphonanthus*, R. Br.

*Janum rehel*, the roots of *Zizyphus Jujuba*, Lam.

Grind all these together, stir in *mahūt gur*, the refuse of molasses, and make to drink.

V. 7. *Tejoleko khan*. Larvæ in cattle sores.

*Medicines* : *Dhalka catom aṛak rehel*, the roots of

Scratch the inside of the ear with this without drawing your breath, and

*Kadam rehel*, the roots of *Anthocephalus Cadamba*, Benth.  
and Hook. f.

Pound and fray this and stroke the animal three times therewith, but do not touch the place and the larvæ will fall off of their own accord.

V. 8. *Gaiko udrilenre*. Dropsy in cattle.

*Symptoms*. As among human beings so also among animals, when sick, sometimes the body swells, or it may occur of itself.

*Medicines* : (a) *Patal roṭe*, a white frog found deeply buried in the soil.

*Tumba ol*, an edible form of mushroom.

*Asariḳ rehel*, the roots of *Capparis horrida*, L. f.

Grind these and give to drink.

(b) *Buru ghoṛa lada rehel*, the roots of *Vitis tomentosa*, Heyne.  
Grind, warm and plaster therewith.

(c) *Alagjari sakam*, the leaves of *Cuscuta chinensis*, Lamk.  
*Sinduari sakam*, „ „ „ *Vitex Negundo*, L.  
Grind these, warm and plaster therewith.

V. 9. *Dhaki se nina ṭipa*.

*Symptoms*. This attacks cattle; the stomach swells up greatly, their legs tremble or they lie down and kick convulsively.

*Medicines*: (a) Take a leaf cup and urinate in it; then pour this into both nostrils, when the animal will breathe hard, and by degrees get well.

(b) *Meral chitkiri*, a switch of *Phyllanthus Emblica*, L.

Strip this of all its leaves, pass it three times over the animal in one breath, and after beating its stomach therewith quickly five times go straight home. Do not look back at all, and if on the way you meet any one who asks you anything, say nothing whatever.

V. 10. *Gai kadako kārālenre*. Blindness in cattle.

*Medicines*: (a) *Jithimond*, *Clerodendron Siphonanthus*, R. Br.  
*Loṅphul*, cloves.

Grind these and drop the liquid thus obtained into the eye.

(b) *Simiç*, the excrement of a fowl.

*Araḅ sindur*, genuine red lead.

*Karam ṭusa*, a tip of *Adina cordifolia*, H. f. and B.

Grind these together and pour into the eye.

(c) *Ciṭ ciṛiṭ dog*, a sprout of *Achyranthes aspera*, L.

Chew this and spit into the eye.

(d) *Capoṭ sakam*, the leaves of *Desmodium cephalotes*.

Chew this and spit into the eye.

(e) *Bir buṭ rehel*, the roots of *Flemingia congesta*, Roxb.

Chew this and spit into the eye.

V. 11. *Gai kaḍa jāhā then hasokore*. Pain in cattle anywhere.

*Medicines*: Rub him with kerosine oil and bathe him with hot water.

V. 12. *Gai kaḍa rapullenre*. Bone fractures in cattle.

*Medicines*: (a) *Bunum cetan reak bod lay*, *Vitis adnata*, Roxb., growing on a white-ant hill.

*Suruṅ mukhi*, *Helianthus annuus*, Willd.

*Catoṃ araḅ*, *Marsilia quadrifolia*, L.

Grind together, apply thickly as a plaster and affix splints.

(b) *Hārū āwār*,

Grind, apply as a plaster and affix splints.

(c) *Haḍ jora (nārī)*, *Cissus quadrangularis*, Willd.

Grind, apply as a plaster and affix splints.

(d) *Ḍahu chal*, the bark of *Artocarpus Lakoocha*, Roxb.

*Pusi toa sakam*, the leaves of *Euphorbia pilulifera*, L.

*Tampur bindi* 5 *goḷeç*, 5 long legged spiders.

3 *golmaric*, 3 black pepper-corns.

Grind and apply as a plaster.

(e) *Moṭa alagjari*, a thick *Cuscuta chinensis*, Lamk.

*Miru baha rehet*, the roots of *Abutilon indicum*, Don.

*Icaḱ rehet*, the roots of *Woodfordia floribunda*, Salisb.

*Bod laṛ rehet*, ,, ,, ,, *Vitis adnata*, Wall.

Grind with water and apply as a plaster.

(f) *Bunum cetanre taḡen bod laṛ rehet*, the roots of a *Vitis adnata* Wall., growing on a white-ant hill.

*Dhalka haṭkan rehet*, the roots of *Leea macrophylla*, Roxb.

Grind together, warm slightly, apply to the fracture and then splints.

(g) *Garuṇḍi araḱ rehet*, the roots of *Acternanthera sessilis*, R. Br.

*Suruḱ mukhi rehet*, the roots of *Helianthus annuus*, Willd.

*Sim kata araḱ rehet*, the roots of *Vitex peduncularis*.

*Catom araḱ rehet*, the roots of *Marsilia quadrifolia*, L.

*Hārū āwār nārī*,

*Etka rehet*, the roots of *Mucuna pruriens*, DC.

*Kawet rehet*, ,, ,, ,, *Abrus precatorius*, L.

Grind all these together, warm and apply, affixing splints on top.

(h) *Ghoya lada da*, the bulb of *Vitis tomentosa*, Heyne.

*Iç ewer da*, ,, ,, ,, *Vitis latifolia*, Roxb.

Warm these and apply, and then splints.

(i) *Bunum cetan bod laṛ rehet*, the roots of *Vitis adnata*, Wall. growing on a white ant hill.

*Suruḱ mukhi rehet*, the roots of *Helianthus annuus*, Willd.

*Turaṃ rehet*, the roots of

*Sim kata araḱ rehet*, the roots of *Vitex peduncularis*.

*Catom araḱ rehet*, the roots of *Marsilia quadrifolia*, L.

Grind together, warm and apply. Five days afterwards remove it and give a fresh application of the same, replacing the splints. We consider this the most efficacious remedy.

(j) Apply *har jora*, *Cissus quadrangularis*, Willd., in the same way.



- V. 13. *Bajra jomte gaike bul ran.*  
 Remedy for cattle intoxicated by eating Sorghum vulgare, Pers.  
*Medicines:* *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.  
*Siñ arak chal*, „ „ „ *Bauhinia purpurea*, L.  
 Grind and give to drink with stale rice water; plaster them therewith and they will recover.
- V. 14. *Er eradom se ato eradom sakam jomte bullenre ran.*  
 Remedy for intoxication caused by eating the castor oil plant leaves, *Ricinus communis*, L.  
*Symptoms.* They run round and round, and if medicine is not given quickly the eyes will burst and death ensue.  
*Medicines:* *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.  
*Siñ arak chal*, „ „ „ *Bauhinia purpurea*, L.  
 The root of the tree that they ate from.  
 Grind and give to drink with stale rice water.
- V. 15. *Tisi se cikna jomte bul gai kada ran.*  
 Remedy for cattle who have been stupefied by eating the linseed plant, *Linum usitatissimum*, Linn.  
*Medicines:* *Kasmar chal*, the bark of *Gmelina arborea*, Roxb.  
*Siñ arak chal*, „ „ „ *Bauhinia purpurea*, L.  
*Pond peaj*, white onions.  
*Jhol, thora*, a little sooty cobwebs.  
 Grind all these and give to drink with stale rice water.
- V. 16. *Cas basko reak ran.*  
 To preserve the crops.  
 Sometimes flies suck the young ears of paddy; to obviate this:—  
 (a) On Sunday bury *kahu botke*, *Bryonia lacinosa*, L., in three corners, and naming the spirit *Garbhū Kūār* make marks with *sindur*, red lead, and they will suck the ears no more.  
 (b) To prevent thieves stealing your crops, name the same spirit, and whatever wish you express will be fulfilled; if you say, Let a snake bite the thief, it will come to pass; or Let him stay here till morning, and that will happen; or whatever your wish may be he will bring it about.



## NOTE.

The Introductory Remarks give details regarding the genesis of the present work, and nothing needs to be added, except to make my excuses that a non-professional man has taken upon himself the responsibility of editing anything of this kind.

There are, however, a few matters that I wish to emphasize or to mention here.

My aim has throughout been to give a faithful record of what the Santals have in the way of medicine and how medicine is practised by them. There is just the possibility that among the many ingredients used by them some few might be found that are not known to western science as medicines. Apart from this possibility what has to the writer been of paramount interest is the anthropological value of what has been recorded. We get a glimpse of how an aboriginal people lives and attempts to face and fight the real or supposed enemies of life, with the help of magic, invocation of spirits, suggestion and natural remedies, or, generally, these combined. The work is a literal translation of what I have received from the Santals, the only exceptions being the Introductory Remarks and a few easily recognized explanatory remarks. When words like 'this is a sure cure' or something similar is met with, I trust it is understood that it is the opinion of the medicine-man, not that of the writer.

As is to be expected, much nonsense and superstitious matter are found. All this has been kept on account of the anthropological and psychological interest attached to it.

Some doubt might perhaps be entertained, whether my informants have given me all the ingredients of their recipes, or have kept something back, or substituted something else in stead of what they really use.

The possibility is there; but the way in which the information has come to me will not make this likely as a general rule. I have in many cases received the same recipes from sources separate and independent in time and place. On the other hand, it has, so far as I can remember, thrice happened that ojas have been unwilling to divulge a 'professional' secret; they have said so and not attempted to deceive me, in spite of the offer money.

Naturally the Santals have recipes that the writer has not succeeded in getting. In so far the present work is incomplete; but I believe most of the ingredients made use of by them will be found here.

There must also be complaints that have not been mentioned. On p. 142 it is stated that diphtheria is practically unknown among them; it may be of interest to state that quite recently we have had a limited epidemic of this disease in a children's home belonging to the mission, happily without any deaths, all having been treated with serum.

So far as it has been possible to me I have given the scientific names of the

ingredients made use of. In the case of trees I trust all names are correct. As regards several plants I am not so sure. It will also be seen that a number stand without identification. If any research worker should wish to investigate the properties of these or, for that matter, of any of the ingredients mentioned, it would as a rule be practicable to get a supply of the stuff itself.

Before closing I feel the need of expressing my deepfelt gratitude to the Council of the Asiatic Society of Bengal for having published this work and for the generous way in which it has been done.

P. O. BODDING.

## A LIST

of the plants and other various stuffs used by the Santal medicine-men and mentioned in this work.

In the first column the Santal names are given, alphabetically arranged. In the second column the botanical, etc., names will be found, when known. The third column gives the number of the disease, etc., where the ingredient is mentioned as used by the Santals.

The writer is greatly indebted to Miss I. Gahrn (now Mrs. O. Eie) for first preparing this list.

<i>Adagañhiã</i>	<i>Panicum pens.</i> , L.	re-	66, 90, 93, 96, 97, 99, 100, 138, 201, 203, 208, 221, 241, 244, 247, 249, 250, 251, 252, 253.	<i>Atu</i>	.. Potato	.. 245.
<i>Adhe</i>	.. Ginger, <i>Zingiber officinalis</i> , <i>Roscoe.</i>		90, 93, 94, 96, 99, 136, 147, 166, 219, 222, 224, 238, 244, 247, 252, 253, 265, 274, 275, 276, 285, 290, 301, 302.	<i>Amacqom</i>	..	192.
<i>Ado</i>	.. Urine	..	277.	<i>Ambaitar bin<sup>1</sup></i>	<i>Vipera Russellii</i>	85, 101, 110.
<i>Adra cip<sup>ciñip</sup></i>			51.	<i>Ambra</i>	.. <i>Spondias mangifera</i> , <i>Pers.</i>	10, 61, 86, 209, 240, 241, 244, 245, V. 3.
<i>Adwa caole</i>	Rice husked from sun-dried paddy		7, 61, 191, 201, 206, 244, 247, 266, 286.	<i>Amsam dhiri</i>	Stone beads, generally made of agate, of various colours, found in the ground, used as amulets against dysentery	245.
<i>Agaire</i>	.. <i>Dillenia scabrella</i> , <i>Roxb.</i>		155.	<i>Amsi</i>	.. Dried pulp of mango	275, 277, V. 3.
<i>Ahla</i>	..		V. 5.	<i>Amsopori</i>	.. <i>Psidium Guava</i> , <i>Raddi.</i>	198.
<i>Ak</i>	.. A bow	..	110, 123.	<i>Amtha</i>	.. Old inspissated juice of certain fruits	12, 193, 250.
<i>Akaona</i>	.. <i>Calotropis gigantea</i> , <i>R. Br.</i> or, <i>C. procera</i> , <i>R. Br.</i>		31, 45, 60, 62, 66, 67, 68, 70, 75, 84, 88, 93, 94, 96, 100, 107, 111, 112, 123, 124, 127, 131, 136, 160, 163, 167, 173, 185, 188, 189, 191, 193, 197, 198, 207, 242, 244, 245, 255, 270, 286, V. 1.	<i>Andia dhurup</i>	<i>Leucas cephalotes</i> , <i>Sprenq.</i>	7, 290.
<i>Akaona tejo</i>	The caterpillar found on above shrub		101, 102, 107.	<i>Andia gharwa</i>	Male sparrow	.. 260.
<i>Akañ balu</i>	.. <i>Limnophila Roxburghiana</i> , <i>G. Don.</i>		35, 51, 85, 182, 244.	<i>Andia gongha</i>	Shell of a male snail	247.
<i>Akañ kora</i>	.. <i>Anthemis pyrethrum</i> (?)		266, 275.	<i>Andia koñgal</i>	<i>Dregia volubilis</i> , <i>Benth.</i>	75, 197, 278, 285, 290.
<i>Alayjañi</i>	.. <i>Cuscuta chinensis</i> , <i>Lamk.</i> or, <i>Cassyltha filiformis</i> , <i>Roxb.</i>		75, 82, 208, 268, V. 3, V. 8, V. 12.	<i>Andia moronayak</i>	<i>Gymnema hirsutum</i> , <i>W. &amp; A.</i> , var. <i>Decaisneanum</i> , <i>Wight.</i>	50, 75, 117, 163, 171, 192, 193, 195, 197, 203, 207, 208, 242, 245, 252, 253, 255, 260, 278, 279, 298.
				<i>Andia talc</i>	.. The male <i>Borassus flabelliformis</i> , <i>L.</i>	160, 165, 166, 171, 173, 176, 195, 298.
				<i>Aphim</i>	.. Opium	.. 60, 65, 66, 68, 80, 90, 94, 100, 101, 102, 103, 111, 113, 117, 123, 130, 136, 148, 157, 161, 173, 200,

<sup>1</sup> The writer has never succeeded in getting a specimen from the Santal Parganas district of the snake called ambaitar by the Santals. It is very rare here and much feared on account of its supposed poison. The description given has led me to think that it is the Russell's viper. Quite lately I have received a specimen of the ambaitar from Aseam (Goalpara district). This is the Russell's viper (stated by Col. F. Wall in 1917 as not known from the Brahmaputra Basin).

- 205, 241, 244, 245, 253, 263, 266, 275, 285, V 3.
- Araġ* .. Potherb .. 282.
- Araġ meral* *Phyllanthus Emblica, L.* 86, 206, 241, 245.
- Araġ sutam* Red thread .. 75.
- Araġ deb* Maha- Centre of the 281.  
yoke
- Arel* .. Hail .. 281
- Armu* .. *Bursera serrata*, 244, V. 3.  
Wall.
- Asqriq* .. *Capparis horrida, L. F.* 62, 72, 94, 96, 100, 163, 197, 237, 244, 255, 257, 281, V. 8.
- At da* .. The root of *bir kundri*, *Zehneria umbellata, Thw.* 145.
- Aten* .. *Combretum decandrum, Roxb.* 182.
- Ati sahra* .. A small bush, 103, 145.  
different from *sahra*
- Atkir* .. *Smilax ovalifolia, Roxb.* 33, 48, 51, 61, 77, 169, 190, 191, 193, 204, 206, 244, 245.
- Atkura* .. *Wrightia tomentosa, R. & S.* 83, 229, 239, 245.
- Atkuġi* .. *Argemone Mexicana, L.*
- Atnaġ* .. *Terminalia tomentosa, W. & A.* 35, 61, 87, 182, 205, 206, 234, 244, 245, 268, V. 3.
- Ato jhinq* .. *Luffa acutangula, Roxb.* 178, 195.
- Ato kundri* .. *Cephalandra indica, Nand.* 24, 78, 134, 160, 178, 206, 266.
- Ato pinda* .. } *Amorphophallus cam-* 25, 38, 156, 222, 244,  
panulatus.  
Blume.  
,, *pinda* }
- Ayañ biñ* .. The cobra. *Naja tripudians.* 98.
- Babla* .. *Acacia arabica, Willd.* 195, 245, V. 3.
- Backem* .. *Pollinia eriopoda, Hance.* 186, 273, 275.
- Badam* .. Almonds .. 200, 245.
- Badgcaġ* .. *Lygodium flexuosum, Sw.* 51, 54, 61, 81, 128, 223, 247, 254.
- Baqhin* .. *Mezoneurum cucullatum, W. & A.* 110, 139.
- Bagluq* .. *Martynia diantra, Glozin.* 3, 188, 198.
- Bajra* .. *Sorghum vulgare, Pers.* 103, 142.
- Bali gur* .. Crystallised raw 223.  
sugar
- Bana (uġ, iċ)* Bear's (hair, ex- 1, 50, 54.  
crement)
- Bana hataġ* *Oroxylon indicum, Benth.* 54, 65, 68, 75, 80, 86, 100, 103, 145, 156, 163, 191, 197, 203, 220, 237, 241, 243, 244, 281, 290, V. 3, V. 4.
- Bana hatañ* The brains of a 101, 103.  
bear
- Bana haġiar* The penis of a 104.  
bear
- Banat araġ- aġ* Thick woollen 247, 253, 266.  
red cloth  
(blanket)
- Banda* .. A parasitical 71, 94, 244, 253.  
plant grow-  
ing on trees
- Bandlota nã- ri* *Hippocratea arborea, Roxb.* 175.
- Bando nãri* *Spatholobus Roxburghii, Benth.* 62, 80.
- Bandphora bin* *Bungarus fasciatus.* 93, 193, 202, V. 2.
- Bañgaura* .. Cotton seeds .. 191, 238.
- Baq* .. *Mimosa Elenegi, L.* 33, 35, 75, 191, 193, 195, 198, 247, 253, 266, 288.
- Barangm* .. *Vernonia cineria, Less., and Glossogyne pinnatifida, DC.* 21, 65, 68, 244, 245, 260, 278.
- Barduruc* .. A bat .. 50, 54, 207, 214.
- Bare* .. *Ficus bengalensis, L.* 10, 12, 17, 20, 35, 54, 80, 81, 188, 241, 244, 245, V. 3.
- Bare baha* .. *Pentapetes phoenicia, L.* 50, 245, 253, 270.
- Bãriq kañ- dhum* *Phyllanthus lanceolarius, Mull-Arg.* 86, 245, 273.
- Baqiar phul* 244.
- Barni (moġa)* *Clerodendron Siphonanthus, R. Br.* 155, 196, 206.
- .. (nanha) *Clerodendron infortunatum, L.*
- Barsa pakq* *Grewia sapida, Roxb. or, G. Campbellii, Watt.* 33, 117, 187, 198, 244, 245, 288.

- Baru* .. *Schleicheria tri-* 51, 61, 87, 93, 244,  
*juga*, Willd. 255, 257.
- Baru banda* A parasitical 94, 244.  
plant found  
on do.  
(*Loranthus vesti-*  
*tus*, Wall.)
- Basok* (=ba- *Justicia Adha-* 253.  
*kos*) *toda*, Willd..
- Batapi sin-* A preparation 10, 25, 38, 64, 258.  
*dur* of red lead
- Bayan* .. *Dioscorea cris-* 80, 245.  
*pata*, R.
- Bele* .. An egg .. 110.
- Beingay* .. *Solanum Melon-* 245.  
*gena*, L.
- Beingay bela-* *Solanum stra-* 31, 111, 138, 247,  
*hel* *monifolium*, 250, 252.  
*Jaq.*
- Berdor* .. *Combretum na-* 66, 232, 239, 244,  
*num*, Hamill. 245.
- Bet* .. *Calamus Ro-* 110.  
*tang*, L.
- Bhagri* .. *Embelia robusta*, 78, 196, 198, 206,  
*Roxb.* 244, 255, 267, 276.
- Bhagoria* .. 117.
- Bhadu* .. *Vitex alata*, 285.  
*Roxb.* (?)
- Bhalok seta* (The tooth) of a V. 3.  
*(data)* mad dog
- Bharbhari* .. *Ocimum basili-* 57, 61, 75, 100, 101,  
*cum*, L., or *O.* 107, 110, 131, 147.  
*canum*, Sims. 206, 244, 285, 290.
- Bharwa tejo* Large caterpil- 115  
lars, as of *At-*  
*tacus allus*  
and *A. Selene*.
- Bhauri mala* A vertigo neck- 4.  
lace, made  
from certain  
fruits
- Bhaya bhay-* *Polygonum ple-* 266.  
*wa* *bejum*, Br.  
(the same as  
*mau arak*)
- Bheda bhoghk-* Worms found 101.  
*ren tejo* in a ram's  
head
- Bheda deren* *Cassia Toru*, L. 107, 166, 198, 290.
- Bheda jel* .. Ram's flesh .. 142.
- Bhedwa* .. *Hibiscus can-* 206, 245.  
*cellatus*, Ros-  
*coe*, var. *fusi-*  
*formis*, Willd.
- Bhelaonli* .. Sheeps' or 261, 273.  
*goats' dung*
- Bhelaotja* .. *Caesulia axill-* 2.  
*aris*, Roxb.
- Bhernja* .. *Jatropha Cur-* 35, 40, 75, 85, 110,  
*cas*, L. 147, 173, 193, 255.
- Bhidi qchim* *Centifida orbicu-* 101, 207.  
*laris*, Lour.
- Bhidi jana-* *Urena sinuata*, 40, 41, 85, 112, 298.  
*tep* L., or *Trium-*  
*fetta rhom-*  
*boidea*, Jac.
- Bhidi toa* .. Sheep's milk .. 33, 35.
- Bhorkond* .. *Hymenodictyon* 58, 77, 85, 178, 191,  
*excelesum*, 208, 244, 279.  
Wall or, H.  
*thyrsiflorum*.
- Bhudalore* .. 35.
- Bhuku chata* A termites' nest 45, 76, 208, 253.
- Bidam* .. 259.
- Bidhanta* .. *Entada scan-* 75, 82, 92, 101, 222,  
*dens*, Benth. V. 3.
- Bilati thama-* Imported to- 40, 101, 181, 193,  
*kur* bacco 207, 290, 301, 302.
- Bindi* .. A spider .. 54, 110, 116, 125,  
151, V. 12.
- Bindi* .. A straw ring .. 262.
- Bin dimbu* .. 22, 233, 284.
- Bindi muha* *Fimbristylis* 160, 171, 173, 176,  
*ghas* *monostachya*, 195, 198, 206, 244,  
*Hassk.* 245, 247, 252, 261.
- Bin kancur* The slough of a 23.  
snake
- Bin ot* .. A poisonous 283, 284.  
mushroom
- Bir baru-* (see *barangom*) 195, 245, 247, 275,  
*gom* (=ba- 285.  
*rangom*)
- Bir barni* 110.  
(= *bar ni*,  
*q. v.*)
- Bir but* .. *Flemingia con-* 66, 68, 191, 238, 244,  
*gesta*, L. 245, V. 10.
- Bir campu* .. *Ochna squarrosa*, 48, 51, 61, 253.  
Willd.
- Bir camuk* .. 245.
- Bir catom* 229, 239, 241.  
*arak'*
- Bir god* .. 290.
- Bir dimbu* .. 124, 244.
- Bir eradom* The wild Ricci- 45, 244, 245, V. 5.  
*nus*
- Bir gongha* .. A certain 176, 207.  
snail
- Bir hat* .. *Holarrhena un-* 205.  
*tidysenterica*,  
Wall.

- Bir hęcę* .. *Atyllosia scar-* 45, 61, 75, 86, 96.  
*ab a e d o i s*, 100, 163, 182, 193,  
*Benth.* 191, 192, 197, 200,  
206, 244, 245, 290,  
V. 3.
- Bir jhinga* .. *Luffa amara*, R. 123, 160, 178, 244.
- Bir jhuńka* *Crotalaria caly-* 88, 133, 187, 192,  
*arak* *cina*, Shrank. 198, 205, 245, 298.
- Bir kapu* .. = *piska*, q. v. 158.
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- Birkundri* .. *Zehneria umbel-* 111, 195.  
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HOW THE SANTALS LIVE.

*By* THE REV. P. O. BODDING.

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## PREFACE

The late Rev. P. O. Bodding of the Scandinavian Mission in the Santal Parganas and well known for his works on the life and customs of the Santals, proposed in 1922 to publish a series of monographs entitled 'the Studies in Santal Medicine and connected Folklore' in the Memoirs of the Royal Asiatic Society of Bengal. This was accepted by the Council and Volume X of the Memoirs was assigned to the Series.

Part I of the Series under the title of 'the Santals and Disease' and Part II on 'the Santal Medicine' appeared in 1925 and 1927 respectively.

Part III, now published, is entitled 'the Santals and how they live'. The MSS. of this part was received from the author as early as March 1938, but the language of the author (whose mother-tongue was not English) required a thorough revision, and this was very kindly done by Mr. John R. Seal, the late Assistant Secretary of the Society. When, however, the first galley proofs were received from the Press early in 1939, the Society got the news of the death of the author in Denmark where he had settled down after retirement from India. As the work contained a large number of Santali words, a competent Santali scholar had to be found who could correct the proofs. In the Rev. Bernhard Helland of Mahalpahari of the Santal Parganas, a colleague and friend of the late Rev. Bodding, the Society was fortunate to get the required person, who very kindly undertook to go through the proofs and make all necessary corrections.

After the proofs were received from the Rev. Helland it was discovered that the Zoological and Botanical nomenclatures used in the monograph were faulty and required thorough revisions. The revision of the former was done by Dr. Baini Prashad, Director, and Drs. S. L. Hora, B. N. Chopra and M. L. Roonwall of the Zoological Survey of India. The Botanical terms were similarly revised by Dr. K. P. Biswas, Superintendent, Royal Botanical Gardens, Sibpur, and Prof. S. R. Bose of the Carmichael Medical College, Belgachia. The latter also took the trouble to identify the mushrooms mentioned in the Memoirs from local names as far as possible. The Society is greatly indebted to these gentlemen for the trouble taken by them in making the Memoir free from all errors.

Bengali equivalents of articles of food and other objects used by the Santals in their daily life have been given in footnotes wherever possible to make it easy to understand the process of acculturation that the Santali culture had undergone as a result of living in close contact with the Hindus of Bengal and Bihar.

The great wealth and accuracy of details of the beliefs and practices of the Santals given in the three parts, are unique, and the Rev. P. O. Bodding has set an example to ethnological literature which it will be hard to beat. The Society takes this

occasion to pay a tribute to his memory for his great contributions to Indian Anthropology, and for the services he rendered to it as its Anthropological Secretary for several years.

With the publication of this part the Series may now be regarded as completed with the exception of the index which will be issued separately later on. In the scheme that he submitted, the Rev. Bodding did not precisely indicate the number of parts or their contents that he had planned for the Series. It has not been possible to examine the papers and MSS. left by him which his widow has now removed to Oslo. His friend and colleague the Rev. J. Gausdal, has, however, very kindly offered to search the papers after the war for any materials on the Santals that he might have left. Should this attempt prove successful efforts will be made to put them into shape and publish them either in the Journal or the Memoirs of the Society according to their nature and subject.

B. S. GUHA,  
*General Secretary,*  
*Royal Asiatic Society of Bengal.*

*August 12th, 1940.*  
*1, Park Street, Calcutta.*

## HOW THE SANTALS LIVE.

By THE REV. P. O. BODDING.

### INTRODUCTORY.

As an appendix to what has already been related in the previous parts of this volume, it might be of interest to learn something about the way in which the Santals live, especially about what they use as foodstuffs and how they prepare them. This has a direct bearing on hygiene.

Many years ago now, when we in our part of the country had had a bad year, with resultant scarcity bordering on famine, the writer tried to find out what the Santals had been living on, in addition to their ordinary foodstuffs. The Santals had apparently been able to come through the hard times better than had people of other races, living in the same locality and similarly circumstanced as regards income.

A Santal undertook to write down a list of all the articles of food that he knew his people would eat. The list has been added to from several sources, and what is mentioned below may be taken as comprising most, if not all, that a Santal uses or may use for food. It will naturally be understood that the Santals have not all these foodstuffs available for use as they like. It is only intended to give the gastronomic range of the Santals in as complete a form as possible.

Instead of merely giving a list, the writer considers that it is of greater anthropological interest, so far as these affect hygiene, to furnish information of the every-day life of the Santal people, of the way in which they procure their foodstuffs, and prepare them for eating, when they are not eaten raw.

The present-day condition of the Santals is of note. They have, according to their traditions, (and these have been verified as far as possible) always been a wandering people, and they are so even now. This nomadic state may be due to several causes. They have been, and are still, very much behindhand in regard to civilization, and have consequently not been able to compete with their neighbours and maintain their position amongst other communities. At the same time they are a very prolific people. The families grow, and before very long they reach a stage, when their means of supporting themselves become hopelessly inadequate. The problem of economic existence must then be faced. Some may try to learn from their neighbours; but this will, with most of them, go very much against the grain. Consequently they seek other localities where they may be able to support themselves and live in their customary manner.

In a few cases all members of the race have, according to their traditional record, migrated to save themselves and preserve their freedom. But the writer's impression

is, that as a rule only part of the people have moved and kept up their old customs and practices to some extent in their new locality, while those remaining have gradually adapted themselves to what they find most suitable in their immediate environment. Something similar may be seen to-day. On reaching new spheres they will naturally be affected by the influences which they find there, and may, to some extent, adopt some of the local habits, customs and practices, so that they may not be regarded as entirely alien. Those on the move manage somehow to maintain their individuality as a separate people. The writer has often wondered, whether some of the many untouchable low-caste Hindus in Northern India may not have originally been some of the ancestors of the present-day Santals and other Munda peoples, that have remained behind and have formed themselves into fresh castes.

The Santals are not, by any caste rules, restricted or bound to follow a fixed occupation. It can, however, now be stated that they are well on the way to becoming settled agriculturists. According to the standards of others, e.g., of the neighbouring Bengali agriculturists, they are at present much behindhand. They do not know how to get the maximum benefits from the soil and their methods are still most primitive. To improve in this direction they will have to alter many of their ingrained habits as well as their mode of life. Also they must learn the value of money. It may be said that they have learnt the value of a pice, but, not the value of a rupee. This seems to be far beyond their capacity, and they suffer for it. In their forest life they naturally use barter and not money.

On the other hand the Santals are second to none in India, so far as clearing the jungle is concerned, also, except in manuring, in making the soil ready for cultivation, a fact recognized and taken advantage of by other people. As an example and proof of this the following fact may be mentioned. When the managers of the Lutheran Santal Mission, now nearly sixty years ago, impressed by what they saw of the wanderings of the people, were wishing to find a place, where part of the superfluous Santal population might settle down, they ultimately decided on a spot in the western part of the Goalpara district in Assam. Here was a tract of land that people in the near neighbourhood, both Hindus and Mohammedans, had attempted to bring under the plough, but had never succeeded. A tract of land, some 25 to 30 square miles was, with the permission of the Government of India, set aside for Santals' or others' cultivation. The soil was absolutely covered by what the Santals call *bir*, i.e., forest, not, however, of trees, but of an impenetrable kind of grass, measuring some 25 feet in height. It cost much, both in lives and labour, to clear the land; but the Santals stuck to it and succeeded where others had failed. At one time it seemed as though success would not be achieved, but in spite of the none too friendly attitude of Lieutenant-Governor of Eastern Bengal and Assam, the goal was reached. Where formerly no human being could live, we have now a population of some 7,000 Santals (and some others); where Government formerly had no income, they now receive many thousands of rupees in annual rent.

The time when the Santals relied on hunting, or on what they might find in the forests for their food, is not so far distant as to be forgotten. Anything even remotely

resembling a hunt is still enthusiastically enjoyed. The first thing that a Santal father makes for his boy to play with is a bow and arrow, a sure sign of the old mode of obtaining food supplies. They no longer think of, or rely on, hunting as a means to this end; but the glorious fascination of the chase and its possibilities hold a prominent place in their minds. The sports are deemed their greatest delicacies, and these they divide or send as presents to their relatives, even the female ones. They have retained much of their former knowledge of the edible products that are to be found in the forests and elsewhere wild. Their taste is apparently also less discriminating than that of their neighbours of other races, with some rather curious exceptions.

Many of the things found in the forests are constantly used, others only occasionally sometimes for a change of diet or for what they consider a delicacy, sometimes for genuine sustenance, when nothing else is available.

#### THE SANTAL VILLAGE.

The Santals always live in villages, that is collectively; they are never found dwelling in isolation. As this in some respects is relevant to the subject dealt with here, it will be of interest to describe how the Santals set about selecting the site for, and building and establishing a new village. What follows has special reference to places where there is forest land. This description has mainly been based on what an old Santal sage, Kolean *guru*, related to the late Rev. L. O. Skrefsrud nearly 70 years ago.

Three or four men proceed with a leader to inspect a site in a forest, which has been reported to be a likely one. If, after entering the forest, any of three kinds of quails are seen flying, they say: 'Some day in the future a village established here will be deserted'. But if they see these birds sitting quietly on their eggs, or if they meet a tiger or see the footmarks of a tiger, they say: 'Some day in the future a village founded here will thrive and become prosperous, and we shall settle down here contentedly'. Continuing to investigate they select a site of the following nature, viz., a place where there is dry ground, where there will be room for good highland and homestead fields, where rice-fields can be prepared, and where water is readily accessible. Satisfied with what they have discovered they return home. (There is in all this a curious mixture of superstition and common sense.)

Later a day is fixed for testing the omens. They take with them one speckled and two white fowls, a little sun-dried rice, oil, *sindur* and water in a new *thili*<sup>1</sup> (a *thili* is a narrow-necked earthenware pot). The leader goes in the evening to the place where he intends to build his house and makes five *sindur*-marks. Close to the *sindur*-marks small heaps of sun-dried rice are made; the *thili* containing the water is set down; the fowls are tied in a row, just far enough away to be unable to reach the rice. They then make an invocation as follows:—'Oh *Sin bonga* (Sun-god) in Heaven, like a bamboo mat thou art spread; the four corners, the four worlds thou hast covered; and ye, the Five, the Six of the earth (some *bongas*), in your name, as ye see here, in the virgin soil, the virgin forest, we are seeking omens; show these to us, the milk as

<sup>1</sup> *Thili* in Bengali—Ed

milk, the water as water; having judged show them to us'. After this they depart to spend the night elsewhere.

Next morning they return and investigate. If a big fowl-feather has fallen, they say: 'A few grown up persons among us will die'. And if small feathers have fallen they say: 'Children will die here in the future'. And if no feathers at all have fallen: 'This is excellent, no one will die here soon'. And if the fowls have left droppings round about the place, they say: 'All in the village, well-to-do and poor, will thrive here'. If the birds have left droppings in a heap in one place, they say: 'The headman alone will become wealthy'. If the same is seen in two places, they say: 'The headman and his deputy will become wealthy'. And if in three places, then in addition to the headman and his deputy one of the villagers will also become wealthy. In the directions in which rice has been carried off by ants, in so many directions will it be necessary to discover the *bongas* and establish them. If the water in the *thili* has dwindled a little, they say: 'After two years there will be scarcity of water'. And if the water has not dwindled at all, they say: 'There will be no scarcity of water'. If the fowls have disappeared, if there is no rice, and if the water in the *thili* has dried up, they say: 'This place is ill-fated', and they leave it and will not found a village there.

But if there are good omens from the fowls, the rice and the water in the *thili*, they dig a small four-cornered hole; on three sides of this hole they place the dug-out earth. With this earth they again fill up the hole. If it is filled with the earth lying on two sides, they say: 'We shall get full crops here'. But if no earth is left in filling the hole, they say: 'It is inauspicious here'. They then seek omens on another high place within the boundaries that they have set up, and in the name of another headman. They continue to act in this way, until all the omens have proved propitious. Ultimately such is bound to happen.

At a later date they return and put up some sticks against each other to make a shelter for the leader. The leader, who is to become the headman of the village, cuts down the first tree. Nowadays after they have investigated and fixed on the site in the forest, they ask the landowner for permission; formerly, before landowners made their appearance, there was no need for anything of this kind.

In consultation with the headman they now divide homestead fields amongst themselves. On each homestead field a hut for the family, and also a pen to keep the cattle in are erected. They then return to their old homes and call on each other, saying: 'When shall we start?' Taking their children and all they possess along with them they proceed to the new village. The exodus takes place during the months of Phalgun and Chait (from the middle of February to the middle of April, when there is little or no rain). All of them set to work to clear the jungle on their homestead fields; the trees cut down serve them for house-timber. Any timber left is burnt. Houses are built. Running along the middle of the site a clear space is left for the village street, and near the end of this is found the sacred grove, that is to say, a number of men become possessed by the national *bongas* and in this state show where the grove is to be.—So far old Kolean.

Before proceeding further, a few words about the houses of the Santals will be of value. They naturally build their own houses. Their original and also now not uncommon way of building a house is as follows: Nine wooden posts are required; formerly, as mentioned above, these were taken from among the trees cut down on the spot; now they have to be brought from elsewhere and paid for. The nine posts are fixed in the ground in three rows, three posts in each row, those in the middle being higher than those on the two sides. On the top of each of these three rows a heavy pole or beam (called *par*), as long as the house is to be, is fixed. Next cross-beams are set up, one end resting on the outside posts and the other end being tied securely to the posts in the middle row. The rafters are then put in position; the old rule was twenty rafters (called *senér*) on each side of the roof. To keep these in place three sets of laths (called *bata*) are used, one set being tied at the top, another set in the middle, and a third set at the lower, the eaves', end of the rafters. On the rafters a framework of saplings (called *chatâr*, nowadays mostly of split bamboo) is tied, and finally the roof is thatched with grass (*sauri*, *Heteropogon contortus* R. & S.). This grass which is excellent for thatching grows in abundance in the forests. Nowadays one may see fairly large fields of this grass on the outskirts of the forests guarded against the cattle. This *sauri* is much stronger and more lasting than the paddy straw, that, for want of *sauri*, is coming into use in many villages. When the roof is ready, the walls are made by placing branches or anything suitable between the posts and filling in with earth, the branches, etc., furnishing the necessary strength for the thin walls. The women finally plaster the wattle-walls with clay or earth that is kneaded into a dough. A layer of earth is spread on the ground inside the one-roomed house; this is trampled down hard, smeared with a dough of earth and made smooth with mud mixed with cow-dung. To complete the house a low earthen wall is built in one corner to provide a separate dwelling place for the ancestors (called *bhitâr*). In this closet rice and beer are offered to the *bhitâr* and to the house-bonga. No outside woman, (in some families not even a married daughter of the house,) is permitted to enter this closet. There is only one entrance to the house, generally with a mere apology for a door. A Santal house has no windows and only a few small holes high up in the walls, to let out the smoke. A fireplace of earth is also made inside, and along one or two of the walls contrivances are put up to accommodate paddy-bundles, or other possession. The inside of a Santal house is consequently quite dark. Except during the cold season, when the inside is warm, the Santals generally stay outside, both day and night. The inside of a Santal house cannot be either pleasant or healthy.

The form of the house mentioned is what the Santals call a *bangla orak*, or gable house. It is rectangular in form, its breadth being two-thirds of its length; the original size is said to have been 9 by 6 cubits, but it is now generally considerably larger. Another form of house is called *catom orak*, lit. umbrella house, having a four-sided roof. The different Santal septs must have one or the other form of house mentioned, in which to live and have their *bhitâr*, the closet for the ancestors. Except where this type of house is necessitated by custom any other form of house desired may be erected. It is now quite common to find houses with walls of earth, the earth being

mixed with water and kneaded. When ready, it is formed into large blocks. It takes some time to build the walls properly and get them thoroughly dried. This kind of house will most likely become almost universal as they are cheap and easy to construct. For this kind of house small tiles, instead of thatch are now being used, an idea adopted from other races. It might be added, that the hole from which the earth for the walls is obtained is generally utilized as a dumping pit for all kinds of offal.

In the course of time more houses are built round the courtyard, a shed for the cattle and one for the buffaloes (if the family have any), sheds for goats and sheep are erected, and, when the family grows, more dwelling-houses—these, however, have no *bhitār*. For the pigs a small sty is made. The fowls live inside the dwelling-house at night. A few Santals have a dove-cot, generally in the middle of the courtyard. On the side of the courtyard, where there are no buildings, a fence, or sometimes a wall is built. One opening, with or without a door, leads out to the village street (called *chaṭka duār*, *chaṭka* being their name for the part of the street just outside the courtyard); another opening leads out to the *barge*, the homestead field.

As regards water, the Santals will always be on the look-out for natural springs and fetch water from these or from pools with constant water, or from tanks, streams or rivers. They may also dig wells to be used by the individual families, or by a number of people. While the men gather in the evening, (especially at the *mañjhi than*, the place erected for the spirit of the original headman,) to have their talk, the women will meet in the afternoon (at *daḅ lo ber*, i.e., the water-drawing time, about five o'clock) at the place from which they fetch water to gossip and discuss everything. They always have large earthenware pots (broad-mouthed, called *tukuc*, or narrow-necked, called *ṭhili*) standing on a special stand, or, more commonly, on a raised level surface at the base of the house-wall outside the house.

When visitors come, they are met at the entrance of the house with water and have their feet washed. A bridal pair going from house to house in the village to be regaled with molasses, have their feet washed at the entrance to every house. Before taking food, all Santals wash, especially their hands and mouth. In this connexion it may be mentioned, that they are careful with their teeth. When getting water to wash, before taking food, they also get a toothbrush, i.e., a twig of some suitable wood, more especially Sal. The end of this the user chews, so that it becomes like a brush, and then vigorously brushes his teeth. When this is done, he splits the twig into two, and with one of these he scrapes his tongue, and finally throws the twig away; it is used only once. All eating is done with the right hand. It would be dishonourable to use the left hand for this purpose or to offer it to anybody; it is used for washing parts of the body, and always after stooling.

Before commencing to describe what the Santals eat and how the foodstuffs are produced or obtained a few other matters connected with the life of the Santals may be mentioned. According to their traditions their ancestors must in former times have had a peculiar communal organization. It appears that each man occupied and owned as much land as he could cultivate in any one season. At the end of the



season all lands were given up to the village community, for redistribution for the next season. A part of this custom is still formally kept up.

In the month of Magh, i.e., the latter half of January and the first half of February, they have in every village what is called *Mag sim*, Magh fowls. The headman's messenger, the village *godet*, one of the village officials, collects from every Santal house one fowl and half-a-seer of rice with some salt and turmeric. On a fixed day he takes all that has been collected to the village priest to a place near water. After having had a bath (a bath is ordained before a sacrifice) the priest sacrifices the fowls to the national *bongas* and to a few *bongas* of the neighbourhood. (*Bonga* is the Santal name for the spirits or godlings, believed to be living on hills, in rivers, pools, tree-stumps, everywhere, and practically all believed to be malevolent and dangerous.) The sacrificed fowls are cooked with rice into a hash and eaten by the men present; they also drink beer brewed for the occasion. A formal meeting is then held. The village headman says: 'Now, Sirs, as is seen, we are at the end, the month of Magh. There is a month of Magh for the thieves (an expression that is explained as referring to the fact that there is nothing to be found in the fields or on the threshing floors by persons who would take anything, the only kind of thieving, viz., of foodstuffs, that occurred among the Santals of old); there is a month of Magh for the cultivators; there is a month of Magh for the village headman and his deputy; there is a month of Magh for servants male and female. We have consequently all got a month of Magh, so please, if any of you will become our village headman I will also resign in the month of Magh'. All the village officials formally resign in the same way. Thereupon the cultivators say: 'Also we, Sir, have finished. We give our agricultural lands and possessions into your hand, Sir, headman, for the hot season. We shall retain in our possession only our old sites; these we do not give into your hands. Our houses we shall also keep'. The 'sites' are explained as being their wives.

The whole of this nowadays is only a customary ceremony without any reality behind it, except as regards matters that are annually ended or renewed, as, e.g., the engagement of servants. For a few days after the ceremony bouts of beer-drinking are indulged in the village houses. Thereafter all is, as it was before. This is mentioned here as an interesting point marking a stage in the development of the Santals, when from being only jungle-dwellers and hunters they became also cultivators. This was before they became tenants of a landlord and subjects of a State.

#### THE SANTAL AGRICULTURE.

We have no record of how the Santals actually went about their first attempts at cultivation. It is just possible that one of their first attempts to get something out of the soil may have been something like what is now called *kurāu*, a mode of cultivation that is said to have been used also by Santals in former years, but is not practised by them at the present time, so far as is known. It is, however, still kept up by the Paharias living on the hills of the Santal country. A piece of jungle is cut down high up on a steep hill-side; when the wood of the felled trees is dry, generally towards the end of the hot season, it is burned. In this way the ground is cleared, and

when the rains set in, the seed is sown without any ploughing. The present-day Paharias make small holes with a crow-bar and drop the seed into the holes, especially of *bajra*, *Sorghum vulgare Pers.*, of maize and of a few other kinds. This is all, except that they may pluck away weeds. It is said that when the Santals in former times followed a similar mode of cultivation they simply sowed the seed (especially *bajra*) at the top of the cleared hill-side, the spreading being left to the water of the rains flowing down; in some cases, a branch of a Thorn-tree (*Zizyphus Jujuba Lam.*) is said to have been pressed into a flat shape and dragged over the ground to spread the seed.

The present-day Santals have naturally progressed further than this. They are, however, as already remarked, lacking much to make them good farmers. They have not as yet learned the need for and the benefits of weeding and manuring or of changing the crops, and much more. For example, they do not take proper care of their cattle. These are mostly herded by children who use much of the time for their own games and pleasures. When the paddy is harvested, the cattle are permitted to roam about. A direct result of this is that it is impossible for people to have any crops standing after the middle of December or thereabouts; the cattle would eat all; and the Santals only very rarely fence anything in.

They are on the way to become agriculturists, but are, as yet, far behind.

Rice has become the staple food of the peoples living in North-East India, where the majority of the Santals have their present home. Consequently rice is a food-stuff that the Santals have taken to. Rice is not their only nor their principal cereal; but they consider rice the best and most desirable, to such an extent, that if they cannot get rice, they now feel they have not had proper food. A Santal once expressed himself as follows: 'For us in this country rice is the finest agricultural product, because while all other cereals when eaten get the better of us, we never become tired of rice'. By this he meant that they were satisfied with rice and nothing was left over after a meal, whereas before, when they had eaten all they wanted of other cereals, something was always left over.

The cultivation of rice will be mentioned first on account of the rôle it plays amongst the present-day Santals.

The founding of a new village has already been described. It will be remembered, that when on the look-out for a site for the new village one of the main deciding factors is the suitability of the ground for the establishment of rice-fields.

A Santal considers it his birthright to fell trees; it has become an instinct with him to cut down. It is a pity that they have not learnt also to plant trees. Occasionally they have begun to form the habit of planting certain kinds, especially fruit-trees, in their villages, and to let some trees stand; but there is very much left for them to learn in this respect.

The present-day Santals prepare three kinds of agricultural fields; what they call *barge* (their homestead field), *godā* (highland fields, some distance away from their houses) and *khet*.

*Khet*<sup>1</sup> is a word borrowed from Hindi or Bengali, and is the name for a rice-field.

<sup>1</sup> *Khet* means agricultural field in Bengali and is not confined to rice-fields—*Ed.*

The origin of the word is a sure proof that the Santals have adopted the cultivation of rice from others.

The Santals apparently enjoy preparing rice-fields. In a country like that in which the bulk of the people live at the present time, it takes no little work to do it. As is well known, the paddy plant must stand in water, or in moist soil, until it ripens. A rice-field must consequently be prepared so as to make this possible. The field itself must be absolutely level and furnished with ridges to prevent the water from running away. In a flat country, as in large tracts of Bengal, little work is required; in the parts where the Santals live, it is different. The country is hilly, and the surface only very rarely fairly level. The nature of the surface, combined with the necessity of having sufficient water, makes it natural for them to commence making rice-fields as low down as possible. These low-lying rice-fields where they may be fairly sure of having a sufficiency of water, are by the Santals called *baihay*, i.e., first class or *aul* rice-fields. If there happens to be a spring with flowing water or a tiny rivulet in such places, they make what is called an *ahar* or a *hir* (both expressions borrowed, *ahar* from Hindi, and *hir* from Desi).<sup>1</sup> A small ridge or dam is thrown across the lower side of the depression to keep the water standing inside up to a certain height. The drawback to such rice-fields is prolonged inundation that may spoil the plants.

With certain restrictions the owner or tenant of a *baihay khet* has a right to the uncultivated land lying directly above this, and a Santal will, as soon as he conveniently can, commence to make rice-fields there also. *Khet* situated on fairly flat, higher lying land are called *bad*. These rice-fields become less and less valuable for cultivation, the higher up they lie. Only in these years when there is an exceptionally heavy and late rainfall, do they get fair crops in these higher fields. Other crops than rice might well be profitably cultivated in these *bad*, if they would only learn how to go about it.

A special kind of rice-field is made in what is called *sokya*, a depression in the land running downwards like a tiny narrow valley. Here fields are comparatively easy to make. A ridge is thrown across the 'valley', the ground is levelled, and the field is practically ready.

The method of preparing a rice-field amongst the Santals is of interest. After having selected a suitable site they proceed to clear it of all vegetation. During this process the size of the field is decided upon. The land generally slopes a little, so that a ridge or ridges have to be made on the lower side. These ridges are roughly made at the time of levelling the ground, and when all is ready, they are properly dressed with the help of a *kuḍi*, a kodali, a kind of spade. The ridges have to be trimmed and repaired annually.

If there is little to be done, the whole may be finished with a plough and a *kuḍi*. To level the ground they generally use what is called a *karha*, a wooden earth leveller, drawn by a pair of bullocks or buffaloes.<sup>2</sup>

<sup>1</sup> Lowland Bengali *Ed.*

<sup>2</sup> The *karha* is a piece of wood, some 1·5 m. (more or less) long, some 0·3 to 0·4 m. broad and some 10 cm. thick at the top side, and gradually sloping down to a broad edge. As they have no saws, the Santals (who make all such things

The final levelling is done when the rains set in and the *khēt* is filled with water, just before the planting of the rice. Considerable work is needed to get the field ready for the transplanting.<sup>1</sup>

themselves) fashion the *karha* with axe and adze. It is made of some strong and heavy wood (Sal, Mahua, etc.). In the middle of the top side a handle (the *karha kārmba*) is fixed in a hole cut for the purpose. It is a straight piece of wood. The size of the *karha* varies according to need; the smaller one is called *daṅgra karha*, bullock-leveller, and the larger one *kaḍa karha*, buffalo-leveller. At each end there is ordinarily what is called *nākiḍ*, comb, having one, two or three 'teeth', called *sulq*, on which an iron ring, called *halka*, is slipped down, when the *karha* is to be used. This form is called *nākiḍ karha*. In one form of *karha* there is no *nākiḍ*, but two rectangular holes are cut through the wood, one near each end. In this kind of *karha* the *halka* is put through the hole and kept in position by a piece of wood inserted, to prevent the *halka* from slipping through. This form is called *roṭoḅ karha*, cut-through leveller (from *roṭ*, to cut). There is a third form called *roṭoḅ nākiḍ karha*; this is so large that it would not be convenient to have the *nākiḍ* at the two ends. Two large holes are therefore cut in the body of the *karha*, equidistant from each end; on the inner side of each hole a *sulq*, 'tooth', is made to slip the *halka* in. The *karha* is, as stated, dragged by a pair of bullocks or buffaloes. To join the *karha* to the yoke a *karha daṅḍil*, a leveller-beam, is used, corresponding to the ploughbeam (*isi*). It is a piece of wood, frequently bamboo, some 2 m. long, or a little more. It is split in two at the *karha* end, with a hole at each end. Into each hole an iron hook, to which a *halka* is attached, is fixed. There are naturally two *halka*. At the yoke end the *daṅḍil* is whole; where the split commences (some 0·7 to 1 m. down) a cord is tied to prevent the beam from splitting higher up. In the case of a bamboo *daṅḍil* the *uṭi* or joint serves the same purpose as the cord. When in use the man in charge puts the *karha* down into the earth that is to be removed, like one would put in a spade: when the bullocks drag the *karha* along with the earth, the man holds the handle firmly to prevent the *karha* from turning over. When he has reached the spot where the earth is to be deposited, he lets go the handle, and then the *karha* automatically turns over. The earth is left lying there and the bullocks drag the *karha* back to the place where they started. On a new *karha* with three 'teeth', the *halka* is placed on the lowest *sulq*; when the *karha* becomes worn, the *halka* is put on the middle or the top *sulq*. Some well-to-do Santals have instead of the *daṅḍil* two iron chains with a *halka* at the *karha* ends. Loose earth is naturally necessary for the operation. The use of a *karha* is therefore practically restricted to the autumn or just after rain in the dry season. Ploughing is often resorted to preparatory to using the *karha*.

<sup>1</sup> The Santal plough is a very primitive kind of implement, the wooden part of it being made by the Santals themselves. It consists of a piece of wood, bent a little naturally, so fashioned as to have an angle of 130° to 140°, each side of the angle being some 50 cm. long, and about 20 cm. broad at the thickest. The under- and back side is cut flat, while the upper side tapers towards the middle. The different parts of the plough have separate names: *nahel boḅoḅ*, the plough head, is the top back to which the handle (*kārmba*) is fixed. The part below the 'head' is called *nahel koram*, the plough breast; the bottom, bending part is called *nahel dḅēke*, the plough buttocks; the two sides of the front part are called *nahel bulu*, the plough thighs, and the front point is called *nahel ṭoda*. In the middle of the front top a groove is cut for the ploughshare (the *pal*). This *pal* is a piece of flat iron, some 40 to 50 cm. long and some 3 cm. broad and up to 1 cm. thick. It is fixed in the groove (called *pal oyaḅ*, ploughshare house) by an iron staple. This, the common Santal ploughshare, is called simply *pal* or *nanha pal* (a narrow ploughshare). Some Santals, especially those living near the Bengal lowland (*deṣ*), have commenced to use what is called *deṣ pal*, *dhalpa pal* or *khonta pal* (*dhalpa* means broad, and *khonta* is their name for a wooden bar with a flat iron head). This kind has a broad front, protruding a little from the wooden part. Just above the bend in the lower part of the 'breast' a hole is cut. Into this the *isi*, the ploughbeam, is inserted. The *isi* may be what is called simply *isi* or *hōr isi* (a Santal ploughbeam); this has three notches on its underside, where it is to be joined to the yoke. Some use what is called *bangla* or *deṣ isi*, a ploughbeam of the shape used in the Bengal districts, having no notches. Every plough has naturally a handle, *kārba* or *kārmba*. According to shape this is called *bangla k.* (Bengal ploughhandle), resembling the *caṅḍi paṭi k.*, that is nailed to the front side of the rear part of the plough, the top of the handle being pared so as to bend backwards; another shape is the *gār boḅa k.*, a handle that is fixed on the rear side of the plough so far down that the *isi* goes through a hole cut in it (this is also called *pēnd laṭha k.*); a further kind is *roḅ* or *roṭoḅ k.*, a handle fixed in a hole cut in the back part of the plough. *Tir k.* is any kind of handle that has a grip fixed on its top. The part where the handle is fixed is called *hōḅoḅ*, neck. The ploughbeam is fixed to the yoke *arāy*, (quite a work of art with the Santals) by a bit of twisted leather thong called *naingle*.

A plough of the kind described can, as remarked, be used only when the soil is soft, just after a shower of rain or during the rainy season and some time after. It will not enter more than three to four inches into the soil. Santal ploughing is consequently no particularly hard work. A boy some ten years of age is called 'fit for ploughing'. It is one of their ways of stating the age of a boy. As a rule they plough in ellipses; if they have more than one plough they follow one after the other. The Santals commence ploughing at about sunrise and continue for some four hours, rarely longer, and then only when they are pressed for work.

A Santal as a rule ploughs a rice-field four times before transplanting. The first ploughing of the season is called *parak*, lit. splitting. The soil is broken up and opened out for air and moisture. After some time it is ploughed a second time, the furrows running across those of the first ploughing; this ploughing is called *dec*, lit. mounting, i.e., ploughing on top of the first furrows. These two ploughings are used for all kinds of agricultural land. In the rice-fields after *dec* comes what is called *lahul* or *si lahul*, lit. powdering, or ploughing into powder. This is done shortly before the last ploughing operation, called *losol*, lit. muddying. The object of this last operation is to get the water standing in the field thoroughly mixed with earth. The surface of the field becomes a kind of thick mud-soup, suitable for planting the paddy-seedlings in. Sometimes the third ploughing may be omitted; it depends on the situation and the amount of water.

When, as frequently happens, it is seen that the field is not quite level, they attempt to put this right during the two later ploughings, especially the last one. For this purpose they use an implement called *raksa* or *rakhsa*.<sup>1</sup>

As regards the cultivation of rice the following may be noted: Except for one kind all paddy is transplanted. It is sown, generally in a rice-field, broadcast. The seedlings (*gachi*) stand there until they reach a size suitable for transplanting, when they are pulled out (this is done by women, often helped by men) and planted in the prepared fields. The ploughing is done by men alone, and the planting practically always by women. The seedlings, generally two or more together, are stuck into the mud-soup at a suitable distance from each other. It is quick work. One woman will without difficulty plant one-third of an acre during the day, or even somewhat more.

With the Santals in the eastern parts the paddy is generally sown during *ruhni*, the 13th *Jhet* and the following six days, i.e., approximately during the last days of May and the first days of June (Dr. Campbell says it is a period of 13 days but this is not so in the Santal Parganas). They have heard from Bengalis that this is the proper and most auspicious time to sow, and they try to follow the Bengali custom. They have an immense number of varieties, all named (I have 143 different names of varieties<sup>2</sup>). They have three classes of transplanted paddy (*horo*, as they call it). The earliest varieties are called *bhadoi horo*, ripening in September (the name is derived from Bengali *bhādui*, ripening in the month of Bhadra). Next comes *bad horo*, ripening

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When taking their ploughs out to the field they fasten the plough to the yoke carried by the bullocks, the *isi* during the transportation standing straight up in the air. When the ploughing is done for the day the plough is carried back in the same way, or the plough may be left in the field, the ploughshare alone being taken out and carried home.

<sup>1</sup> The *raksa* resembles the *karha*. It is a piece of wood some two to three mm. long and 15 to 20 cm. broad, slightly thinner than a *karha*. The *raksa* is slightly curved and has an edge. It has two holes cut equidistant from the centre for the *halha*, and has a handle (*raksa hāymba*) fixed in the middle. It resembles the *rotok karha* and is worked very much like a *karha*. It is used only for levelling rice-fields just before the planting, and as it is used in watery mud, there is no need for the same strength as in the *karha*. Only few men in a village have a *raksa*. They willingly lend it to those who need such an implement.

<sup>2</sup> According to the traditions the Santals are divided into 12 septs and each sept (traditionally) into 12 subjects. There should be as many kinds of paddy; but there is one kind less. If there had been the same number or even one more, the paddy would have gained on the people and 'eaten' them. Now the people gain on the paddy, according to Santal talk.

about October, a little richer crop than the one previously mentioned (the name is derived from *bad*, Desi *bader*, the high-lying land). Finally *baihar horo*, the heaviest and best crop, ripening in November and December (the name is derived from *baihar*, the low-lying rice-fields).

As already mentioned they have one variety that is not transplanted, but sown broadcast. It is called *goḍa horo*, (highland paddy), sown in May and ripening in August in the Santal Parganas. Here it is very rare; but, in Assam it is fairly commonly cultivated by the Santals living there. The name (*goḍa*) shows it is not cultivated in rice-fields, but in fields generally some distance away from their houses.

It might be further mentioned that wild rice, called by the Santals *uri*, *Oryza sativa* L., may be found growing on the edges of water, and is eaten by the people.

When the paddy has been harvested, it is threshed. This is done on what is called *kharaḥi*, a threshing-floor,<sup>1</sup> a roundish piece of ground, some 5 to 10 mm. across, plastered with earth and cow-dung. The threshing cattle walk round and round in the spread-out straw. The grain is cleaned and stored in large bundles covered by straw-rope (called *bor*).<sup>2</sup>

<sup>1</sup> To prepare a threshing-floor the ordinary Santals have not only to find a suitable place and to do the necessary digging and plastering but they have to make sure that the place chosen is lucky or the opposite. They have a curious superstition that the place itself has something to do with the amount of grain they obtain from threshing. They go about it as follows: When they have found a place that seems suitable, they go there, some on the *bel boron* day (a day of the Durga festival, as celebrated in their neighbourhood), others on the last day of the Jithia festival, and others again on a Sunday morning early (generally in the months of September or October). With a *kodali* they clean a small place and here make a cross-mark, what they call a *dhera dag* (the *dhera* is a hand-spindle having two pieces of wood fixed across each other in the middle). The cross-mark is sufficiently large, the two ditches of the cross being each about two cubits long, one running North and South, the other West and East. In the middle they dig a square hole, putting the earth dug out on the four sides of the hole. Next they again fill this hole up with the earth dug out. If it is filled up with the earth, well and good; it will be advisable to have the threshing-floor there. (Compare what is told above about a similar proceeding when choosing a site for a village.) But if not all earth goes into the hole, it will not do to have it here; they must find another place. Some Santals put the dug out earth on only three sides of the hole. Many Santals do not now, however, take such precautions. They simply chose a place haphazard. They go to the place chosen on one of the days mentioned above and with a *kodali* make a cross-mark. At the crossing they put *soṣo* (Marking-nut, *Semecarpus Anacardium* L.) leaves and a bit of a thorn-tree branch (some place a full branch). At the crossing they place the leaves turned upside down and put a small stone on each of them to keep them there, until the paddy ripens. When people see this, they understand that somebody has taken steps to make a threshing-floor there. As it is deemed safe to have several together, they will often arrange to have their threshing-floors adjoining. Besides, it is a pleasure so to arrange them as when watching during the nights; they can keep each other awake by telling stories, folktales, singing, etc.

<sup>2</sup> If they have more grain than they need for immediate future, they store it in what they call *bāndi* (bundles). These are made in the following way: A rope of straw (called *bor*) of sufficient length is made; with this they make a ring on the ground; on the top of this they put a layer of straw, and on this a basket (that is later on taken away) filled with grain; the *bor* is wound round this, more straw is added round the whole, and gradually more grain is filled in. When the required quantity of grain is reached the straw-rope is arranged in a ring (like it was done at the bottom), and the whole is tied up with some thin straw-rope (called *sikol*). This keeps the *bāndi* tight. A *bāndi* as a rule is made to hold some ten to twelve maunds (of 40 seers), but may be larger and also much smaller (e.g., when used for storing seed).

These bundles are naturally kept inside their houses; they have no other safe place for them. To keep them properly they always put these bundles on an erection called *qhula*. This has two solid pieces of timber placed besides each other a foot or thereabouts apart, resting on crossbars on top of some solid poles fixed in the ground; nowadays they have often supports, made of earth, for the parallel pieces of timber; these are about a cubit above the ground. The bundles are brought in and lifted up and placed in position on them. It is a practical arrangement, at a safe distance from the wall and the floor, safe against wet and animals. When some of the contents are wanted, it is easy to get a hand in between the layers of rope, without pulling the bundle to pieces.

We shall now hear how the Santals treat and use the paddy and rice.

The first is to husk the paddy; this is done either in a *dhinkhi*,<sup>1</sup> the common husking machine, generally by two persons, a man or a woman treading the one end, and a woman sitting at the mortar end, handling the grain; or in an *ukhur*, a large wooden mortar, found all over the tropics and subtropics.

Before husking the paddy may be boiled and dried, or simply dried. It makes a very great difference in the nutritive value of the rice, whether it is boiled in the husk or not. When boiling the paddy in the husk, they proceed as follows: To start with they first soak the paddy in water in a large earthenware vessel for one or preferably two days. When thoroughly soaked, it is taken out and put into a suitable cooking vessel with a sufficient quantity of water and boiled. It is carefully watched with eyes and ears, with ears to be sure that the paddy is not scorched, and with eyes to see the steam rising, by which they know when the boiling is completed. When ready the cooking vessel is taken down and its contents spread out in any suitable place to dry. This takes two days. The paddy must not be exposed to the sun for any considerable length of time, as this, according to Santal experience, would cause it to become brittle, in which case it will break when husked, become like ant-heads, as a Santal woman expressed herself; and such rice is not satisfactory.

When properly dried the paddy is stored away until needed for food and then husked. To get properly clean rice the Santals husk it three times. The first operation, called *setçç*, removes the *herç*, the husk itself; the husk separated from the grain is all placed in a *haçak*, a winnowing-fan (made by the Mahles of bamboo), and sifted. The grain, being heavier, gathers at the back of the *haçak* (kept lower down) while the husk by proper manipulation is gradually brought to the outer brim of the fan and thrown out. The husk is given to animals to eat.

After this the grain is pounded once more to remove impurities; this is called *tala*, middle (or second) husking.

To make the rice ready for cooking, it is pounded a third time; this is called *sqk*. The result of this operation is pure rice, from which all impurities have been removed, called *sqk caole*, finally cleaned rice.

Santal women are clean and careful when preparing the food. When cooking rice they proceed as follows: First the cooking vessels and the fireplace are carefully cleaned; water, sufficient for the rice to be cooked, is poured into the cooking vessel and put on the fireplace with the mouth covered to prevent any impurities falling into it. The rice is put into another vessel filled with water, the object of this being to get all possible impurities removed. When the water in the cooking vessel is seen to be boiling, the rice is transferred to that vessel. The cooking is watched to ensure that all goes well and that the rice is properly cooked. An experienced woman will know this at sight; otherwise they test it by pinching. They must be sure that it is not overcooked, i.e., that the rice retains its shape and does not become a soft mass. When all is ready, the vessel is taken off the fire, the water is drained off, and something

<sup>1</sup> Bengali *Dhenki*—Ed.

is put on the mouth of the vessel to prevent flies or impurities reaching the rice. When still suitably warm the cooked rice (now called *daka*) is served out in heaps on a plate (of brass, or, made generally, of leaves) and eaten together with curry (by the Santals called *utu*). Mention of this will be made later.

As is well known, rice treated in the manner described contains certain vitamins found in the husk, making the rice a healthy and nourishing food, whilst rice husked without having been previously boiled is inferior as food. Rice of the kind described is the ordinary food of the present-day Santals. Well-to do Santals will eat a little above half-a-seer of this rice daily. When providing food for our boarding schools we have found that this amount daily is quite sufficient, naturally with curry added. In the villages a family that can provide so much per individual per day is considered well off.

*Daka* is specially prepared for two meals daily, for a mid-day meal (called *manjan*) and for *kedok*, the evening meal, which is the principal one. Chance visitors of a family may partake of the *manjan* meal; if anyone is invited as a guest (except to family festivals that occupy the whole day or part of a day, as the case may be), it is to partake of *kedok*, the dinner,—as with many other races. They have a saying that poor people have their *kedok*, as soon as it is evening, because they are hungry after the day's work, while wealthy people have it much later, sometimes even when ordinary people get up the first time after sleep, i.e., at about 1 A.M. They say that these people have had enough food during the day and have not worked on an empty stomach, if they have worked at all.

What is left of the rice, from the *kedok*, is kept until the following morning and then eaten cold or together with *dak mandī*, rice-gruel, at about 9 A.M. This meal is called *baskeak*, lit., what is stale, a kind of breakfast.

The *dak mandī* just referred to, lit. translated 'water-food', is the rice already mentioned, boiled in a quantity of water into a kind of rice-gruel. It may be the form of food used when they have little rice. It is also the form of food taken out in the forenoon to people engaged in agricultural work to enable them to continue without interruption. It may also be taken along (in a brass-cup) as food for the day or part of it, when any work takes one away from home.

It should further be mentioned, that they also use rice for what they call *khir*<sup>1</sup>, a kind of rice-porridge<sup>2</sup>. The rice is boiled in water, and milk is added, when it is on the boil. No salt is used for this; but sugar or molasses may be added. This form of food is, however, not common.

Naturally they also have rice husked of unboiled paddy; this is called *adwa caole*, sun-dried rice, and is used for a number of purposes. The above-mentioned *khir* is prepared from this kind. They further make it into a kind of flour and use this for different kinds of cakes or bread (called *piṭha*<sup>3</sup>, that will be described later on), for small rice-balls and sweetmeats of sorts. The last-mentioned comestibles may be prepared

<sup>1</sup> Bengali—thickened milk—Ed.

<sup>2</sup> Rice Porridge in Bengali—*Pāyash*—Ed.

<sup>3</sup> From Bengali—*Piṭhā*—Cake—Ed.



by the Santals themselves, but are mostly bought from Hindus. A curious point worthy of mention is that the *adwa caole* is the only kind of rice used in connexion with their spirit worship. They put this down on the magic circle or square, and the animal or fowl to be sacrificed is made to eat from it. When an *ojha* or the priest of the outskirts has to perform what is called *bul m̄yām* (offering of one's own blood), it is also this kind of rice that is used. The man pricks himself with a thorn, so that a little blood oozes out. He smears this blood on the rice and strews it as an offering to certain *bongas*. This rice is also used when seeking omens. The last-mentioned use of *adwa caole* might be thought due to the fact, that there is less work in connexion with preparing it; but it must not be forgotten, that its use is ordained, and that the use of the other kind is forbidden.

In connexion with rice *khajari* and *taben* have to be mentioned. Both are generally bought from Hindus, but are also prepared by Santal women.

*Khajari* (the *muri* of the Bengalis) is parched rice. Santals prepare it as follows: The boiled rice is well cleaned, and some salted water is sprinkled on it; thereupon it is dried. Sand is then put in a shallow earthenware vessel, that is placed over the fire. When the sand becomes burning hot, the rice is put into the sand, and it is stirred with a small 'broom' made of split bamboo. The rice is in this way quickly parched. It is eaten with molasses. Nowadays Santals will also eat it soaked in tea. It is also often taken along to serve as food on the road.

*Taben* is flattened rice. The Santals prepare this as follows: The rice is soaked in hot water and boiled a little, thereupon roasted a little and finally pounded in a *taben dhinki*. This has a broad pestle and no iron ring. The bottom of the mortar is also broad and level, so that the rice is pounded flat. One person treads the *dhinki*, while a woman works at the mortar. With her left hand she roasts one handful of rice, while with her right hand she keeps the rice in the mortar, until the portion there is ready flattened, and she continues in this way, until all is ready. *Taben* is used much like *khajari* and is considered more substantial and sustaining.

The *khet* is primarily made for the rice; but occasionally other crops may be seen cultivated in these fields, e.g., a kind of bean, that is sown among the paddy when the latter is fairly well developed. Mention of this is made later. During the cold season, after the paddy has been harvested, *guhun*, wheat, is cultivated by a very few Santals in the western parts, also barley (*jao*); but both these cereals play no rôle in a Santal household.

Let us now turn to what is cultivated on the *barge*, the homestead field. As already stated, the *barge* is the plot of land that is first cleared by a Santal settler. While the Santals never live singly, apart from each other, they will on the other hand, when there is sufficient room, not build their houses in a continuous row along a narrow street, as is often to be seen in the villages of other races. They will arrange a fairly broad and straight stretch of land (that ultimately becomes the village street), and on both sides of this each settler acquires a plot of land on which to build his house or houses. These plots may naturally vary in size, from half-a-*bigha* up to two or even more *bighas* (one *bigha* is about one-third of an acre, regularly 120 feet square). Each occupier will

have his private field, with fixed boundaries. Besides giving privacy it is a sanitary arrangement, although this last-mentioned fact has likely had little to do with the procedure, as is shown by the way in which they nowadays build their houses in many places, after having seen what other more civilized peoples do.

The *barge* is always a fairly level plot of ground, unsuitable for the cultivation of rice. How unpleasant and insanitary it would be to have rice-fields too close to one's living quarters!

Except for the space actually occupied by the houses, the land of the *barge* is all cultivated. As regards ploughing the two first ploughings are the same as for rice-fields (viz., *paraḅ* and *deḅ*); then comes a final ploughing called *uḅau* (raise, start, break up). While all other fields are simply only ploughed, the *barge* is manured with cow-dung, ashes or whatever other manure they may have.

The first and most important crop on the *barge* is *joṅdra*, as the Santals call the maize or Indian corn (*Zea Mays L.*). The sowing of the maize is done by the Santals in the following way: A furrow is ploughed; a man goes along and drops the maize grains, one after the other, into this furrow at suitable intervals, closely followed by the ploughing bullocks. The earth thrown up by the plough covers the sown maize. Fresh furrows are then ploughed, and the sowing goes on in the same way but only in alternate furrows. To plant the maize in every furrow would make the plants grow up too close together. The Santals very often sow hemp seed in the furrows left without maize. This hemp, mostly what is called *jāri* or *kudrum jāri* (*Hibiscus cannabinus L.*) is generally ready in October.

They have quite a number of varieties of maize, named according to the size and appearance of the cobs and the corn, or according to early or late ripening, and so on. The following varieties may be mentioned: *Bagha joṅdra*, lit. tiger-maize, having dark coloured grains between light coloured ones, the same also being called *kabra joṅdra*, lit. spotted maize; *buru* (or *baru*) *joṅdra*, lit. hill-maize, the cobs being so high that jackals cannot reach them (also called *moṭa joṅdra*, lit. thick maize); *dudhia joṅdra*, lit. milk-maize, also called *ponḅ joṅdra*, lit. white maize, the name being due to the colour of the grain *ḅhibri joṅdra* puny maize, one of the earliest varieties with cobs so low that jackals can reach them (another name for this variety is *ṭoṭe joṅdra*, *ṭoṭe* being a small gourd); *hardia joṅdra*, the yellow maize; *muṅḅa joṅdra*, the *Muṅḅa* maize, so called, because this variety is cultivated on the hills by the *Muṅḅas*, i.e., the Mal Paharias; *nanha joṅdra*, lit. thin maize, cultivated by Santals in Assam and near water; finally *satolia joṅdra*, very rare, said to have acquired its name from commencing to fruit when it has seven leaves.

In the Santal Parganas maize is generally sown in June, so that they can hoe the plants when there is a short break in the rains in July. This hoeing is of great importance for the growth. If too much rain prevents proper hoeing, there will be no, or only a very poor, crop. In other parts (as, e.g., in the Santal colony in Assam) the maize is sown at other times. I remember I once took a photograph in the colony of a field containing full-grown and half-grown maize and maize just sprouting, all at the same time.

As soon as the cobs commence to ripen, some are torn off. The covering leaves are removed, and the whole is suitably roasted, and they commence to gnaw off the grains. All Santals do this, especially boys may be seen occupied in this way with a cob. It takes some time to bite off all the grains. It is really a very tasty food, and comes to many as a great relief from hunger.

Most of the cobs are naturally left until fully ripe. As there is always the danger of cobs being stolen by people or taken by animals (by jackals and also by dogs, who at this time may often be seen with a long stick tied to their necks to make it impossible for them to get in among the maize plants), when the maize is grown in a place some distance away from their dwelling houses (in some old *barge* or some otherwise suitable field) they erect a *macan*<sup>1</sup> somewhere in the field. The *macan* is a kind of scaffolding, generally a small platform, resting on four slender posts, so high above the ground as to give the watcher a full view of the field. To guard against rain, etc., the posts are high enough above the platform to allow a kind of sheltering cover. Up here a man will stay during the night and keep watch. It is not pleasant to stay there alone. One may hear a Santal say, that he is going to be a bait there for a tiger.

When the ripe cobs are harvested (called *oyec*, tear off), they remove the covering sheaths (this operation is called *sala*, remove impurities), that is to say, the covering sheaths are not torn off, but turned back, so that the grains are bare. If not needed for food at once, generally sets of four cobs (one *ganḍa*) are tied together by the turned-back sheaths, and these sets are again slung together, mostly in aggregates of 80 cobs (one score of *ganḍa*, called *pon*). The cobs are then hung inside on the crossbeams to dry and remain there, often discoloured by smoke, until needed. The Santal idea is that maize is best as food during the hot season, and if they can, they will keep it until April or even May. The Indian corn is calculated by the Santals to keep them in food from one to nearly two months.

In the *barge* and in the *goḍa* they also cultivate *bajra*, *Sorghum vulgare Pers.*; this is very commonly cultivated by the Paharias living in the hills in the Santal country, and is possibly one of the oldest grains cultivated by the Santals. They have the following varieties: *bandorneja* or *bandorleja b.*, lit. monkey-tail *bajra* (in Assam they call it *kauniā b.*); *bhādrīā* or *bhadorīā b.*, so called because it ripens in Bhador<sup>2</sup> (Aug.-Sept.); *kubā b.*, having drooping (*kubā*, ears); and *sisuā b.*, that ripens in Aghar<sup>3</sup> (Nov.-Dec.). This last one is, however, not botanically the same as the *bajra*; it is a *Pennisetum typhoides Stapf et Hubbard*. The grain is pounded after having been damped (this makes it easy to remove the husk of the grain). When made into a kind of flour, cakes (*piṭha*) are prepared from it; otherwise it is cooked like *daka*. It is said to have a sweetish taste and is eaten warm. When it is cold, it has no taste at all, they say.

When the crops mentioned are harvested, the *barge* is cleaned and ploughed for some cold-weather crops, certain pulses (*hoyec*, *ghaṅgra* and *but*) and oil giving plants (*turi*, *tilmiñ*, *surguja* and others). Mention of these will be made later.

<sup>1</sup> Bengali meaning platform —Ed.

<sup>2</sup> Bengali *Bhādra* —Ed.

<sup>3</sup> Bengali—*Agrahayana*—Ed.

In connection with the *barge* one special matter should be mentioned. As *barge* fields belonging to separate tenants lie beside each other, it is necessary to have something to show the boundary. They generally have a small ridge, on which some plants grow. The most common of these is what the Santals call *sirom*, *Vetivaria zizanioides Stapf*. (It is from the roots of this that the still common *khas khas* tatties are made, although not by the Santals.) The culms are used for making the commonest broom that the Santals have. The culms are plaited together at the root end, the top ends being free. When this is rolled up, it makes an excellent broom.

The third class of land cultivated by the Santals is what they call *godā*, a piece of high-lying ground, generally a little distant from the houses. Officially it is called second class *bari* land. It is a piece of ground not suitable for rice. It is cleared of jungle and cultivated like the *barge*, but not manured. If, as sometimes happens, it is manured, it is called *baher barge* or *godā barge*.

The *godā* naturally represents the oldest attempts of cultivation amongst the Santals. Here they have a large variety of jungle corns that ripen early and help them through the hard times before the rice is ready. Santals often speak of one special advantage of these jungle corns: a mahajon (money-lender) will not take these to recoup himself.

The *godā*-crops are the following:—

*Iri*, *Panicum Crus-galli L.*, a millet, formerly very commonly cultivated by the Santals, now only occasionally. They have the following varieties: *sama iri* and *se māyām iri* (lit. louse-blood millet, from the colour of the seed); *kōkōr jānga* or *kōkōr kātā iri* (lit. owl-leg millet), *Echinochloa colona Link.*, var. *frumentaceum*. *Ohoe*, *Panicum miliaceum L.* These millets are treated very much like *adwa caole*, i.e., dried, pounded and cooked. Then, too, a wild plant, *ohoe iri*, is also used as food, but not cultivated.

*Erba*, *Setaria italica Beauv.*, a jungle grain cultivated like *iri*, but treated like *teke caole*, i.e., it is first boiled in the husk, then dried, pounded and cooked. What has been said about *iri* also applies to *erba*. It is not so commonly cultivated now. A curious point is that, in certain ceremonial talks, *iri* is used metaphorically about girls and *erba* in the same way about boys.

*Gundli*, *Panicum miliare Lamarck*, is a commonly cultivated millet, ripening by the end of August or the beginning of September. To thresh the *gundli* the Santals make small threshing-floors, quite separate from what they have for the rice. Their name for this (*gundli kharai*), it is curious to note, is used metaphorically about a circular hairless area on the crown of the head. The *gundli* millet is, like paddy, first boiled in the husk after having been soaked. It is then dried and finally husked. When being prepared for eating it has to be carefully cooked, so as not to be spoilt. A sufficiency of water is put on the fire, and when this is heard to have reached boiling point, the grain is put in. *Gundli* is said to be quite satisfying. They name two varieties, one *layo gundli*, that will be mentioned further on, and *por gundli*, lit. bush millet, *Echinochloa colona Link.*, var. *frumentacea Fischer*.

*Janhē*, *Paspalum scrobiculatum L.*, a commonly cultivated millet. There are

two varieties, one called *bhador* (or *bhadoria*) *j.*, ripening in Bhador, and another *aghār j.*, ripening in Aghar. *Janhē* is treated like paddy. It is sometimes boiled in the husk, dried and then pounded; or it is simply dried and husked. The husk is much less substantial than in *gundli*, and may be removed even in a hand-mill. The sun-dried husked grain is said to be what is commonly eaten, and to be sweet and tasty. The grain boiled in the husk, dried and then husked, is mostly used for brewing beer, and is considered by the Santals the best grain they have for brewing intoxicating beer. Even gruel prepared from it is believed to be intoxicating. I remember that, when I once wished to taste such gruel, they seriously warned me not to eat too much, otherwise it might make me drunk. They have a curious belief, that if a cobra or a rat-snake has been in the *janhē* field, this will cause the *janhē* there to become especially intoxicating.

Besides the cultivated *janhē* there is a wild variety, called *jera janhē*, *Panicum flavidum Retz.* This may be eaten, specially in times of scarcity.

*Kukra* is a grass, *Setaria pallidifasca Stapf et Hubbard*, found growing together with *gundli* and *janhē*, and is harvested and the grain eaten along with these; another name for the same is *cipra*.

*Kode*, *Eleusine coracana Gaertn.*, is a millet, of which they have four varieties: *aghonia k.*, ripening in Aghar (end of Nov.); *bhadria k.*, ripening in Bhador (Aug.-Sept.), *dasāe k.*, ripening in Dasae (Sept.-Oct.) and *kokor janga k.*, lit. owl-leg *kodē*, because the ears are reminiscent of the leg of an owl. *Kodē* is cultivated somewhat like paddy, sown broadcast, the seedlings being pulled out and planted in a high-land field, a *goda*, or a *barge*. It is harvested and threshed like paddy. It is pounded into a powder, that is eaten in the form of cakes or together with rice or other cereals. *Kodē* is not considered to be very good, but is said to be a food that will keep people in a fair condition during times of scarcity, and is consequently cultivated by most Santals.

*Layo*, *Panicum antidotale Retz.*, is a millet commonly cultivated on high-land fields. Sown in June, some transplant it, but generally it grows where it is sown. It is harvested in November and treated like *gundli*.

In connection with the cereals mentioned there are two kinds of grass, that in times of need may be used for food. One is the *sama ghās*<sup>1</sup>, *Echinochloa colona Link.*, often found growing as a weed in the rice-fields. The grass is an excellent fodder. In times of scarcity it is used as food, prepared into a kind of gruel (*daḅ māṇḍi*). In addition *sumtu bukuḅ ghās*, *Dactyloctenium ægyptiacum Beauv.*, may be used like *sama ghās*. Children use the ears as toys.

#### DIFFERENT FORMS OF CEREALS PREPARED.

Before going further mention may be made of what the Santals call *piṭha*, that is translated cake or bread. They have a large number, all differently named after the ingredients, the method of preparing, or the shape. Meal or flour, mostly of rice (always sun-dried, *adwa*)<sup>2</sup>, but also of other grain, is made into a batter mixed with one

<sup>1</sup> From Bengali meaning Grass—*Ed.*

<sup>2</sup> From Bengali 'ātap'—meaning sun—*Ed.*

or more kinds of other foodstuffs and then fried or cooked. The different kinds of *piṭha* here follow in alphabetical order.

*Aṛṣa piṭha* is made of flour, milk and raw sugar and is cooked in mustard oil. It is allowed to rise a little. Not common. Probably adopted from low-caste people. The name is derived from Desi *aṛṣa*.

*Chor piṭha*, the same as *dul piṭha*, the name being descriptive of the sound heard when the batter is thrown into the boiling oil.

*Dul piṭha*, lit. cast cake or bread, made of rice-flour and molasses mixed in milk or water. The batter, flattened between the hands, is thrown into the boiling mustard oil. It is very hard to digest, but is considered to be the finest 'pastry' the Santals have.

*Domboḱ piṭha*, a ball-formed cake, made of flour and molasses. Cooked in water. (*Domboḱ* is a name for a round ball.)

*Gur*<sup>1</sup> *piṭha*, a cake made from the molasses of the Date palm.

*Jel piṭha*, meat cake. Sun-dried paddy is husked and cleaned, soaked in water for a little while, then dried and made into a coarse flour and sifted. The flesh is cut into small bits. Turmeric, pepper and other spices and salt are ground fine. All is well kneaded and mixed into the flour, that has been moistened. The whole is then pressed down on a leaf-plate. Another leaf-plate is with the help of straw-pins fixed on as a cover. The whole is placed into a fire-place, where there are live coals, and on top more live coals are put. When ready the whole is taken out and eaten. This is much relished. The flesh used is mostly that of pigs or of fowls, also of sacrificed animals.

*Jondra piṭha*, a bread made from Indian corn and fried.

*Jhinuk*<sup>2</sup> *piṭha*, lit. mussel-cake. Two thin pieces of batter are made, or one large piece is folded over. Molasses and some *loboḱ* (bran of mustard or other stuff) are put in. The whole is then cooked in water. This is made for festivals, especially the *Sakrat*<sup>3</sup>. The name is descriptive of the shape, which is reminiscent of mussels.

*Kode piṭha*, bread made from the flour of *kodē* millet. Fried.

*Khapra piṭha*, made from rice-flour. The flour is made into a batter with water, nothing being added, except sometimes a little salt. Some batter is put into a shallow earthenware dish (*karāhe*); a little oil being rubbed on the batter to prevent it from sticking to the dish. An earthenware lid is pressed down on the batter; and the dish is then put on the fire-place and heated. When ready fried, the *karāhe* is taken off and turned, so that the cake falls out, and fresh batter is put in. This *piṭha* is fairly large. *Khapra* is the Santal name for a roofing tile or a large potsherd.

*Ol piṭha*, mushroom cake, prepared like *jel piṭha*, with mushrooms instead of flesh or meat. If the opening of the fire-place is small, a large potsherd is placed on the fire. When this is sufficiently heated, the *paṭra*<sup>4</sup> (leaf-plate) with its contents is placed on

<sup>1</sup> From Bengali meaning molasses—*Ed.*

<sup>2</sup> From Bengali meaning mussel—*Ed.*

<sup>3</sup> From Bengali ' *Sanhranti* ', the last day of *Paus*, when cakes are eaten—*Ed.*

<sup>4</sup> In Bengali *Pātra* means vessel—*Ed.*

this. When baked on the underside, the whole is turned over with a twig to get the other side baked.

*Parwa pitha* is the same as *jel pitha*, but made with the flesh of pigeons.

*Patra pitha* is any flour-batter placed between two leaf-plates (*patra*) and baked like *jel pitha*.

*Sakam pitha*, the same as *patra pitha*, except that instead of a leaf-plate one large leaf (*sakam*) is used.

*Sim pitha* is the same as *jel pitha*, the flesh of fowls (*sim*) being used. This is especially used by *ojhas*, when they have sacrificed fowls.

#### SERVING OF FOOD.

The Santals have no tables, no chairs, no knives, forks or spoons; and no dining room. People belonging to the family may take their food inside or on the verandah, if they have one. As a rule they will sit down on the ground in the courtyard. This is generally plastered with cowdung and carefully swept and cleaned, before they sit down, or mats are used. The food is served in whatever utensils they may have. Nowadays they generally have one or more brass-plates and brass-cups. These are, however, of fairly recent introduction and bought from other races, especially Hindus. When they have no such vessels, or if these are insufficient, they have to use their old plates and cups, all made of leaves. These are invariably used only once and then thrown away. To use these on more than one occasion, even by the same person, would be considered a terrible thing, opposed to all rules of cleanliness and quite impossible.

The leaf-plate (*patra*) is made of any kind of leaf that is large enough (especially leaves of the Sal, *Shorea robusta* Gaertn., and of the Mahua, *Bassia latifolia* Roxb.). To make a leaf-plate a dozen or more leaves are used, always of the same kind, not different ones mixed together. The leaves are pinned together with bits of hard dry straw. This work is done by women, although a few men have also learnt how to make them. Leaf-plates are especially made at the commencement of the hot season in large numbers. The women collect leaves that have fallen and are in good condition. If too dry, they are wetted during the operation. Santals keep high piles of ready-made leaf-plates to have for use during the coming rains, their working season, or for guests. A leaf-plate is round and up to about 30 cm. across.

The leaf-plate is used for *daka*, cooked rice, which is served on it in heaps. Cooked rice is nowadays the principal food of the Santals, and consequently *daka* is a term commonly used for food in general, something like the English use of the word 'meal'.

As previously remarked *daka* is not eaten alone, something has to be added that, having value as a foodstuff, also imparts taste to the otherwise insipid rice. This is curry, called by the Santals *utu*, i.e., pulses, meat, flesh, or practically anything eatable, that can be made into *utu*. *Utu* is described in detail later.

*Utu* is served in brass- or leaf-cups. The brass-cups need no description; they are small bowls bought in the bazar. The leaf-cups (*phuruk*, as the Santals call them) are made of the same kind of leaves as the *patra*. The Santals have several kinds of

leaf-cups, named according to their form or use. All leaf-cups naturally have the leaves so turned up and folded, that they form a cup which is compact enough to retain fluids. As it is of some ethnological interest, a list of the Santal leaf-cups is given here.

*Aṭal phuruḱ*, lit. layer-leaf-cup, is made of two Sal-leaves placed side by side with two others on top of these, all stitched together with straw-pins. Sometimes double leaves are used.

*Bōnga bhāutiḱ ph.*, made of one leaf, with straw-pins at four corners, used for drinking milk, also for keeping sun-dried rice, sindur, etc., at the time of sacrifices.

*Bhāutiḱ ph.* is made of two leaves placed one across the other, and is used for any kind of *ulu*, also for fish curry (then called *hako jōm bhāutiḱ ph.*), and also for curds.

*Cuṭiul ph.*, lit. pigtail leaf-cup, made of one leaf. It is used for serving out beer and is very small. Its use is considered niggardly.

*Daṅgra jōm ph.*, lit. ox-eating leaf-cup, is made like the *aṭal ph.*, but of very large leaves, and is used for meat curry.

*Dhondra ph.*, a large leaf-cup, made of one leaf. (Desi *dona*.)

*Dhondra khalak*, a large leaf-cup, made of two leaves. *Tale dhondra*, made of the leaf of the Palmyra palm, especially used for drinking *ṭari*, liquor (toddy) made from the Palmyra or Date palms.

*Hāṅdi*<sup>1</sup> *ph.*, lit. beer leaf-cup, made of one leaf, both ends pinned. As the name shows, this is used for drinking beer. The same kind is also used for water or milk when given to children.

*Jel ph.*, the same as *aṭal phuruḱ*, but used for meat or flesh curry.

*Khalak ph.*, a large leaf-cup, made of four leaves (Sal) pinned together, used for certain foodstuffs, such as tripe.

*Paṭra khalak ph.*, very large, pinned like the *paṭra*, leaf-plate.

*Sorha ph.*, the same as *aṭal ph.*, of large leaves, used for any kind of curry, also for *daḱ maṅdi* and *nim daḱ maṅdi*, the rice-gruel with nim added. It is also called *sorwa*.

*Ulu ph.*, the same as *aṭal ph.*, except that as the name implies it is used for curry.

*Tale ph.*, a leaf-cup, made of the leaf of a Palmyra palm (made by men only), used for drinking or for carrying flesh, etc.

*Cōkorhaṭ*, a leaf-cup made from one leaf, the stalk end of the leaf being folded on both sides of the midrib. If there is sufficient stalk, this is used as a pin; otherwise a bit of stiff straw is employed. This is used for serving out dry, especially parched, food.

*Cukṛūc*, a leaf-spoon; the leaf is folded from the tip twice over, so that the tip comes round to the stalk on one side and is there fastened with a straw-pin. This is used for *daḱ maṅdi* and water.

*Dolkha*, the same as *khalak*; the word is seldom used by the Santals, but by the Mahles.



## CULTIVATED VEGETABLES.

Curry, called in Santali, as already stated, *utu*, is never eaten alone, but always with *daka*, cooked grain, mostly rice. It is an important part of the Santal diet, and also imparts taste to the otherwise somewhat insipid *daka*. *Utu* is prepared separately, and either cooked with turmeric, spices and salt, or cooked in oil. Vegetables are also cooked in water, when no oil is available.

The Santals cultivate the following vegetables and pulses, and these are mostly used for *utu* :—

In parenthesis, it may be noted, that the Santals prepare what they call *dal*<sup>1</sup>, split pulse (of all dicotyledonous fruits), for use in their *utu*. The *dal* is prepared in a hand-mill, the kernel being generally (but not always) roasted before being ground. When being prepared for *utu* the *dal* is first boiled long enough to dissolve it and spices and salt are then added with the oil.

*Rahey*<sup>2</sup>, *Cajanus indicus Spreng.*, is one of the most commonly cultivated pulses of the Santals. It is frequently sown together with the maize in the *barge*, but also alone. They have several varieties, mostly named in accordance with the time when they ripen, thus:—

*Aghār rahey* (or *aghoniā*), ripening in Aghar (Nov.-Dec.), *maṅghi* (or *maghi*) *rahey*, ripening in Magh (Jan.-Feb.), *caṭqali rahey*, ripening in *Caṭ* (March-Apr.), and *lapra rahey*, so called on account of its large and broad pods.

*Buru rahey* is quite another plant, *Cyamopsis tetragonoloba Taub.*, not cultivated by itself, but sown along the borders of a field together with some other crop. It is considered a crop for times of scarcity. There is also a wild plant resembling the *rahey*, that in times of scarcity is eaten raw.

*Kesari*<sup>3</sup> (or *kisari*), *Lathyrus sativus L.*, is sown in rice-fields in Aghar (Nov.-Dec.) when the heavy paddy has ears. It is left, when the rice is cut and is harvested in *Caṭ* (end of March). This plant is not to be confounded with *lal kisari*, *Eclipta alba Hassk.*, var. *prostrata*, or with *lau* (or *ṭandi*) *kisari*, *Eclipta prostrata L.*, used in Santal medicine, but not eaten; both these are wild plants.

*Ghaṅgra*, *Dolichos iat Jang, Linn.* is a commonly cultivated bean. The Santals distinguished a number of varieties: *Aghanua* (or *aghoniā*) *gh.*, ripening in Aghar, *bhador* (or *bhadriā*) *gh.*, ripening in Bhador, *cihri gh.*, (acc. to Dr. Campbell, not known in the Santal Parganas), *boḍa gh.*, having large beans, *dasāc* (or *dasmi*) *gh.*, ripening in Dasāc, *ḍan gh.*, grown on wooden supports (cultivated like *malhan*, q.v.), *moṭa* (also called *buru*) *gh.*, having small beans, and *sutri gh.*, having small thin legumes.

*Ghaṅgri*, a variety of *ghaṅgra*, ripening in Bhador.

*Hoṛeḥ*, *Dolichos biflorus L.*, largely cultivated during the cold season, are beans used for *utu* and *ṣatu* (a kind of flour or meal). Women who have borne a child are allowed only *hoṛeḥ utu*, until they are cleansed. *Hoṛeḥ* is also used medicinally. Water

<sup>1</sup> *Dāl* is also used in Bengali and Hindi for cooked pulse—*Ed.*

<sup>2</sup> *Arbhar* (Bengali)—*Ed.*

<sup>3</sup> Bengali—*Khesāri*—*Ed.*

in which *hoṛçċ* has been boiled is used to wash the mouth of animals suffering from mouth disease. A mixture of crushed *hoṛçċ*, salt and pigeon excreta is put on boils to ripen them. The Santals distinguish between *ponđ* (white) and *hendę* (black) *hoṛçċ* in accordance with the colour of the beans, but they are not botanically different. Besides they have *disom hoṛçċ*, lit. land-h., *Glycine Soja Lieb and Zucc.*, cultivated, eaten parched (*ata, sattu* or *khicri*, cooked with rice), and *bir disom hoṛçċ*, a wild variety of the preceding, used in Santal vet. medicine; also *bir hoṛçċ*, *Attylosia scaraboides Benth.*, a jungle plant, not cultivated, but sometimes eaten. It may be noted that this plant is successfully used by Santals against foot and mouth disease.

*Rambra*, *Phaseolus radiatus Roxb.*, is commonly cultivated. Also, *Ghasua rambra*, (?) *Phaseolus Max Roxb.*, a variety planted on rice-field ridges, having black beans.

*Alpalua*, *Phaseolus aconitifolius Jacq.*, is sown with *janhe*, or cotton, or alone. It is not extensively cultivated and is used for *dal*.

*But*, gram, *Cicer arietinum L.*, is cultivated, where the soil is suitable, perhaps more now than formerly. *Bir but*, *Flemingia congesta Roxb.*, a jungle plant, of which the fruit is eaten. The fruit resembles *but*, hence the name.

*Sutri*, *Phaseolus calcaratus Roxb.* is cultivated together with maize or *ghañgra* and is called *sutri ghañgra*.

*Tiri riti*, a kind of pulse, is found growing in the rice-fields in the cold season together with *kisari*. The *dal* is eaten. Its leaves are also used for curry.

*Maṭor*, *Pisum sativum L.*, and *Pisum arvense L.*, the pea, is very rarely cultivated by the Santals but is bought in the shops.

*Masri*<sup>1</sup>, a pulse, *Lens esculanta Moench.*, is cultivated in certain parts.

*Mun*<sup>2</sup>, a cultivated pulse, *Phaseolus Mungo Linn.*, var. *Max.*, is commonly grown.

*Malhan*, *Dolichos Lablab Linn.*, the common bean, is cultivated in gardens or near the houses. They have a number of varieties: *Ato malhan*, lit. village bean; *araḱ m.*, having reddish pods; *bilati m.*, lit. Europe-bean, any bean introduced from Europe or America and cultivated in gardens; *dūrī m.*, a bean having long and roundish pods (so named because the pods are reminiscent of the eel-like *dūrī* fish); *ḍuriā m.*, a variety having more than one pod from the same raceme; *gele m.*, a variety of *Dolichos Lablab L.*, having the legumes on an erect spike; *hendę m.*, a variety of *Dolichos Lablab* with blackish legumes; *course m.*, a variety with purple-coloured flowers and legumes; *lapra m.*, a variety with broad legumes; *ponđ m.*, a variety with white flowers and legumes and white beans; *reṭhe m.*, a variety of *Dolichos lignosus Linn.*, having small pods and leaves (also called *turi m.*, mustard beans); *uṭi m.*, a variety of *Dolichos Lablab*, having pods at 'joints'. Beans are naturally also eaten raw. From beans the Santals also prepare what is called *malhan sure*, a bean hash. The ripening pods are cleaned and cut into two or three pieces and then boiled; when sufficiently soft, rice is added and the whole cooked into a hash that is eaten instead of rice and curry.

<sup>1</sup> Bengali *Musuri*—Ed.

<sup>2</sup> Bengali *Mug*, Hindi *Mung*—Ed.

In times of scarcity the seeds of *bheḍa dereñ*, lit. Ram's horn, *Cassia Tora L.* (also called *cakaoḍa*) are eaten boiled together with mahua flowers. The tender leaves may also be used in curry.

Besides the leguminous plants mentioned the Santals cultivate a number of plants, the fruits of which are used for curry or otherwise eaten. These plants are mostly kept growing singly or a few together, near the houses, often so that they run up and have fruits lying on the roofs.

*Bengar*<sup>1</sup>, the egg-plant, *Solanum Melongena L.*, is commonly cultivated. They recognize the following varieties: *Baromaṣia*<sup>2</sup> *b.*, so called, because it is fruiting the whole year (also called *barse b.*); *ḍhudaḍa b.*, having large round fruits (so named because the fruits resemble a *ḍhudaḍa*, an oil container of leather); *heñde b.*, having blackish fruits; *jhompa*<sup>3</sup> *b.*, having two or three fruits from a common stalk (*jhompa* means 'in clusters'); *kajri b.*, having greyish fruits (*kajri*, having dark spots); *koṛce* (or *kuṛca*) *b.*, the tomato, now commonly called *belati*<sup>4</sup> *b.*, European egg-plant, recently introduced and not as yet commonly cultivated by Santals; *paḷa b.*, lit. seer egg-plant, having large round fruits; *soḷa b.*, having long fruits (*soḷa* means long and sharp pointed). The fruit is cooked in oil.

*Jhinga*<sup>5</sup>, *Luffa acutangula Roxb.* The Santals recognize the following varieties: *Car sira jh.*, lit. four-edged *jh.*, fruit having sharp ridges; *ḍuria jh.*, bunch *jh.*, having several fruits from one stalk; *jhompa jh.*, cluster *jh.*, the same as *ḍuria jh.*; *niron jh.*, hot weather *jh.*, cultivated during the hot season; *kaila jh.*, lit. light-coloured *jh.*, resembling the *ḍuria jh.*; *jhingi*, the same as *jhinga*, but having only small fruits. In addition: *Porol jh.* (also called *poṭol*<sup>6</sup> *jh.*), *Luffa aegyptiaca Mill. ex H.f.*, uncommon; and *Ram jh.*, *Hibiscus esculentus L.*, lady's finger, commonly cultivated.

*Hotol*, the bottle gourd, *Lagenaria vulgaris Ser.*, is largely cultivated by the Santals, both on account of its fruit, which is used for curry, and for the shell of the ripe and dried fruit, which is used for all kinds of vessels, and, formerly, was practically their only kind of vessel. The Santals distinguish several varieties, according to the shape of the fruit: *Jante*<sup>7</sup> *h.*, fruit resembling a mill-stone (*jante*); *jelen h.*, the fruit being long; *laua*<sup>8</sup> *h.*, having a more or less globular fruit (*laua* is a name for cup); *bharia*<sup>9</sup> *h.*, having only one fruit (*bharia* is the word for carrying on the shoulder on a yoke, bangy pole); *ponḍ h.*, fruit white; *hariay h.*, fruit green when ripe; *mare h.*, having only one fruit (also used about an old, last year's fruit). The varieties mentioned are what they call *sebel*, meaning tasty, eatable. There is one variety called *harhat h.*, bitter bottle gourd. This is not eaten, but its shell is very serviceable for making cups, ladles, water-bottles, etc. *Bokak hotol* is of this bitter kind. The fruit has a peculiar form, being narrow close to the stem and having a round head at the other end. When this is cut with a sickle made red-hot along the middle, two serviceable

<sup>1</sup> Bengali *Begun*—Ed.

<sup>2</sup> In Bengali also called *Belati Begun*—Ed.

<sup>3</sup> Bengali *Jhāy*—Ed.

<sup>4</sup> From Bengali *Jaṭa*—Ed.

<sup>5</sup> From *Bhār* in Bengali meaning 'load'—Ed.

<sup>6</sup> From Bengali *Bāro* = 12; *Mās* = month—Ed.

<sup>7</sup> Bengali *Jhinga*—Ed.

<sup>8</sup> Bengali *Patol*—Ed.

<sup>9</sup> From Bengali *Lāu*—Ed.

ladles are obtained. To do away with the bitter taste the ladle thus prepared is filled with cow-dung and ashes and left for about a fortnight; then all is scraped out with a mussel-shell. These are used for ladling out rice and curry. Implements made from the bottle-gourd are supposed not to become defiled. (*Bokaḥ* means ladle.)

*Kohṇḍa*<sup>1</sup>, pumpkin, *Cucurbita moschata* *Duchesne*, is cultivated everywhere by the Santals, and its fruit eaten as curry. They differentiate varieties in accordance with the shape of the fruit and the season when cultivated. *Jante k.*, fruit resembling a mill-stone; *jelēi k.*, fruit being long; *tukuḥ k.*, having fruits shaped like a *tukuḥ*, an earthenware water-pot; *ponḍ k.*, having light-coloured fruits; *niron k.*, cultivated during the hot season.

*Karla*<sup>2</sup>, several creepers are so called. *Deko karla* (also called *haḥḥaḥ k.*), *Momordica Charantia* *Linn.* and *Momordica muricata* *DC.*, is commonly cultivated; the *haḥḥaḥ k.* has a bitter fruit. *Ghi* (or *sebel*) *karla*, *Memordica dioica* *Roxb. ex Willd.*, the fruits of which are used in curry, before they are ripe. They also recognize *ato karla*, the cultivated kind, and *bir karla*, lit. forest *karla*, that is wild. The leaves of this are edible and are called *kacan araḥ*. These are often found when they are out hunting and are used in curry.

*Kundri*; there are two kinds, *ato kundri*, *Cephalandra indica* *Naud.*, = *Coccinia cordifolia* (L) *Cogn.*, commonly cultivated; and *bir kundri*, *Melothria heterophylla* *Cogn.* The fruit and tuber (called *at*) are used in curry. The plant is dioecious, the male creeper being called *aṇḍiā kundri*, the fruiting one *eṅga kundri*. The tubers of both are eaten boiled or roasted.

*Poṭol*, *Trichosanthes dioica* *Roxb.*, is only rarely cultivated by the Santals, but is very common amongst Bengalis. The ripe fruit is much used in curry. Dr. Campbell mentions two varieties, *geṇḍ poṭol* raised from tubers, and *ḥalta poṭol*, raised from cuttings. These distinctions are not known among the Santals in the Santal Parganas, most likely because there is little cultivation.

*Ato piṇḍe*, *Amorphophallus campanulatus* *Blume*. Cultivated; the tuber is peeled, steamed and eaten with mustard and *amtha*, the inspissated juice of the tamarind or the mango. The tamarind is soaked, the stones pressed out, and the pulp kneaded. This is then dried and made into balls that are preserved for use as a condiment with curry (especially fish curry). There is also a *bir piṇḍe*, a small forest tree, *Randia uliginosa* *DC.*, the fruit of which is eaten as curry.

*Saru*, the Taro plant, *Arum Colocasia* *Linn.*, or *Colocasia Antiquorum* *Schott.*, is commonly cultivated. The tuber or corm is eaten, also the stem and leaves (all in curry). The Santals recognize a number of varieties: *Araḥ saru*, of which only the leaves are used; *bir saru*, a wild Taro, the leaves of which are eaten in curry (Roxb. considers this only a variety of *Arum Colocasia*); *bhaluk liṇḍhi saru*, lit. bear-hindquarters Taro, a variety; *bhoṇḍa saru*, a variety with large corms (*bhoṇḍa*, fat, unwieldy); *deko saru*, a variety cultivated by Dekos; *hoṛ saru*, a variety especially cultivated by Santals; *kanda saru*, *Arum Colocasia* *Linn.*, a variety with one large corm; *mukhi saru*, cultivated; *picki saru*, cultivated (the two last varieties are mentioned by Dr. Campbell);

<sup>1</sup> Bengali *Kumra*—*Ed.*

<sup>2</sup> Bengali *Karala*—*Ed.*

*rohoe saru*, any planted variety may be so named (*rohoe*, to plant). Besides the *saru* already mentioned they have two different plants, also called *saru*, viz. *kaṅṭa saru*, *Lasia spinosa Thv.*, that is planted near water for the medicinal use of its corm, and *man kanda saru*, also only used for its medicinal properties (the corm being applied to painful spots).

*Kaera*, the plantain, *Musa sapientium L.*, or *Musa paradisiaca L.*, is fairly commonly planted near the courtyard, but as a rule only the coarser varieties are grown.

In connection with the plants just mentioned the following may be noted:—

*Ak*<sup>1</sup>, the sugarcane, *Saccharum officinarum L.* The Santals distinguish a number of different kinds which, however, are not botanically different:—

*Bajra ak*, resembling the *bajra*, *Sorghum vulgare Pers.*; sown in June, cut in Nov.-Dec., not irrigated.

*Basta ak*, white, planted and cut like *kajri ak*, q.v.

*Bombae ak*, reddish, thick, planted in June, cut in April, irrigated.

*Kajri ak*, reddish, planted in June, cut in March; requires irrigation.

*Pachiari ak*, also called *raonda ak*, whitish, planted in November, cut in Oct.-Nov. the following year.

*Poṅḍe ak*, white, planted and treated like *kajri ak*.

*Rēṭhe ak*, a stunted kind.

Formerly an implement called *maha sal*, drawn by bullocks, was used for pressing the cane. This is now very rare, and instead the Santals use a *raṅksi*, two heavy rollers, fixed on two solid posts and worked by hand. Two men sit at either end, pulling one end of the turn-pole towards them by the hand, whilst pushing the other end away with the foot. The product is then boiled in a large pan. In this way they make *gur*<sup>2</sup>, molasses or treacle, the form of raw sugar that is most commonly used.

*Alu*<sup>3</sup>, the potato, is very rarely cultivated by Santals, except where they are in contact with Europeans. Potatoes are bought in the bazar and used for curry.

*Aser*, a climber; the root is eaten boiled.

*At*, the edible root of *bir kundri*; v. *kundri*.

*Bayan*, a creeper, *Dioscorea hispida Denns.* The root is eaten.

*Camua*, a creeper. The root is eaten. The Santals have possibly obtained this from the Paharias, as the name is borrowed from them (*camua*).

*Kolo*, a variety of *Dioscorea hispida Denns.* The tuber is bared and a number of incisions made in it. It is then boiled and placed in a water-pool for one night, taken out, again boiled and eaten. The tuber is also used for making beer intoxicating.

*Kucla*, the clearing-nut tree, *Strychnos potatorum L. fil.* The pulp is eaten.

*Kunam*, a plant, the tubers of which are eaten. There are two varieties, *gai kunam*, having small tubers, and *nāyī kunam*, having large tubers. They have a saying that the tubers of this plant in former times grew to the size of a kettle-drum.

*Piska*, a climbing plant, *Dioscorea oppositifolia Linn.* The tuber is boiled and then treated as *kolo*, q.v.

<sup>1</sup> Bengali—*Ak*—*Ed.*

<sup>2</sup> Bengali—*Gur*—*Ed.*

<sup>3</sup> Bengali—*Alu*—*Ed.*

*Sahya*, a small tree, *Streblus asper* *Lowr.* The leaves are placed in milk to make it coagulate.

*Sāñ* (or *san*) is a Santal name for various plants or bushes having edible tubers. They have *bir sāñ*, a wild species, *Phaseolus mungo*, var. *radiatus* *L.*; *dare sāñ*, *Dioscorea alata* *L.* Cultivated; *ḍura sāñ*, *Dioscorea pentaphylla* *Linn.*; *jo sāñ*, *Dioscorea pubera* *Bl.* Cultivated; the fruit and tubers are eaten; *nāyī sāñ*, the male plant, the same as the female *jo sāñ*; the tubers are eaten. The Santals are very fond of these tubers when cooked in oil.

*Sakarkenda* (also called *ṣekerkenda*), *Ipomæa Batatas* *Poir.*, a kind of sweet potato, is commonly cultivated.

*Susni*, *Dioscorea esculenta* *Burkill.* Commonly found wild, but it is also planted. The tubers are eaten.

*Taher*, *Cucumis sativus* *L.*, is commonly cultivated.

*Phuṭ taher*, a kind of Melon, *Cucumis Melo* *L.*, var. *momordica*. The fruit is much relished. When young, it is a good substitute for the common cucumber; later it will burst, and with sugar added it is excellent.

*Tarbuḷ* (or *tarbuḷ*), the Melon, *Cucumis Melo* *Linn.*

#### CULINARY OILS AND OTHER OILS.

We will now deal with the oils and spices, etc., that are used in connection with the preparation of curry. Of oil and similar cooking media they have several kinds.

*Gotom*, ghee or clarified butter. When churning, the unsalted butter (*nainu*) is collected, put in a vessel over a fire and boiled. In this way they prepare what looks like a kind of oil that remains fluid, so long as the air temperature is high. During the cold season it is liable to coagulate, but this does not affect its quality. It is the same kind that is used all over India. Made from cow's milk it is called *gai gotom*, and from buffalo-cow's milk *bitkil gotom*. It should, however, be noted that very few Santals are sufficiently well-to-do to use ghee when preparing their curry.

*Sunum* is the Santal name for oil in general. Among Santals the oldest they have is probably what they call *kūiṇḍi sunum*. This is prepared from the kernels of *kūiṇḍi*, the fruit of the Mahua tree. These kernels (*kūiṇḍi jañ*) are split into *ḍal*, and the split kernels are dried and pounded into a kind of flour (called *kūiṇḍi holon*). This is first washed and dried and then put into a small basket, that is placed on the mouth of an earthenware pot not quite half full of water, standing on the fire. When the flour has in this way been sufficiently 'steamed' (this is tested by seeing whether oil comes out when it is pressed between the fingers), it is put in a straw cover that is tied up with a string. This cover is then placed in an oil-press, and the oil pressed out.

The Santal oil-press (*sunum lenok* (or *lelen*) *paṭa*) consists of two heavy logs of wood fixed on two solid posts, one near each end of the logs. These logs are planed on the sides that meet, and in the lower log's surface a ring (*candwa*) is cut, sufficiently large to take the oil. This finally runs out over a small spout called *luṭi* (lip). To press the oil out a rope is taken round the logs at one end, a piece of wood is inserted through the upright post at the other end, to keep this end down, and with the help of a solid

belaying-pin the two logs are pressed together. Occasionally one comes across another, probably older, form of oil-press, called *cunduç paça*. This consists of a large piece of stone, the surface of which is made plane and has a circular ring and a channel cut in it. This stone is placed at the foot of a large tree (g., a Mahua), a fairly large hole is cut in the stem of the tree, and into this the end of a long piece of timber is inserted for pressing out oil from a wrapper prepared as described above. The weight of the timber on which people lean or sit provides the necessary pressure.

The oils so obtained are used for many purposes, anointing, lubricating, as medicine, as well as for preparing curry. The various kinds of oil are generally utilized separately and are seldom mixed together. The oil-cake (*kaye*) left is used as a hot fomentation, as a fish-poison, and to drive away snakes. In this last case it is burnt on a fire and the smoke drives the snakes away.

Other oils, extracted by the Santals for culinary purposes, are produced from: *Bonga sarjom*, a large climbing shrub, *Ventilago calyculata Tulasne*. Oil obtained from the fruit is used for culinary purposes.

*Dare kudrum*, *Hibiscus cannabinus L.* Oil is extracted from the fruit kernel, which is husked, made into flour and eaten in curry.

*Kujri*, a climbing shrub, *Celastrus paniculata Willd.* Oil is extracted from the seed (in a similar way as from *Kuinđi*) and is used in medicine as well as for frying parched Mahua flowers.

*Surguja*, *Guizotia abyssynica Cass.* Very commonly cultivated, this yields the Niger seed and oil, which is largely used. Nowadays it is a common practice for the seed to be sold to Hindu oilmen (*tili*), and the oil bought from them. The same is the case with the following, viz.:—

*Tilmiñ*, *Sesemum indicum Linn.* Commonly cultivated. They distinguish *hẽde*, black, and *ponđ*, white *tilmiñ*, in accordance with the colour of the seed.

*Turi*, the mustard plant, *Brassica campestris L.* Very commonly cultivated. The Santals distinguished the following varieties: *Badam* (or *badom*) *turi* and *luñi* (*turi*), both having black seeds, *man turi*, *rai turi*, giving small yellow seeds, and *thãdia* (or *thãria*) *turi*, having yellow seeds. The Santals cultivate these also for sale to obtain money to pay their agricultural rent. The leaves are used in curry.

The oil that is now probably most commonly used in preparing curry is what they call *utiñ sunum*, lit. barter oil. It is so named from the way in which this oil was originally obtained from the Telis, i.e. by paying for it in kind (all kinds of oil seed). It is mustard oil mixed with oil of other seeds.

As it is of some ethnological interest, the oils extracted by the Santals for other than culinary purposes may also be mentioned. They are obtained from:—

*Atkuñi*, a prickly annual, *Argemone mexicana L.* Oil extracted from the seeds is used in lamps.

*Bando*, a creeper, *Spatholobus Roxburghii Benth.* Oil is obtained from the fruit.

*Baru*, a tree, *Schleichera trijuga Willd.* Oil extracted from the seeds is used against skin diseases.

*Bhernda*<sup>1</sup>, a small tree, *Jatropha Curcas L.* Oil obtained from the seeds is used both in lamps and as a laxative.

*Eradom*, *Ricinus communis L.* Fairly commonly planted. Oil extracted from the fruit is used for lamps as well as a laxative (castor oil).

*Koroñj*, *Pongamia glabra Vent.*, a large forest tree, is also grown. Oil from the kernels is used against scabies.

*Musna*, *Linum usitatissimum L.* The oil is used in Santal medicine. In some parts of the country they use *tisi* or *thisia* a very similar plant. This plant is cultivated but not in any great quantity.

*Nim*<sup>2</sup>, the Neem tree, *Azadirachta indica Jus.* Oil is extracted from fruit kernel and has a very bitter taste.

*Soso*, the Marking nut tree. Oil, distilled from the drupe, is much used as a vesicant on animals, to paint numbers on houses, and for other purposes.

The ingredients used by the Santals in connexion with preparing the curry are, besides the oils, the following:

*Sasani*, turmeric, *Curcuma longa Linn.* This is very commonly cultivated and used when preparing all kinds of curry, except those made from leaves. The Santals have a saying: What pleases the mouth is salt; what pleases the eye is turmeric; what pleases the nose are spices; what pleases the lips is pepper and when you combine all these things, the result is most agreeable. What they say seems to show that they have little understanding of the value of turmeric in their food. Turmeric is also used in Santal medicine, both externally and internally, it is largely used as a temporary yellow dye, and, mixed with oil, as an anointment. When women wear a new piece of cloth, it is almost invariably dyed yellow by the application of turmeric but the first washing removes it.

*Peaj*<sup>3</sup>, onion, *Allium ascalonicum Linn.* Fairly commonly cultivated by the Santals. They recognize the following varieties: *Arak peaj*, the red (common) onion, and *chimbri peaj*, the same, but so called when growing in clusters; *sāci peaj*, *Allium odorum L.*, and *kaḍa peaj*, lit. Buffalo onion, *Allium Cepa Linn.*, a very large onion. It is curious that the beautiful *Pancreatium verecundum Ait.* is also called *kaḍa peaj* by the Santals. *Pond peaj*, white onion, is only another name for garlic.

*Rasun*<sup>4</sup>, Garlic, *Allium sativum Linn.*, is not commonly cultivated.

*Maric*<sup>5</sup>, pepper. The Santals have a number of varieties: *Caole maric*, lit. rice-pepper, *Capsicum minimum Roxb.*; *dare maric*, lit. tree pepper, *Capsicum annuum L.* (also called *dinḍi maric*, *dinḍi* being their name for the boll of cotton); *dimbo maric*, *Capsicum grossum Willd.*, or *Capsicum cerasiforme Lamk.*; *sakwa maric*, lit. horn pepper, *Capsicum frutescens Linn.*, so named from its long pods; *siṅghin maric*, lit. spiny pepper, botanically the same as the *sakwa maric*, but so named from the pods

<sup>1</sup> Bengali *Bherenda*—Ed.

<sup>2</sup> Bengali *Nim*—Ed.

<sup>3</sup> Bengali *Peāj*—Ed.

<sup>4</sup> Bengali *Rasun*—Ed.

<sup>5</sup> Bengali *Marich*—Ed.



growing upwards; another name for the same is *sim saba maric*, lit. fowl spur pepper, also *suruḡ mukhi maric*, the sun-flower pepper. All the above varieties are cultivated by the Santals and used in preparing curry. Often these are also eaten like chillies. Besides the varieties mentioned they have *gol maric*<sup>1</sup>, lit. round pepper, Cayenne pepper, that is used in their curry, but not cultivated by the Santals. They have two other names for the same, *santhi maric* and *san̄ci maric*.

*Buluḡ*, salt. They have: *Biḡ buluḡ*, a factitious salt containing sulphur; *hēndē buluḡ*, black salt; *paṅga buluḡ*, a white salt. Many Santals know how to make *hēndē buluḡ* into white salt. It might be mentioned that they call an arsenical stuff used for preserving hides *harta buluḡ*, lit. hide-salt; this is naturally not used by the Santals, except when supplied to them by those who buy the hides. In former times the Santals are said to have produced a kind of salt. A Santal has given me this description of the process: In rice-fields or in low-lying spots in forests saline clayish soil that had cropped up, whitish in colour, looking like the leavings of earth-worms was occasionally discovered. This was collected by means of a broom or with their hands. Any stones or grass were removed. Pouring water in an earthenware pot in which the soil was kept they boiled it and then took it off the fire and allowed it to cool. This was to remove all dirt and extraneous matter. This water was then poured into a cooking vessel, and the whole was boiled, until nearly all the water had evaporated. The vessel was then removed from the fire, and the salt deposit obtained. Salt produced in this way was not like the salt bought nowadays. It was not tasty but had a disagreeable flavour.

In preparing *utu*, curry, they use a number of spices, *mosola*<sup>2</sup>, of which some are called *gorom mosola*<sup>3</sup>, i.e., hot, pungent spices. The following are in constant use: *Adhe*<sup>4</sup>, Ginger, *Zingiber officinale Roscoe*, cultivated by the Santals; *dar cini*<sup>5</sup>, cinnamon, the bark of *Cinamomum Tamala Nees & Eberne*. (or of other cinnamon trees) bought in the shops; *dhania*<sup>6</sup>, Coriander seed, *Coriandrum sativum Linn.* (name adopted from Hindi); *elaci*, Cardamoms, *Alpinia Cardamomum Roxb.* (name through Bengali from Persian); *jira*<sup>7</sup>, Cummin, *Cuminum Cyminum Linn.* (name from Hindi); *kaḷia jira*<sup>8</sup>, *Nigella sativa L.* (the name is from Hindi); *loiṅphul*, Cloves, *Eugenia caryophyllaea Willd.* (name adopted from Bengali). With the exception of *Adhe*, Ginger, *Zingiber officinale Roscoe*, the plants of these spices are unknown to the Santals and are not grown by them and they buy the spices from the shops.

#### LEAVES AND PLANTS.

Let us now turn to what the Santals call *apaḷ*, i.e., leaves, pot-herbs, of plants and bushes and even trees, that are eaten, mostly as curry. Some of these are

<sup>1</sup> In Bengali *Gōl Marich* means also Cayenne pepper—*Ed.*

<sup>2</sup> Bengali *Masalā* means spices—*Ed.*

<sup>3</sup> *Garam Masalā* in Bengali means cardamom, cinnamon and cloves and together as spices in meat and other curries—*Ed.*

<sup>4</sup> Bengali *Ādā*—*Ed.*

<sup>5</sup> Bengali *Dārchini*—*Ed.*

<sup>6</sup> Bengali *Dhane*—*Ed.*

<sup>7</sup> Bengali *Jecrā*—*Ed.*

<sup>8</sup> Bengali *Kāla Jecrā*—*Ed.*

cultivated, but most of them are found growing wild. We shall take them in alphabetical order.

*Apaṅgir aṛaḱ*, lit. eloping vegetable; leaves of a pot-herb found in Assam and on the hills. Not commonly known.

*Alu aṛaḱ*, leaves of the potato plant, used as curry but rare.

*Aṭkura aṛaḱ*, the tender leaves of a small forest tree, *Wrightia tomentosa* *Roem.* et *Schultes*, used in curry. The bark of the stem and the root are used in Santal medicine.

*Bambaro aṛaḱ* (also called *ambaro*), the Roselle plant, *Hibiscus Sabdariffa* *L.* The Santals recognize two varieties, *paṅḍ*, white, and *aṛaḱ*, red, in accordance with the colour of the stalk and flowers. They are not botanically different. These are commonly cultivated. The flesh of the fruit is used as a curry; the kernel is roasted and ground and used with *mathom laṭhe*, a dough made of the mahua flowers, especially taken along as a food when they go hunting. *Laṭhe* is prepared as follows: The dried mahua is soaked in water and then roasted on a large potsherd. When this is ready it is mixed with one of the following substances: roasted maize, *surguja* (the Niger seed), *tilmiṅ* (the Sesame seed), the seed of hemp or of *bambaro*, and finally pounded in the *dhiṅki*<sup>1</sup>. When ready it is made into balls and put into leaf-cups. For the annual hunt they take a number of these balls along with them in a large leaf-cup. (It might be mentioned that memsahibs use part of the calyx for making jellies and juice and find it very good for the purpose.) The *bambaro* ripens in December.

*Banda rukhi aṛaḱ*, not known to the writer. *Banda* is the name of parasitical plants, belonging to Loranthaceæ; *rukhi* means a bit.

*Baye loa*, v. *baye*.

*Bahu tuṭuri aṛaḱ*, the leaves of a small plant, *Veronica cinerea* *Less*, used in curry. The meaning of the name is the head-covering of a bride.

*Baru aṛaḱ*, the leaves of *Schleichera trijuga* *Willd.*, a large forest tree, the tender leaves of which are used in curry. An oil is extracted from the seeds and used in Santal medicine, as also are the bark and root.

*Boebindi aṛaḱ*, *Randia dumetorum* *Lam.*, a thorny tree. The leaves are used in curry, the fruit is eaten and the bark and roots used in Santal medicine.

*Buc aṛaḱ*, the tender leaves of *Cordia Myxa* *L.*, used in curry. The fruit of the tree is also eaten.

*Buṭ aṛaḱ*, the leaves of gram, *Cicer arietinum* *L.* (also called *bhuṭ*), used as curry.

*Bhabri*, a shrub or small tree, *Embelia robusta* *Roxb.* The young shoots are eaten raw.

*Bhatua aṛaḱ*, the leaves of *Chenopodium album* *Linn.*, a wild plant, used in curry.

*Bheḍwa*, a plant, *Hibiscus cancellatus* *Roxb.*, var. *fusiformis* *Willd.* The tubers are eaten raw, after having been scraped.

<sup>1</sup> Bengali *Dhenki*—*Ed.*

*Bhorakonḍ arāk*, the leaves of *Hymenodictyon excelsum* Wall., a forest tree, used in curry. The bark is used medicinally; the wood is used by the Santals for making fiddles, yokes, etc.

*Cakaoda* (or *cakaonḍa*) *arāk*, the young leaves of *Cassia Tora* L., a small plant, are used in curry, but are not considered first class.

*Catom arāk*, lit. umbrella vegetable; several plants are so called, and these are used in Santal medicine. One variety is *daḱ catom arāk*, *Marsilea quadrifolia* L. It grows near water and its leaves are used in curry.

*Coṭo lutur arāk*, lit. field-mouse-ear vegetable, *Ipomæa Pes-tigrides* L., a creeper. The fruit is also eaten (i.e., the kernel).

*Coṛo moḱoḱ arāk*, the leaves of the *bambara*, *Hibiscus Sabdariffa* L., used in curry.

*Cunḍuc arāk*, a small plant, *Commelina communis* L., used in curry.

*Dare japaḱ arāk*, a climber, *Scindapsus officinalis* Schott. The leaves may be used in curry. It is also used in Santal medicine.

*Dhurup arāk*, there are two species, one called *aṇḍia dhurup arāk*, a plant, *Leucas cephalotes* Spreng., the leaves of which are used in curry, but not often, as they are bitter. It is also used in Santal medicine. The other is called *eṅga dhurup arāk*, a plant, *Leucas Clarkei* Hook. f.; used in curry and considered very savoury, it is also fried wrapped in leaves.

*Daṅgra kata arāk*, a wild plant. The leaves used in curry.

*Ḍimbu arāk*, a creeper, the leaves of which are used in curry (? *Ocimum Basilicum* Linn.). Two varieties are recognized, one called *barge ḍimbu arāk*, found in the *barge*, and one called *hoṛ* (or *jom*) *ḍimbu arāk*.

*Ḍuṇḍukil arāk*, a forest tree, *Gardenia turgida* Roxb. The leaves are used in curry and the bark in Santal medicine.

*Gargaḍi*, a grass, Job's tears, *Coix Lacryma-Jobi* L. Eaten in times of scarcity.

*Gaṇḍhari arāk*, *Amaranthus gangeticus* Linn.; commonly cultivated, and used in curry. They recognize these varieties: *Arāk* (red) *gaṇḍhari*, *dare* (tree, i.e., high) *gaṇḍhari* and *edhe* (low, with branches down to the ground) *gaṇḍhari*.

*Garuṇḍi arāk*, a plant found growing in rice-fields and moist ground. The leaves are used in curry, as a rule together with *dāl*, split peas. Too much of it is said to cause diarrhoea. The botanical name is *Aeternanthera sessilis* R.Br.

*Sāṛi hataṅ*, lit. monkey-brain, *Ampelocissus tomentosa* Planch. The shoots are eaten to quench thirst during the hot season. Also called *buru ghoṛa lada* (or *ladanri*).

*Gitil arāk*, lit. sand vegetable, *Leucas mollissima* Wall. The leaves are eaten boiled, in times of scarcity.

*Hasa arāk*, a plant, a *Ruellia*. Used in curry.

*Haḱpuḱ arāk*, a small plant. The leaves are eaten as curry.

*Hemea arāk*, the *daḱ* h.a. variety, a plant, *Enhydra fluctuans* Lour. The shoots are roasted in leaves and eaten.

*Hendasari arāk*, the same as *boebindi*, q.v.

*Hesaḱ arāk*, the tender leaves of *Ficus religiosa* L. Used in curry with *dāl*, split peas, it is also roasted and cooked together with rice.

*Huṛ huṛa araḱ*, a plant (also called *seta kaṭa*). The Santals recognize two varieties : *aṇḍia huṛ huṛa*, that has red flowers and is not eaten, and *eṅga huṛ huṛa*, *Cleome viscosa* L., that has white flowers, the leaves of which are eaten in curry.

*Icaḱ araḱ*, a wild pot-herb, *Pouzalzia pentandra* Benn.

*Janum araḱ*, a thorny plant, *Amaranthus spinosus* Linn. The leaves are used in curry and considered excellent. The fruit of the *janum* tree (*Zizyphus Jujuba* Lam.) will be mentioned later.

*Jormoṭ araḱ*, lit. violence vegetable, *Verbescum Thaspus* L.; the leaves are eaten in curry, when there is a scarcity of food.

*Jhiṅga araḱ*, the leaves of *jhiṅga*, q.v., used in curry.

*Jhingur*, a plant, *Amorphophalus lyratus* Kunth. This is eaten, but it must be well boiled and cleaned, otherwise it is considered poisonous.

*Jhun jhuniṅ araḱ*, the leaves of *Crotalaria calycina* Shrank., so named from the rattling sound of its pods. This plant is also called *bir jhunka*.

*Kacan araḱ*, the leaves of *karla*, q.v., used as curry.

*Kana araḱ*, *Commelina benghalensis* Linn. Used in curry with *dal*, split peas; but as this is often difficult, it is sometimes eaten roasted or cooked into a hash with rice.

*Kantha araḱ*, a common wild plant, *Euphorbia granulata* Forsk. The leaves and the whole plant are crushed in a mortar, before being prepared for curry. This is greatly relished.

*Kedoḱ araḱ*, lit. supper vegetable, a creeper, *Argyrea speciosa* Sweet. This is sweet and is used as curry.

*Koḅḅda araḱ*, v. *koḅḅda*. Generally eaten as curry with *dal*, or with fish, it is also roasted.

*Kubi araḱ*, Cabbage. Any form of this eaten, when they can get it.

*Kundri araḱ*, v. *kundri*.

*Kuṛbi* (or *kuṛmbi*) *araḱ*, a plant, used as curry.

*Loa araḱ*, lit. fig vegetable; the unripe fruits of the tree, *Ficus glomerata* Roxb., are gathered and steamed, and when dried pounded in a mortar. A small vessel is heated and some oil poured in; when this is boiling the figs are thrown in, and salt and spices added. When ready this is eaten as curry.

*Loṇṇ araḱ*, a plant, *Ærua lanata* Juss. This is baked with flour and eaten, specially valuable as a medicine.

*Makarḱenda araḱ*, the tender leaves of a forest tree, *Diospyros Embryopteris* Persoon, are used as curry. The fruit is also eaten.

*Malhan araḱ*, v. *malhan*.

*Matḱom araḱ*, a plant, *Hygrophila angustifolia* (R.Br.) Nees. Used as curry.

*Maṭha araḱ*, the leaves of a small deciduous tree, *Antidesma diandrum* Roth., used as curry with *dal*, it is also roasted or cooked into a hash with rice.

*Meṛom cuṅci*, a plant; the tubers are eaten raw.

*Moṛon araḱ*, lit. death vegetable. The Santals recognize two varieties : *aṇḍia moṛon araḱ*, *Gymnema hirsutum* W. & A., var. *Decaisneanum* Wight. of which the leaves

and fruits are eaten raw, and the *enğa moron araḳ*, of which the leaves and flowers are eaten, also without boiling.

*Muč araḳ*, lit. ant vegetable, a plant, *Polygonum plebejum Br.* The whole plant (except the roots) is eaten as curry. Too much of this is said to cause diarrhoea.

*Mula*<sup>1</sup> *araḳ*, the leaves of the radish, used as curry. The Santals distinguish the cultivated radish (called *ato mula*, *Raphanus sativus L.*) from the wild variety called *bir* (or *dud*, or *ṭaṇḍi*) *mula*. These are also eaten raw.

*Munga araḳ*, the leaves of the Horse-radish tree, *Moringa pterygosperma Gaertn.*, = *Moringa olcifera Lam.*, eaten in curry, with *dāl*, they are also roasted or cooked into a hash with rice. The *munga* tree is one of the few trees that are commonly planted. Besides the leaves the flowers and fruits also are eaten. It has many other uses. The bark, crushed and moistened, is used as a remedy against headache. When the bark is crushed, mixed with water and poured into a snake's hole it is said that it will drive out the snake. The root is crushed, mixed with *jīṭi* grass and then thrown into water to poison the fish.

*Olaṅ mocaṅ araḳ*, lit. voracious vegetable; the leaves are used as curry.

*Onoḷ araḳ*, lit. wattle-wall vegetable, a small plant, eaten raw or as curry.

*Orsa* (or *orṣa*) *araḳ*, a plant having white flowers. The leaves eaten as curry.

*Ohoc araḳ*, lit. potsherd vegetable. The leaves of this small creeper, *Boerhaavia diffusa L.*, are eaten as curry. The root is used medicinally.

*Palaṅ* (also called *palon*) *araḳ*, *Beta benghalensis Roxb.* (or, *Beta vulgaris Linn.*). It is cultivated, but only rarely by Santals.

*Paṭ araḳ*, plant, *Corchorus olitorius Linn.* and *Corchorus capsularis Linn.* Cultivated. The leaves and shoots are used in curry.

*Piṭua araḳ*, a plant, *Spermacoce hispida K. Schum.* This is eaten as curry in times of scarcity. The plant is also called *piṭua ghās* and *ṭaṇḍi piṭua*.

*Purāi araḳ*, a twining plant, *Basella rubra Linn.* The whole plant is used as curry. They distinguish two varieties: *Moṭa purāi*, having large leaves, and *nanha* (or *kaṭiḥ*) *purāi*, having small leaves.

*Roṭe capal araḳ*, an aquatic plant, *Ottelia alismoides Pers.*

*Roṭe capal*, another aquatic plant, also called *cala bulā*.

*Saru araḳ*, the leaves of *saru*, q.v., used as curry.

*Sauri araḳ*, a plant, *Polygonum glabrum Willd.* Eaten in curry.

*Seta kaṭa araḳ*, lit. dog-leg vegetable, a plant, *Gynandropsis pentaphylla DC.* The leaf-buds are eaten boiled or in curry.

*Siṅ araḳ*, lit. day (or sun) vegetable, a tree, *Bauhinia variegata L.* (possibly also *B. purpurea L.* is so named). The young shoots are eaten as curry, but are said to cause loose stools. Also they are eaten as curry with *dāl*, or roasted or cooked as a hash with rice.

*Sirgeṭi* (or *sirgiḷ*) *araḳ*, a plant, *Celosia argentea Linn.* The leaves are eaten as curry.

<sup>1</sup> Bengali *Mulā*—*Ed.*

*Taben araḱ*, a plant found especially in rice-fields. This is eaten as curry, mostly with *dāl*, split peas.

*Tagoḱ araḱ*, a plant, *Gnaphalium indicum* L. Eaten as curry.

*Toa araḱ*, a plant, eaten as curry. So named from the juice which exudes when the plant is broken, and which looks like milk.

*Tuṛi araḱ*, the leaves of the *tuṛi*, *Brassica campestris* L., eaten as curry.

*Thuiḱ araḱ*, a plant, *Melochia corchorifolia* Linn. The leaves and buds are eaten as curry.

*Uliḱ alaṅ araḱ*, a small plant, *Portulaca oleracea* L. Eaten as curry and much relished.

To gather wild vegetables and leaves is the work of women. When going to the forest, they will not go alone, for several reasons, but always in a body at the time agreed upon. When entering the forest, also when they start plucking, a kind of invocation is made:—'Be quiet in the row, be quiet in the rows; I have put my babe in the niche and left it there; may the eyes of those who have seen me leaving burst, be squeezed out; may I quickly find; my child will cry; may I quickly return; may my basket be filled, be filled to overflowing'.

On returning from the forest they arrange at once for the food to be cooked. They give the leaves and vegetables, the mushrooms, and whatever else they may have found, over to the cooking woman, after having cleaned them. The cook takes a little in her hand, and waving it over the fireplace and the cooking vessel she says: 'May a spell be thrown on it; may it get warm!' Thereupon she throws what she has in her hand into the fireplace through the front opening.

In connexion with the use of vegetables by the Santals the following is of interest. They warn people not to eat any amount of vegetables, as too much will be bad for the stomach by causing loose bowels. Vegetables, they say, are not for those who eat for satisfaction, but are the poor man's food. Well-to-do Santals, however, will also eat vegetables to avoid being called haughty (according to Santal ideas).

Besides the ordinary curry (*utu*) they have two other ways of cooking their food. One is called *kohya*, a kind of frying or roasting. The food is placed in a pot, with salt and spices added, if they have any. The pot is then put on the fire and whilst the contents are being cooked they are stirred with a ladle. When ready it may be eaten alone or together with *dāl*, split peas, i.e., with curry of split peas (or any pulse so prepared).

Another way is what is called *suṛe*, i.e., as a hash of the foodstuffs cooked together with rice.

A Santal once expressed himself thus:—'Vegetables are mostly eaten *kohyate*, i.e., prepared by frying or roasting. During the "poor", "hunger" times (i.e., when there is a scarcity of food) we eat one cup (*bokaḱ*, the shell of a gourd, *hotol*, cut in two and used as a cup) of rice-gruel and one leaf-plate of vegetables; in this way we manage to live. During "hunger" time we are not able to procure salt, or only a very little. Parents will often say to the children: "Listen, little ones, don't plunge salt in the

rice-gruel; it will not be properly seasoned, if you do. Just put in a pinch". In this way they economize.'

#### MUSHROOMS.

Especially during the rainy season mushrooms are much in evidence. The Santals have an idea that thunder causes the fungi to sprout cf. M. A. Henry, 'Scientific American', vol. 124, No. 16, April 16, 1921, p. 318, where he has shown that continual discharges of artificial 'lightning' produced by a large static machine caused a very marked effect on speed of growth and size of the cultivated mushrooms. This experiment thus confirms the Santals' popular belief. The edible mushrooms are much used in curry, and some of them are very much relished. The Santals somehow have no difficulty in distinguishing the edible from the poisonous varieties. The writer has never heard of a Santal having eaten poisonous mushrooms. This may be accidental; but on the other hand he has heard of cattle having died from eating such.

Here follows a list of the varieties of mushrooms eaten by the Santals. The probable botanical names are given side by side.

*Biñ ol*, snake mushroom (so named from shape) (*Lepiota mastoides* probably).

*Bunum ol*, lit. white-anthill mushroom (*Entoloma macro-carpum*); so called because it is found on white-anthills. Considered delicious.

*Busup ol*, lit. straw mushroom (*Volvaria terastrius*); found growing on old, often decayed, straw. Considered good.

*Dañ mañdi ol*, lit. rice-gruel mushroom. Considered savoury (*Entoloma micro-carpum*).

*Gopha ol*, a very large kind of edible mushroom (*Collybia albuminosa*).

*Gundri gopha ol*, a mushroom, said to be intoxicating, but sometimes eaten (a var. of *Collybia albuminosa*).

*Hasa ol*, lit. earth mushroom. Eaten boiled. Found in Asār. and Bhador (*Agaricus campestris*).

*Hati ol*, lit. elephant mushroom (*Boletus sp.*), large, bad smelling. Rare, said to be eaten only by old people.

*Hurul ol*, lit. tree-stump mushroom. Eaten boiled. There are two species: *Sisir hurul ol*, lit. dew tree-stump mushroom, also called simply *sisir ol*, found after the rains have ceased; and *ponḍ ol*, lit. white mushroom (*Lentinus subnudus*), found during the rains. Both are eaten boiled.

*Kaṭ ol*, lit. wood mushroom, found growing on tree-stumps (*Pleurotus ostreatus*).

*Karṇa ol*, lit. bitter mushroom (*Puff-ball*); name due to the taste. Eaten raw or as curry. Found in Bhador.

*Karṇa paṭka ol*, v. *paṭka ol*. (Var. of *puff-ball*).

*Kod ol*, so called on account of its black colour, resembling the fruit of the *kod*, *Eugenia Jambolana Lam.* (*Coprinus comatus*).

*Mat ol*, lit. bamboo mushroom (*Collybia sp.*), because it is found growing on stumps of the hill bamboo. Considered very savoury.

*Motam ol*. Besides being eaten as an ordinary food, it is given to persons suffering from smallpox, because it is believed to bring out the eruption. (Var. of *Collybia albuminosa*).

*Muci ol*, lit. the Muchi's mushroom (a var. of *Entoloma micro-carpum*).

*Murum ol*; this is taboo to Santals of the Murmu sept. Possibly so named owing to its colour, as *murum* means reddish. The Santals connect the name with the name of the sept. (*Clavaria sp.*).

*Or tot ol*, lit. pulled out mushroom, so called, because the whole of the mushroom (rooting *Collybia albuminosa*) is pulled out of the ground. Found in abundance in July and August. It is eaten raw or boiled in oil as curry. The Santals consider this one of the finest varieties.

*Oteç ol*, lit. burst open mushroom (var. of *Collybia albuminosa*). It is white in colour, and commonly found in August. It is eaten as curry, but sometimes also raw, though it is then somewhat pungent in taste.

*Paṭka ol*, (*Puff-ball*) growing together with *kaṛṇa ol*, possibly the same, but of a different colour.

*Piska ol*, not poisonous, but it has a bitter taste, and is therefore not commonly eaten.

*Bond kaṭ ol*, lit. white wood mushroom, a variety of *kaṭ ol* (*Pleurotus sp.*).

*Pond tormar ol*, a whitish variety of the *tormar ol*, q.v. (a var. of the *Geaster*).

*Paṭka*, the puff-ball, a fungus of the *Lycoperdaceæ*. The Santals recognize the following edible varieties: *Eroḱ paṭka*, lit. sow puff-ball, so called because it appears at sowing time, earlier than the other *paṭka* it is also called *hoṛ paṭka*, *Lycoperdon giganteum*, *Calvatia sp.*, *Geaster sp.*, lit. man puff-ball, and *ruhni paṭka*, because it may be gathered during *ruhni*; *roṭe paṭka*, lit. frog puff-ball, a small kind; *seta paṭka*, lit. dog puff-ball (*Truffle*) which has a rough surface. The Santals very much relish eating these naturally in their early stage of growth. It is curious that the Santals regard the puff-balls as animate, as shown by their language.

*Roṭe ol*, lit. frog mushroom. (Small puff-ball).

*Sagaḱ ol*, lit. awn mushroom (mentioned by Dr. Campbell).

*Seta ol*, lit. dog mushroom; the same as *seta paṭka*, q.v., the commonly used name. (*Truffle*).

*Sim ol*, lit. fowl mushroom, reddish in colour. (*Cantharellus aurantiacus*).

*Sisir ol*, lit. dew mushroom, found growing on stumps of the *Sal* tree (*Lentinus subnudus*).

*Tormar ol*. Eaten, but not very common. (*Geaster sp.*).

*Tumbā ol*, lit. gourd-shell mushroom, of a large round shape. (*Bovista gigentia*).

As regards mushrooms a Santal writes: 'Mushrooms sprout from decayed leaves or straw, and from white-anthills and cow-dung. We boil them in oil adding spices, add a little *rāse*, sauce, soup, and eat them. Sometimes we also make a hash of them, cooking them with rice. A few kinds we also eat raw.'



## RESINS.

We will now consider the kinds of food obtained by the Santals from trees, fruits, resins, etc., which are used either in the form of curry or in the raw natural state.

Amongst the resins, i.e., exudations from trees, called by the Santals, *jer*, the following may be noted:—

*Atnaḅ jer*, the exudation of *Terminalia tomentosa* W. & A.=*T. alata* Heyne ex Roth.

*Doka jer*, the exudation of *Odina Wodier* Roxb.

*Hesel jer*, the exudation of *Anogeissus latifolia* Wall.

*Hopo jer*, the exudation of *Cochlospermum Gossypium* (L.) DC.

*Lopon jer*, the exudation of *Terminalia bellerica* Roxb. The gum is eaten together with the edible part of the marking nut (*sosṡ*, *Semecarpus Anacardium* L.f.) and is said to be very sweet.

*Tarop jer*, the exudation of *Buchanania latifolia* Roxb.=*B. Lanzas Spreng*.

*Terel jer*, the exudation of *Diospyros tomentosa* Roxb.

All these are eaten raw. A Santal once said: 'We eat resin whenever we find it. Those who love children will take some home to give to them'.

## FRUITS.

The names of the trees or climbers whose fruits are eaten, are given in alphabetical order.

*Ambya*<sup>1</sup>, the Hog-plum, *Spondias mangifera* Willd. The fruit is eaten raw or cooked when used with curry it gives this an acid flavour. The panicles and the tender leaves are also eaten raw or with curry. This refers to the planted tree (called *ato ambya*, village Hog-plum; and not to the wild, *bir ambya*, that is not used for food, being far too bitter).

*Amrit*<sup>2</sup>, the Papaw tree, *Carica Papaya* L. (Also called *ambrīt*.) The fruit is excellent.

*Amrud* (or *amrut*; or *amsophori*, the most common Santal name), the Guava tree, *Psidium Guajava* Linn. Very common.

*Bakre*, the flesh of the *kūṇḍi*, rind included; v. *matkṡm*. Said to have a good taste when roasted.

*Bare*, the Banyan tree, *Ficus bengalensis* L.

*Bad janum*, v. *janum*.

*Bai bindi*, v. *boi bindi*.

*Barsa pakor*, a small bush, *Grewia sapida* Roxb. (also *Grewia Campbellii* Watt.).

*Baru*, *Schleichera trijuga* Willd. Oil is obtained from the seed.

*Boi bindi*, *Randia dumetorum* Lam. The ripe fruit is eaten; and the leaves are used in curry.

*Bhaḍu*, *Vitex altissima* L.f. The Santals distinguish between *buru bhaḍu*, hill *bhaḍu*, and *gaḍa bhaḍu*, river *bhaḍu*. The fruit of both is eaten.

<sup>1</sup> Bengali *āmṛā*—Ed.

<sup>2</sup> *Amrita* in Sanskrit means nectar—Ed.

*Dan banda*, several parasitic shrubs, belonging to Loranthaceae.

*Dabha*, the Shaddock tree or Pomelo, *Citrus decumana* Linn. Rare amongst the Santals. The fruit is excellent.

*Dahu*, *Artocarpus Lakoocha* Roxb., generally found wild, but it is also planted. The fruit is eaten and the flowers sucked by children.

*Diḍḥauri*, the planted *janum*, q.v. The fruit is much relished.

*Dunḍukit*, *Gardenia turgida* Roxb. The fruit and the bark are used medicinally.

*Dhela*, *Alangium salviifolium* (L.f.) Wengler. The fruit is eaten. The bark is used in medicine.

*Eḍel*, the Cotton tree, *Bombax malabaricum* DC. The calix is eaten together with steamed Mahua. The tender fruit is eaten as curry. The roots are crushed and given as a drink with the scum of boiled sugarcane or sugar. This is especially eaten in times of scarcity.

*Gada terel*, *Diospyros montana* Roxb. Fruit eaten.

*Gua*, the Betel Palm, *Areca Catechu* L. Nut used by a few, imitating the Dekos.

*Ghoya lada* (or *ladanri*), climbers, *buru* l.g. *Ampelocissus tomentosa* Planch. The fruits are eaten to quench thirst in the hot season.

*Hesaḱ*, the Pipal, *Ficus religiosa* L. The tender leaves are used as curry. The fruit may be eaten. They say about eloping people, that they have gone to eat Pipal fruit. Another expression is: *hesaḱ sakam lekan hoy*, a person like a Pipal leaf, i.e., one who is a coward, or who always changes his mind. The leaves are large with a long slender petiole and are turned by the slightest breeze.

*Icaḱ*, a shrub, *Woodfordia fruticosa* (L.) Kurz. The flowers are sucked, as they contain much honey.

*Jambir*, the Citron tree, *Citrus acida* Roxb. The fruit is eaten. Cultivated. They also have the wild *Citrus medica* L.

*Janum*, lit. thorn, *Zizyphus Jujuba* Lam., both wild and cultivated. The fruit is much relished. They distinguish several varieties of the wild bush: *Jom janum*, lit. eaten thorn, which is called *bad janum*, when ripening in Aghar, and *baiḥar janum*, when ripening in Pus and Magh. One variety is called *ēḍhe janum*, a small bushform with low-spreading branches. This is also called *toyo janum*, lit. jackal thorn, because jackals eat the fruit. *Diḍḥauri janum* is the same when cultivated and has larger fruits. The ripe fruit may be dried and pounded, and used in curry or in drinks.

*Jojo*, the Tamarind, *Tamarindus indica* L., very common in Santal villages. The ripe fruit is eaten. Taken with warm water it acts as a laxative. The inspissated juice of the fruit is used in curry. The leaves are dried, pounded and eaten in gruel or with curry.

*Jhinḍit*, a tree, *Bauhinia retusa* Roxb. The fresh leaves are chewed to quench thirst.

*Kadam*, *Anthocephalus Cadamba* Miq. = *A. indicus* Rich. The fruit of this large tree is eaten raw, as well as in curry.

*Kaera*, the Plantain, has already been mentioned.

*Kan̄thar*<sup>1</sup>, the Jack tree, *Artocarpus integrifolia* L. Very commonly cultivated. The fruit is commonly eaten, but is forbidden to people suffering from certain diseases. The wood does not crack, and is therefore used for making drums and other articles.

*Kārwal*, a large shrub, *Carissa Carandas* L. The fruit is eaten.

*Kari*, a large climbing shrub, *Erycibe paniculata* Roxb. The fruit is eaten. It is also called, *kari dare*, *kari jhāua*, *kari jhōṇḍ* and *kari nārī*, according to the shape.

*Kiṭa*, *Phoenix acaulis* Ham. The fruit is eaten.

*Kod*, the Jam, *Eugenia cumini* Druce. The fruit is eaten. They recognize the following varieties of the wild tree: *Cuḍuk kod*, having small round fruits; *gaḍa kod* lit. river Jam, growing near rivers; and *seta kod*, lit. dog Jam, having (according to Dr. Campbell) small astringent fruits. The cultivated *kod* is called *ṣo*, q.v.

*Korkoṭ*, a tree, *Dillenia indica* L. The flesh and the leaves of the calyx surrounding the ripe fruit are eaten raw or cooked together with mahua flowers.

*Kūiṇḍi*, the fruit of *matkom*, q.v.

*Kurse*, a creeper, *Mucuna pruriens* DC. The fruit is eaten together with mahua flowers.

*Kurīṭ rama*, lit. kite talons (so named from the hooked talon-like form of the thorns), *Zizyphus Oenoplia* Mill. The fruit is eaten.

*Khijur*<sup>2</sup>, the wild Date tree, *Phoenix sylvestris* Roxb. The fruit is eaten. A juice is extracted from near the top of the tree and this is fermented into a kind of toddy and drunk. It is also used for yeast.

*Khirua*<sup>3</sup>, water melon, *Citrullus vulgaris* Schrad.

*Lamaḅ jāi*, the kernels of the pods of *jom laṛ*, *Bauhinia Vahlīi* W. & A., gigantic climber. The kernels are eaten roasted. This climber is much used. Its fibre is used for bowstrings, halters, slings, etc. and from the leaves they make waterproofs, (used, when pulling out paddy seedlings), also leaf-plates and leaf-cups.

*Leṃbo*, the Lime tree and its fruit, *Cirtus medica* L. (also called *nembo* and *nimbu*).

*Loa*, the Fig tree and its fruit, *Ficus glomerata* Roxb. The ripe fruit is naturally a common form of food. As regards the curry made from the unripe fruit, v. *loa aṛaḅ*.

*Makar̄kenda*, a forest tree, *Diospyros Embryopteris* Persoon. The fruit is eaten raw, the tender leaves are used for curry, and the juice of the ripe fruit is used as a gum.

*Mandargom*, the Custard apple, *Anona squamosa* L. and *Anona reticulata* L. The fruit is eaten raw when ripe. Before ripening the fruit is boiled and eaten.

*Matkom*, a large tree, *Bassia latifolia* Roxb. and *Diplokuema butyracea* (Roxb.) Lamk. (The latter is very rare, but otherwise is treated like the commoner one.) The *matkom* or Mahua is found widely spread throughout the country, and each tree is allotted to one of the tenants of the village. It is a tree of the greatest importance to the people. The corolla of its flowers falls at the commencement of the hot season,

<sup>1</sup> Bengali *Kānthāl*—Ed.

<sup>3</sup> From *Khira* in Hindi meaning cucumber—Ed.

<sup>2</sup> Bengali *Khejur*—Ed.

before the fresh leaves come out. The ground at the foot of the tree may be quite covered by these corollas that are picked up and dried. When dry they are beaten with a stick to remove the *mathom sohoe*, the stamens of the flower. The dried corollas are used for food boiled, roasted or parched, alone or together with other foodstuffs (especially pulses). At the commencement of the rainy season this is for many their only daily food. Of the dried corollas they prepare what is called *lathe*, a kind of dough. They soak the dried Mahua in water and then roast it on a potsherd. When properly roasted, they mix it with roasted maize, *surguja* (Niger seed), sesame seed (*tilmin*), the seed of the Roselle plant (*bambaro*) or hemp (naturally only one of these) and pound it in the *dhinkki*. It is then made into balls and taken along as food when away from home, e.g., on the annual hunt. The Mahua is very sweet and is also used in the distillation of country liquor, both by the authorities and those who distil illicitly. The fruit is called *kūinḍi*, that has already been mentioned.

*Mat*, bamboo. There are several varieties. The common wild bamboo is *Dendrocalamus strictus* Nees. The seed of the bamboo, resembling wheat, is cooked and eaten. The young shoots are also used for food. The Santals take a foot or two of this (called *helta*) and slice it, grind it in a mortar, and put it in an earthenware pot, that is covered, and allowed to stand for two or three days. It is then taken out and spread on a mat or a flat stone and dried in the sun. This is called *haṇḍua*, and may be kept for months in pots. It may be eaten raw with salt or be made into curry; in the latter case it is generally cooked with spices in *ariḥ daḥ maṇḍi*. It is now a very rare article of food, as Government have forbidden them to gather *helta* in the forests. It might further be mentioned, that the bamboo flowers after very long intervals, one whole cluster at the same time, the whole cluster thereupon dying. None of the other varieties have been mentioned here, as they are practically all cultivated and used, not for food, but for a number of other purposes.

*Maṭha sura*, a small tree, *Antidesma Ghesaembilla* Gaertn. The fruit is eaten, also the fresh leaf-buds. It is also called *maṭha sura*.

*Merleḥ*, a tree, *Flacourtia indica* (Burmf.) Merrill. The fruit is eaten and the bark used in Santal medicine.

*Munga*, the Horse-radish tree, *Moringa olcifera* Lamk., v. *munga araḥ*, where the tree has been described.

*Murup'* (also *Murul*), a tree, *Butea frondosa* Roxb. The flowers are sucked as they contain honey.

*Narkor*, *Cocos nucifera* L. Sometimes found cultivated but does not bear fruit in the country. The cocoanut is eaten and the shell used as a hookah bowl.

*Nim*, a tree, *Azadirachta indica* Juss. Common. The leaves are used in gruel, and this is considered a tonic. At the name-giving festival *nim daḥ maṇḍi* is always used; it is further customary to drink *nim daḥ maṇḍi*, when the sower comes home after having sown the first paddy; all of the household drink this, it is believed that then the ears will be bitter, so that flies will not "drink" them. It is also used as a remedy against certain stomach troubles, especially worms.

*Nūrūc*, the Indian Laburnum, *Cassia Fistula L.* The flowers are eaten in curry and the fruit is used in Santal medicine.

*Olat*, there are two trees so called, *jan olat*, *Grewia asiatica L.* and *poska olat*, *Kydia calycina Roxb.* Dr. Campbell mentions also simply *olat* as the Santal name of *Grewia vestita Wall.* and of *Grewia tiliæfolia Vahl*, not known in the Santal Parganas.

*Ome*, a large forest tree, *Saccopetalum tomentosum H.f. & Th.* (According to Dr. Campbell, *Miliusa velutina H.f. & Ths.*) They have *hoṛ ome*, lit. man *ome*, *Saccopetalum longiflorum H.f. & Th.*, and *seta ome*, *Saccopetalum tomentosum H.f. & Th.* The fruit of both is eaten.

*Pakaṛe*, *Ficus infectoria Roxb.* The fruit is eaten.

*Papita*, the same as *amrit*, g.v.

*Pinḍe*, a small tree, *Randia uliginosa DC.* The unripe fruit is cooked and eaten in curry or with Mahua.

*Podḍo*, two varieties: *hoṛ podḍo*, *Ficus Cunia Ham.* the fruit of which is eaten, and *seta podḍo*, *dog podḍo*, *Ficus hispida Linn. fl.*, which is not used as food.

*Pōḥpṛō*, a tree, *Gardenia latifolia Aiton.* The fruit is eaten. Bells are made from the wood, and give a good sound.

*Sahar*, a tree, *Dillenia pentagyna Roxb.* The fruit is used as a condiment in curry. The bark is used in Santal medicine.

*Sarjom*, the Sal tree, *Shorea robusta Gaertn.* The most common tree found in the forests, where the Santals live. It must be found in their sacred grove. The fruit is eaten. Parts of it are used in Santal medicine.

*Sekra*, a small tree, *Zizyphus rugosa Lam.* The fruit is eaten and the bark has medicinal properties.

*Seta āṇḍga*, a small bush, *Grewia pilosa Lam.* (or *Grewia polygama Roxb.*). The fruit is eaten, and the roots are used in Santal medicine. Besides *seta āṇḍga* (lit. dog scrotum) the following names are used for the same bush: *seta āṇḍir*, *seta ārga*, *seta kaṭa* and *seta peska*.

*Siñjo*, the Bael, *Ægle Marmelos Correa.* Commonly grows wild but is also cultivated. The fruit of the cultivated variety is much larger than that of the wild one. The fruit is excellent as a sherbet, and is much esteemed as a specific in stomach disorders (such as dysentery). The leaves, bark and roots are used in Santal medicine.

*Sḍo*, the Black Plum tree, *Eugenia cumini Druce.* Generally cultivated but it is also found wild (v. *kod*). The fruit is eaten and is very good. The juice of the fruit is squeezed out and used as a medicine.

*Sḍḍo*, the Marking Nut tree, *Semecarpus Anacardium L.f.* The orange coloured hypocarp is eaten. An oil is distilled from the drupe that is much used in Santal medicine as a vesicant for animals. The drupe (*sḍḍo jan*) is also widely used as a vesicant against pain for human beings. When the oil is daubed round the stems of trees on which silkworms are feeding, it acts as a preventative against climbing ants.

*Sunum jhor*, *Ficus Rumphii Bl.* The fruit is eaten. Not common.

*Tale*<sup>1</sup>, the Palmyra palm, *Borassus flabelliformis* *Murr.*, the most common palm in the Santal country, planted on embankments, boundaries, and so on. The fruit is eaten, and the pulp, when the fruit is ripe. The seeds are eaten by children, the hard shells of these being used for bells hung on goats. A sweet sap runs from the peduncles that are cut before flowering. The sap is collected in pots and fermented into toddy. The wood is used and the leaves are utilised for many purposes (thatch, umbrellas, rain-hats, etc.).

*Taroḥ*, a tree, *Buchanania Lanzas Spr.* The fruit is eaten.

*Terel*, the Ebony tree, *Diospyros tomentosa* *Roxb.* (or, *Diospyros Melanoxylon Roxb.*). Common. The fruit is eaten. The kernel of the unripe fruit is also taken out, rubbed, washed and eaten. The ripe fruit is further squeezed open, spread, out to dry, and when dry, pounded into a kind of flour, that is mixed with water into a sherbet and drunk.

*Tihon*, a creeper, *Canavalia ensiformis* *DC.* The fruit is eaten in curry.

*Totnopāk*, a tree, *Eugenia operculata* *Roxb.* The fruit is eaten.

*Ul*, the Mango, *Mangifera indica* *L.* The excellent fruit is much relished. The unripe fruit is also sliced, the slices being dried in the sun (this is called *amsi*<sup>2</sup>, and is a custom adopted from the Hindus) and used as a beverage. The unripe fruit is also used for curry.

*Upāl baha*, the Water Lily, *Nymphaea Lotus Linn.*, *Nymphaea rubra* *Roxb.* and *Nymphaea versicolor* *Roxb.* The tuberous root of all these (called *uldha*, and treated as being animate) is eaten both raw and boiled. These and the flowers are also used in Santal medicine.

*Poraeni*, the Lotus, *Nelumbium speciosum* *Willd.*=*Nelumbo nucifera* *Gaertn.* The tender shoots are eaten boiled or in curry, whilst the seeds are eaten raw, roasted or boiled.

In connexion with fruits a few facts may appropriately be given about what the Santals call *rasa*<sup>3</sup>, a word used for juice, must and honey, and also for wine (though this is not known to the ordinary Santals). The juice of most fruits or plants is not kept, but is sucked when found, mostly perhaps by children, but also by grown-up people. The following are the most commonly found:

*Icāk rasa*, the juice of the *icāk* flowers, *Woodfordia fruticosa* (L) *Kurz.* This is much relished.

*Khijur rasa*, the juice of the wild date, *Phoenix sylvestris* *Roxb.* This is fermented and used as a liquor.

*Mathom rasa*, the juice of the flowers of the Mahua. The expression is also used of the liquor distilled from the dried mahua flowers.

*Muruḥ rasa*, the juice of the flowers of the *Butea frondosa* *Roxb.* Sucked especially by children.

*Sō bele rasa*, the juice squeezed out of the fruit of *Eugenia cumini* *Druce.* is used as a medicine.

<sup>1</sup> Bengali *Tāl*—*Ed.*

<sup>3</sup> *Rasa* in Bengali means juice—*Ed.*

<sup>2</sup> Bengali *āmsi*—*Ed.*

*Tale rasa*, the juice or sap of the Palmyra palm, obtained from the cut peduncles and used for making toddy.

*Ul rasa*, the juice of the mango fruit.

*Darkha rasa*, must or grape-juice, and now, commonly, wine. The Santals have no grapes.

#### FOWLS AND BIRDS.

The Santals eat the flesh of a great variety of birds. Fowls are kept by every Santal family and their flesh is much relished and probably eaten more commonly than any other kind of flesh, especially when fowls are sacrificed to the bongas, or when they wish to give visitors a treat. Fowls and any birds eaten as curry are always cut into small pieces. The Santals always use their fingers when eating, having no spoons or forks; everything, therefore must be cut up into pieces that are easily handled. Eggs of all birds and fowls are boiled and eaten.

So far as is known to the writer the following is a complete list of the birds that may be taken for food. It should be noted that most of the scientific names given are the result of a visit to the Indian Museum in Calcutta where a number of Santals were taken to point out the birds they recognized. Where a query is written, it is intended to show that the Santals were not quite sure whether the bird seen was the one they know, and use as food.

*Askal*, a kind of partridge, said to live among stones on the hill sides; ? *Francolinus vulgaris*.

*Bāk*, the Paddy bird, Heron, *Herodias alba*. For varieties v. sub *kōk*.

*Baromasiq*, the Green Bulbul, *Chloropsis jerdoni*. So named from its varied call.

*Baṭa*, a Quail, *Coturnix communis*. They recognize a number of varieties of snipe called *baṭa*, viz. :—

*Bhoṇḍa baṭa*, a fairly large snipe.

*Daḱ baṭa*, the Painted snipe, *Rostratula capensis*, or *Totanus glottis*.

*Dhinuaṛ baṭa*, the Fan-tailed snipe, *Capella gallinago gallinago*.

*Gundri baṭa*, small, coloured like a *gundri*, q.v.

*Kūk baṭa*, middle sized. So named from its call heard at night like *kūk kūk*, said to forebode rain.

*Kheḍra baṭa*, the smallest snipe known to Santals.

*Khes baṭa*, a small kind.

*Landha baṭa*, a small kind.

*Ṭiṛiṭ baṭa* a small kind; its call sounds like *ṭiṭ ṭiṭ*.

*U gundri baṭa*, another name for *daḱ baṭa*, q.v.

*Bēḱ bēḱreḱ*, a small waterfowl, *Nettapus coromandelianus* (its call is said to sound something like its name).

*Bin cēṛē*, *Iynx torquilla*. So named from its long, thin tail. The *lantiti* may also be so called.

*Bir sim*, the Jungle Fowl, *Gallus bankiva*. Fairly common.

*Bororini*, the Indian Magpie, *Dendrocitta vagabunda*. So named from its call.

*Bhalua*, the Swallow. The Santals distinguish:

*Kaṭiḥ bhāluḡ*, the Palm-roof Swift, Collocalia fuciphaga, or Cypselus infumatus.

*Laṭu bhāluḡ*, the common Indian Crested Swift, Macropteryx coronata.

*Buru bhāluḡ*, Hill swallow; known, but not seen in the country.

*Cama canoḥ* (or *cama cakor*), two birds are so called, viz., Anthracoceros coronatus and Lophoceros birostris.

*Cañcir*, several birds are so called:

*Care* (or *caṛi*) *cañcir*, the Forest Wagtail, Dendronanthus indicus.

*Cirhoḥ cañcir*, the Titlark, Anthus rufulus (so named from its call, which sounds like *cirhoḥ*).

*Daḅ cañcir*, the Deccan Wagtail, Motacilla dukhunensis, or M. leucopsis.  
Feeds near water.

*Dhakuḥ cañcir* and *Gaḍa cañcir*, other names for *Daḅ cañcir*.

*Gai cañcir*, the wagtail, Motacilla flava.

*Tañdi cañcir*, a species of Wagtail.

*Cirhoḥ*, the same as *Cirhoḥ cañcir*, v. supra.

*Ciriḥ cōron*, a sparrow-like bird.

*Citri*, a Partridge. The Santals distinguish:

*Keṛo citri*, the Grey Partridge, Francolinus pondicerianus.

*Mundhal citri*, the Black Partridge, Francolinus vulgaris.

*Daḅ baṭa*, v. sub *Baṭa*.

*Daḅ sim*, the Cormorant, Phalacrocorax javanicus (or P. fuscicollis). The feathers of the tail and neck of this bird, tied to a piece of bamboo to form a kind of tuft, are stuck into the hairknot or turban of men dancing at marriages or at the Pata festival, are believed to be a safe preventative against *ban paṭhri*, sudden illness, caused by witches, or swooning.

*Dundu*, an Owl. The Santals distinguish:

*Keḅ dundu*, a small owl, so named on account of its call *keḅ keḅ*.

*Kheḍra* (or *kherra*) *dundu*, a small owl.

*Laṭ dundu*, Asio accipitrinus.

*Poṭom dundu*, a large owl, Bubo bengalensis.

*Sakam dundu*, a small owl.

*U dundu*, so named on account of its call *u u u u*.

*Ḍak*, a water-hen, Gallinula phoenicura (so named on account of its call *ḍak ḍak*).

*Ḍerel*, a small bird; name due to its call which sounds like *ḍrrel ḍrrel*.

*Ḍet cēṛē*, a very small bird, also called *sāuri cēṛē*.

*Dhenka*, a species of Crane, Tringa platyrhyncha.

*Band dhenka*, besides the same as for *dhenka*, this name is also used for the Red-footed Pecked Ibis, Ciconia alba.

*Baḍ dhenka*,? Pseudotantalus leucocephalus; fairly common.

*Dhīpcui*, the Racket-tailed Indian Drongo, probably Dissemurus paradiseus.  
Also called the chowkedar of the birds.



*Ere*, a Woodpecker.

*Bhonda ere*, a large species, *Liopicus mahrattensis*.

*Goentha ere*, a small kind.

*Kabra ere*, the Striped Woodpecker, *Brachypternus aurantius*.

*Seṅgel ere*, Tigra shorei.

*Ere kisni*, v. *kisni*.

*Galoc*, the Hawk Cuckoo, *Hierococcyx varius*. This word is not used before women.

*Garur*, the Adjutant bird, *Leptoptilus dubius*.

*Bad garur*, the Bald-headed Adjutant, *Leptoptilus javanicus*.

*Dhenka garur*, a Stork, a little larger than *bad dhenka*.

*Thailak garur*, *Ardea argala*.

The Adjutant and any part of the bird or its feathers are believed to be the death of snakes.

*Geḍe*, a Duck, the domestic duck.

*Daḱ geḍe*, a wild kind, able to fly; also called *arna geḍe*.

*Nai geḍe*, the Ganges Duck.

*Gundri*, a Quail. The Santals distinguish:

*Gadle gundri*, the Blue-breasted Quail, *Excalfactoria chinensis*.

*Ghura gundri*, the Female Indian Bastard Quail, *Turnix taigoor*, or *Turnix sykesi*.

*Huker gundri*, the Painted Bush-quail, *Microperdix erythrorhynchus*.

*Kasi gundri*, the Little Button Quail, *Turnix dussumieri*.

*Kho gundri*, a Quail, so called on account of its call (*kho kho*).

*Tira gundri*, the male of *ghura gundri*.

To catch quails the Santals keep a female bird as a decoy in a cage placed on the ground, with a number of snares arranged round the cage.

*Gutrut*, two species of Barbets, *Megalaima caniceps* and *Xantholæma indica*; one of these is also called *gaḍa gutrut*. So named from their call sounding like *gutrut gutrut*.

*Ghardidi*, a certain humming bird, the Tailor bird, *Orthotomus sutorius*.

*Gharwa*, the Sparrow, *Passer indicus*.

*Hapuk*, the Nightjar, *Caprimulgus monticolus*, or *C. asiaticus*.

*Huc bir*, the Indian Pitta, *Pitta brachyura*.

*Huhar*, the Green Pigeon, *Crocopus chlorigaster*.

*Huker*, v. *gundri*.

*Jejever*, a small bird, the size of a sparrow, but having a longer tail.

*Jiam* (or *Jien*), the same as the *ghardidi*, so called on account of its call, sounding like *jiam jiam*.

*Jihu*, two kinds:

*Bhonda jihu*, the Bengal Babbler, *Malacocercus terricolor*.

*Janum jihu*, the Green Babbler, *Chaltonius striatus*.

*Jhorojhoč*, the Pied Crested Cuckoo, *Coccytes jacobinus*. They believe that when this bird calls *phiṛiphič* it will be fine weather, and when *jhoro jhoč*, there will be a spell of rain; *jhoro jhoč* means drenched.

*Kahu*, a Crow. They eat all young crows, before they can fly, but not full-grown ones, because these feed on anything. They distinguish the following kinds:

*Buru Kahu*, a large kind, a Raven; also called *gaḍa kahu*.

*Bhoṇḍa kahu*, the Bow-billed Corbie, *Corvus levaillantii*.

*Kuila Kahu*, a wholly black Crow.

*Kheḍra kahu*, a small kind.

*Poṇḍ kahu*, a white Crow, said to be a crow, but very rare.

*Kalaia*, the Cuckoo Shrike, *Graucalus macei*; also called *kaḷoi*.

*Kārī*, *Cuculus canorus*. Very voracious; it eats chickens and silkworms. Also called *piṛthi cēṛē*.

*Kasi jera* (or *kasi jeraḅ*), the same as *kasi guṇḍri*, v. *guṇḍri*.

*Kerketa*, the Brown Shrike, *Lanius cristatus*, also called *jhaṭa kerketa*.

*Baghe kerketa*, *Lanius melanocephalus*.

The name is due to its call sounding like *ker keṭe keṭe*; when this is heard, it is a sign that the cold season is setting in.

*Kikir*, the Kingfisher. The Santals distinguish three kinds:

*Bhoṇḍa kikir*, the large Kingfisher, *Halcyon fuscus*.

*Duč kikir*, the little Kingfisher, *Alcedo bengalensis*.

*Kamar kikir*, the medium-sized Kingfisher, *Alcedo ispida*.

*Kēhē*, the Maroon-backed Kite, the male is called *araḅ kēhē* and the female *heṛaḅ kēhē*.

*Kisni*, the Myna, *Sturnopastor contra*. They distinguish:

*Care kisni*, *Sturnopastor contra*, the Pied Starling; also called *ere kisni* and *naṅgar kisni*.

*Doḍhor kisni*, *Gracula religiosa*; also called *doṇḍhor kisni* or *bhoṇḍa kisni*, the first name being due to their having their nests in the hollows in trees (*doḍhor*).

*Kol*, the Indian Cuckoo, *Cuculus indicus*.

*Korkoṭ maraḅ*, a small kind of peafowl or possibly a pheasant common in Assam.

*Koḳor*, an Owl. They distinguish:

*Dereṅ koḳor*, the Collard Scops Owl, *Scops bakkamoena*, or *Scops lettia*.

*Laṭ koḳor*, *Scops spilocephalus*, also called *duṇḍu koḳor*.

*Bhuḅ koḳor*, an owl nesting in a hollow in a tree. This name is used of women who do not go out and who are reserved.

*Kōḅ*, a Paddy-bird. The Santals distinguish:

*Baḅ kōḅ*, *Herodias alba*.

*Bakoli kōḅ*, the same as *niṇḍa kōḅ*, q.v.

*Bitkil kōḅ*, the same as *gai kōḅ*, q.v.

*Dheṅka kōḅ*, a very large kind with a black beak.

*Gai kōk*, the Cattle Egret, *Bubulcus coromandus*. So named because it is often seen perched on cattle.

*Lay kōk*, *Bubulcus coromandus*.

*Lobo kōk*, *Ardeola leucoptera* (?).

*Lōboe kōk*, the same as *bak kōk*.

*Ninda kōk*, *Nycticorax griseus*, called Night Paddy-bird, because it feeds at night.

It might be noted that the name *kōk* is a near reproduction of the call of most of these birds.

*Kuhi besra*, an Osprey, *Spilornis melanotis*.

*Kuyi tukuč*, two birds, the Lapwing, *Sarcogrammus indicus*, and *Sarciophorus malabaricus*. So named from their call as heard by the Santals.

*Kuṭam dabla*, the Indian Hoopoe, *Upupa epops*, or *Upupa indica*.

*Kher guñja*, a small bird about the size of a sparrow, *Orthotomus longicauda*.

*Lantiti*, the Paradise Fly-catcher, *Terpsiphone paradisi*.

*Laṇḍha*, the same as *poṭ ḍoḍo*, q.v., called *laṇḍha*, because it is found among paddy stubble; also called *laṇḍha galoc*, a word not used before women.

*Lipi*, the following birds are so called:

*Bhoṇḍa lipi*, the Indian Corbie, *Corvus macrorhynchus*.

*Gōeṭha lipi*, the Ashy-crowned Finch Lark, *Pyrrhulauda grisea*.

*Kumba lipi*, the Madras Bush Lark, *Mirafra affinis*.

*Lōboe ḍak*, the long-tailed water-hen, *Hydrophasianus chirurgus*.

*Macreṅka*, a tern, *Sterna melanogaster*.

*Maraḱ*, the Peafowl, *Pavo cristatus*. This is fairly commonly found wild. *Piñcar maraḱ* is the peacock and *Maṭu maraḱ* the peahen.

*Korkoṭ maraḱ*, v. *korkoṭ*.

*Poṭom maraḱ*, a large kind of bird; some say it is a name for the peahen.

*Mahkaḷ*, the Indian Crow Pheasant, *Centropus sinensis*.

*Herak mahkaḷ*, likely the female, others say it is the same as the *galoc*.

*Maṅikjoṛ*, the White-necked Stork, *Ardea leucocephala*. Rare.

*Ńokor*, a small bird,? *Arogetes sachatilis*. It is eaten by old people, but not by young folk as they believe this will cause "the trembles". *Ńokor* is their name for paralysis agitans, St. Vitus' dance. The name of the bird is due to its trembling movements.

*Oṛe*, the Bush-quail, *Perdica asiatica*. This is caught in many ways, as well as by using decoy females.

*Pajhaṛ*, an Eagle.

*Buru pajhaṛ*, the Hill-eagle, *Aquila imperialis*.

*Hako saḥ pajhaṛ*, a Fish-eating Eagle (also called *daḱ pajhaṛ*, Water-eagle), ? *Spizæetus limnætus*.

*Parwa*, the common Pigeon, *Columba livia intermedia*. There are many varieties, named according to their shape and habits.

*Baji parwa*, tumbles in the air.

*Jhaṅga parwa*, has feathers down its legs.

*Khirkī parwa*, stays in openings in the wall.

*Oṛaḅ parwa*, house pigeons.

*Rajmoholia parwa*, a large kind, named after Rajmahal.

*Ṭaungi parwa*, kept in lofts.

*Pio*, the Golden Oriole, *Oriolus melanocephalus* (Linn.).

*Potam*, a Dove. The Santals distinguish the following:

*Barge potam*, small, brown, *Turtur cambayensis* (Gmel.), or *Turtur orientalis* (Lath.).

*Bosko* (or *bhosko*) *potam*, large like a pigeon, colour variegated.

*Gurughum* (or *gudrugum*) *potam*, the same as *mala potam*, q.v. So named from its call.

*Huhu potam*, the Imperial Dove, *Carpophaga aenea* (Linn.). So named from its call.

*Kēndrō potam*, the Spotted Dove, *Turtur suratensis* (Gmel.).

*Keke dēber*, a small kind, *Turtur orientalis* (Lath.).

*Kisāy potam*, the same as *huhu potam*. Said to be so named from its habit of collecting grain in small "bundles" of earth.

*Kudbur potam*, the same as *mala potam*.

*Mala potam*, the Ring Dove, *Turtur risorius* (Linn.).

*Peṭer potam*, the same as *bosko potam*; name due to its call, heard as *peṭer duk*.

*Pondhar potam*, a large kind, *Chalcophaps indica* (Linn.).

*Saṅḍi kakar potam*, the same as *barge potam*; name due to its call; also called *suṅḍi kukur potam*.

*Tilai potam*, the same as *mala potam*.

*Toyo dēdger* (or *toyo hoḍgor*) *potam*, the same as *barge potam*.

*Thekro potam*, the same as *kēndrō potam*.

*Ṭhikri potam*, the same as *barge potam*.

*Poṭ ḍoḍo*, the Flamefronted Flower-pecker, the same as *lanḍha*. So named from its call sounding like *poṭ poṭ*.

*Rici*, a kind of Falcon, the Pale Harrier, *Circus macrurus* (Gmel.). Sometimes it is also kept for hunting purposes.

*Sahraj*, the Sarus Crane, *Megalornis antigone* (Linn.).

*Sāḅ*, the Goose. Rare amongst the Santals.

*Sasaṅ cēṛē*, the Grey-headed Fly-catcher, *Culicicapa ceylonensis* (Swain.).

*Sasaṅ galoc*, a small bird. The name is not used before women.

*Sasaṅ pio*, the same as *pio*, q.v.

*Sauri cēṛē*, a very small bird, so called because they generally make their nest in a thatching-grass field; they are also called *ṭheḅ ṭheḅ cēṛē*, because their call sounds like *ṭheḅ ṭheḅ*.

*Serale*, a wild Duck, fairly common and much relished.

*Sim*, the common domestic Fowl. The Santals distinguish:

*Belati sim*, a large kind; so named because believed to have been brought from Europe.

*Geḍe sim*, having short legs like those of the ducks.

*Jhaṅga sim*, having feathers down the legs.

*Karanat sim*, having black feathers, black skin and black bones; used as medicinal food in certain diseases.

*Duci sim*, having some feathers standing out on the neck.

*Kulaṃ sim*, a large kind.

*Khayku sim*, a very tall kind.

*Khedra sim*, having scanty feathers.

*Ore sim*, a fowl resembling the *ore*, the Bush-quail.

*Risa sim*, having reverted feathers.

*Sauria sim*, a kind that lays many eggs and produces many chickens.

The cocks are called *sim sanḍi* and the hens *sim enḡa*.

Besides the domestic fowls mentioned the following are also called *sim* by the Santals:

*Bir sim*, that has already been noted.

*Daḡ sim*, a kind of wild duck smaller than the *serale*.

*Ṭhu ṭhukur sim*, the Turkey, very rare amongst the Santals.

*Suḡ*, the Purple Sunbird, *Cyniris asiaticus* (*Lath.*), also called *sakwa suḡ*. Another small bird is also called *suḡ* or *gadle suḡ* and *jugi suḡ*. The name is due to the call of these birds, heard by the Santals as *suḡ suḡ*.

*Tarjua*, the Black Ibis, *Inocotis papillosus* (*Temm.*). Fairly common.

*Tirmuti*, v. *ṭirmuṭi*, the common name.

*Tuṭ*, the Crimson-breasted Barbet, *Xantholæma hæmacephala* (*P. L. S. Müller*). So named from its call sounding like *tuṭ tuṭ*.

*Ṭiḡ ṭoroḡ*, the Bengal Bulbul.

*Ṭikmiṅ*, a kind of Falcon, ? *Cerchneis tinnunculus* (*Linn.*).

*Ṭirmuṭi*, a small kind of Falcon, *Falco severus* (*Horsf.*), or *Tinnunculus alaudarius* (*Linn.*). Kept to catch birds, esp. by Hindus.

*Ṭirom*, the Indian Bee-eater, *Merops viridis* (*Linn.*).

*Ṭiṭirhiḡ*, also called *ṭeṭe ṭeṅḡoḡ*, two species of Lapwing, *Sarciophorus malabaricus* (*Bodd.*), and *Sarcogrammus indicus* (*Bodd.*) (acc. to Dr. Campbell). One of them is also called *ḡoḡḡa ṭiṭirhiḡ*.

*Ṭoya*, the Indian Blue-jay, *Coracias indica* (*Linn.*).

*Uṛiḡ*, two small birds, called *haṭi uṛiḡ* and *tope uṛiḡ* (the Indian Shama). So named from its call *uṛiḡ uṛiḡ*. To hear the call of an *uṛiḡ* on the left hand side, when going to do business, e.g., to arrange a marriage, is a bad omen, hearing it on the right hand side is a good omen.

#### ANIMALS EATEN.

Let us now speak about the animals that the Santals eat, taking them in alphabetical order.

*Bana*, the Indian Black Bear, *Melursus ursinus* (*Shaw*), also called *parkom bana*; fairly common in the forests.

*Banwar*, a Jungle Mouse.

*Barduruc*, a Bat. The Santals distinguish the following:

*Coṭo barduruc*, *Nycticejus kuhli* (*Leach.*).

*Cuṭiā barduruc*, lit. the mouse bat, the smallest kind.

*Goḍo barduruc*, *Cynopterus marginatus* (*Geoff.*).

*Hon barduruc*, lit. rat bat; a fairly large kind.

*Kāhu barduruc*, the Flying Fox, *Pteropus medius* (*Temm.*).

*Poṭom barduruc*, a species so called.

*Boyo bana*, the Indian Badger, *Mellivora indica* (*Kerr*).

*Bhiḍi*, an Ewe, sheep. A ram is called *bheḍa*<sup>1</sup>, but the name of the female is used as a name for sheep in general, just like *gai* for cattle in general. Sheep are commonly kept by Santals for food, not for their wool.

*Gaḍor bhiḍi*, a kind of Sheep with a very heavy tail; not ordinarily kept by Santals but often seen by them.

*Bhiḍi jel*, a kind of Deer, *Ovis vignei* (*Blyth.*).

*Cemēn*, the Mongoose, *Herpestes auropunctatus* (*Hodgs.*). Often kept by the Santals because of their usefulness in connexion with the catching and killing of snakes and rats.

*Cund*, the Musk-rat, *Crocidura caerulea* (*Kerr*). They distinguish two varieties, *bhonda cund*, large, and *reṭhe* (or *reṭhea*) *cund*, a small kind. Snakes are believed to avoid houses where there are musk-rats. Some Santals will eat them, after having cut away the head, but generally only when there is a scarcity of other kinds of food.

*Cuṭiā*, a Mouse, *Mus musculus* (*Linn.*).

*Daṅgra*, an Ox; v. *gai*.

*Ergo*, a Field-rat (coloured like a hare).

*Gaḍor bhiḍi*, v. *bhiḍi*.

*Gai*<sup>2</sup>, a Cow; word used for cattle in general. Bullocks and often also cows are used for ploughing and carting. The Santals have no objection to eating the meat of cows and bullocks, in fact they relish it, but owing to the landlords and their Hindu neighbours they have to exercise restraint, and they will mostly go about obtaining, preparing and eating it at night. Bullocks may be sacrificed. The writer once came across a large number of Santals who had cut up a couple of cattle who had died from some disease. He tried to warn them not to eat such meat; but they had no fear of anything happening to them; and so far as is known no harm came to them. The milk is used, but Santal cows give very little.

*Goḍo*, a Rat. The Santals distinguish the following:

*Bhus goḍo*, the Bandicoot Rat, *Nesocia bandicota* (*Bechs.*) (or, *Mus malabaricus Shaw*, or *Mus giganteus L.*). This rat digs holes in embankments, near rice-fields, etc. The Santal believes that they gather food, sufficient for a whole year at a time and store it in their holes.

*Caole goḍo*, the common House-rat.

<sup>1</sup> Also *Bheḍa* in Bengali—*Ed.*

<sup>2</sup> Also *Gai* in Hindi and Bengali—*Ed.*

*Dander goḍo*, living near rice-fields where they burrow holes and collect quantities of paddy. The same is also called *khet goḍo*, *pinḍhe goḍo* and *ṭaṇḍi goḍo*.

*Muruṣ goḍo*, a small light-grey rat, also living near rice-fields, burrowing there.

To catch rats a number of Santals will go to a place where they have found that rats have burrowed. They dig them out and kill them, and if they cannot reach them in this way, they fill the hole with water, which will drive them out. They wrap the head, the intestines and the legs up in separate leaves and put each on burning coals to fry, with salt, spices and oil added, if they have such; or they may cook it with rice into a hash. They will either eat this on the spot or, dividing it into equal portions, each take one portion home. The flesh is divided in the same way and taken home, where it is made into curry. Before being cut up such small animals are hammered with a stone, and then singed.

*Hati*,<sup>1</sup> the Elephant. The writer's informant stated that Santals will eat elephant flesh and they may have done so in olden times, but nowadays they never get an opportunity.

*Hon*, a Rat. The *hon* has, except as mentioned, hair on its tail. It is not hairless like the tail of the *goḍo*. The Santals distinguish:

*Cāuriā hon*, the same as *urič hon*, q.v.

*Khedra* (or *kherra*) *hon*, a small rat with a bare tail.

*Oṛaḱ hon*, a rat commonly found in houses.

*Sarṅga hon*, *Mus rattus* (Linn.).

*Urič hon*, the Gerboa-rat, *Gerbillus indicus* (Hardw.).

Hunted like *goḍo*, but smoked out, when necessary.

*Hoṛo*, a Tortoise. The Santals distinguish the following:

*Buru hoṛo*, lit. Hill-tortoise.

*Caṭom hoṛo*, the same as *lapra hoṛo*.

*Daḱ hoṛo*, *Trionyx gangeticus* (Cuvier) (?).

*Lapra hoṛo*, *Kachuga dhongoka*, found in the Ganges and in the Eastern parts.

It has a soft edge round the leg openings.

*Raj hoṛo*, lit. King-tortoise.

*Ṭaṇḍi hoṛo*, a small kind, *Morenia ocellata* (Dum. & Bibr.).

*Ṭoklaḱ hoṛo*, a kind of tortoise living in water. The name is said to be due to its resemblance of a *ṭoklaḱ*, a small earthenware vessel used for cooking curry.

*Ṭukuč hoṛo*, a kind of tortoise.

*Jel*, a Deer. All kinds of deer are called *jel*, perhaps because the only meat (*jel*) the Santals originally had was that of the deer. They know a number of different kinds, the names being often different for the male and the female of the same species, the word *jel* is very often omitted.

*Badaṛ selcḱ jel*, the buck of the Ravine Deer, *Gazella bennetti* (Sykes).

<sup>1</sup> Also *Hāti* in Hindi and Bengali—Ed.

*Bhāṇṭiā jel*, the Indian Black Buck.

*Ghoṭret* (or *ghoṭra*) *jel*, the hind of the *badar seleḥ jel*, *Gazella bennetti* (Sykes).

*Jhaṅkar*, the buck of the Spotted Deer, *Cervus axis* (Erxl.). They distinguish:

*Paḍa jhaṅkar*, an old buck the horns of which have fallen off; and *ponḍa jhaṅkar*, having whitish horns.

Also *Icaḅ jhaṅkar*, *Cervus porcinus* (Zimmer).

*Kurmbi seleḥ jel*, the hind of the *badar seleḥ jel*. Some Santals say that this is the same as *badar seleḥ*.

*Merom jel*, lit. Goat-deer, the same as *ghoṭret jel*.

*Murmu*, the Nilgai, *Boselaphus tragocamelus* (Pallas.) Tabu to people of the Murmu sect.

*Mūrghos* (also *munḍghos*) *jel*, a small species, not known in the Santal Parganas.

*Posta*, the hind of the *jhaṅkar*.

*Poṭret jel*, the same as *ghoṭret jel*.

*Saram*, the Sambar Stag, *Cervus unicolor* (Besch.), also called *gadle saram*. *Gutrut saram* is a stag that has not as yet got horns; *paḍa saram*, is an old stag, the horns of which have fallen off.

*Sāl*, the Gaur, *Bibos gaurus* (Ham. Smith) (*Gavæus gaurus* of Blyth); also *bir kaḍa*, lit. forest buffalo. The cow is called *sāl bitkil*.

*Sosam*, the hind of the *murum*.

*Tanḍi seleḥ*, the same as *badar seleḥ*.

It should be noted that, except in the reserved forests, deer are now practically extinct in the Santal Parganas.

*Jhik*, the Indian Porcupine, *Hystrix leucura* (Sykes).

*Kaḍa*, the Buffalo; the cow is called *bitkil*. They have quite a number of prefixes, varying according to the appearance of the animal and its horns. The Buffalo is now fairly common among the Santals, at least among well-to-do people. They will eat the flesh, but very rarely can afford to do so. The milk is also used.

*Kul*, the Tiger, *Panthera tigris* (Linn.). The tiger is now fairly rare in the Santal Parganas. The Santals enjoy eating it, when they get an opportunity.

*Kulai*, the Bengal Hare, *Lepus ruficaudatus* (Geoff.). Fairly common and much hunted. They distinguish:

*Buru kulai*, lit. Hill-hare; a large kind found in the hills.

*Ergo kulai*, found in Assam. These look like ordinary hares, only their ears are small.

*Kheḍra kulai* (also called *reṭhea kulai*), a small thin kind.

*Saphon kulai*, the Coney.

*Khikyī*, the Bengal Fox, *Vulpes bengalensis* (Shaw).

*Lar togo*, the red Squirrel.

*Maṅgar*, the Alligator, *Crocodylus palustris* (Less.). Now very rare in the Santal Parganas, and only seen in the great rivers.



*Mahla*, the Palm Civet, *Paradoxurus hermaphroditus* (*Pallas*), var. *niger* (*Blanford*). (or *Paradoxurus musanga* (*Jerdon*)).

*Merom*, a Goat, also used as a general name for male and female animals; *mihū merom*, lit. calf-goat, is used for cattle in general, including cows and bullocks, goats and sheep. *Boda* or *merom boda* is the Santal name for an uncastrated he-goat. *Merom khasi* is a castrated goat, the flesh of which is considered excellent as curry, and constantly used.

*Odam*, the Indian Otter, *Lutra vulgaris* (*Erxleben*), and *Lutra leptonyx* (*Horsfield*).

*Ruṇḍa*, a Jungle Cat. The Santals distinguish:

*Badar ruṇḍa*, the Jungle Cat, *Felis chaus* (*Güldenstedt*), about the size of a domestic cat.

*Boas* (or *boak*) *ruṇḍa*, the large Tiger-cat, *Felis viverrina* (*Bennett*). So named from their call, sounding like *boas boas*.

*Kubra ruṇḍa*, a species of jungle cat.

*Sagak ruṇḍa*, the same as *badar ruṇḍa*.

*Sila ruṇḍa*, a species of wild cat.

*Saram babea*, a kind of Mongoose, *Herpestes smithi* (*Gray*), large.

*Seleḥ*, v. sub *jel*.

*Sogot*, the Civet Cat, *Viverra zibetha* (*Linnaeus*) (or *Viverricula indica* (*Hodgson*)).

*Sukri*,<sup>1</sup> a Pig. Most Santals prefer the flesh of pigs to that of any other kind of animal, although a few will not touch it on account of the way pigs feed. Most Santals keep pigs. Practically all male pigs are castrated (they are called *sukri badhia*). A boar is called *kuḍu sukri*. Besides the domesticated pigs wild ones are also found:

*Bir sukri*, the wild Pig, *Sus indicus* (*Gray*). These are still found, where there are forests. Pigs, also domestic ones, are killed by shooting them with arrows.

*Tayan*, the Broad-headed Crocodile, *Crocodilus palustris* (*Lessert*). What has been said about the *maṅgar* also applies to the *tayan*.

*Taruḥ*, a Leopard. The leopards are rather plentiful in the country, and are not only eaten, but their whiskers and claws are used as amulets, giving the wearer luck and strength in certain matters. They distinguish several kinds of leopards. It may be remarked that even tigers are called *naprak* or *maran taruḥ*, lit. big leopard.

*Kurse baha taruḥ*, the largest kind, so named from its colour like the *kurse* flower. It is as large as a small tiger; the writer once measured one killed outside his station; it measured seven feet. It was cut up and eaten.

*Lay sakam taruḥ*, large, of a light colour.

*Poṭea taruḥ*, the small kind (also called *ḍegra taruḥ*).

*Sona cita taruḥ*, of medium size, probably the most common in the country.

*Ad baghin taruḥ*, lit. half-tiger leopard; a large kind.

*Toṛ*, a Squirrel, *Sciurus tristriatus* (*Waterhouse*) (or *Sciurus palmarum* (*Linnaeus*)). Common.

*Toyo*, the Jackal, *Canis aureus* (*Linnaeus*). Very common, plays the same rôle in Santal folklore as the fox in European folklore.

<sup>1</sup> Bengali 'Sükar'.—Ed.

*Tikmiñ* (or *kiñmiñ*), a small tree-rat.

*Urič hon*, v. sub *hon*.

#### THE CATCHING, TREATMENT, ETC. OF ANIMALS AND BIRDS.

Hunting is the great delight of Santal men. Anything that can be hunted is fair game and is eagerly pursued. The Santals have their annual hunt in which all men of the countryside are expected to participate, so much so that if they without good reasons do not follow the others, they are called "women". The annual hunt is the highest social function amongst the Santals. The scene of the hunt may be anywhere, where they have reason to believe that animals may be caught. When hunting they have certain customary rules which must be followed and which are of a communal character. The one who on the annual hunt first hits an animal, whether he kills it or not, has a right to the felled animal; but he must give certain parts to others, and he has to divide what is left with the men of his own village, only keeping certain parts for himself.

At other hunts the hitter and killer have their rights; but here also all participating get an equal share of the flesh, that is not prepared and eaten on the spot, to take home with them.

Of the head of sacrificed animals and fowls a hash is cooked with rice. Only men eat this; no woman is allowed to partake of it. When parts of killed animals or birds are brought back from a hunt, any man, whose wife is enceinte, must not be given any portion, to take home with him, in which there is a part of the head. If such a woman should eat this, it would mean something bad for her child, especially if it should be a boy when grown up he would be unable to kill any animal, when out hunting. People suffering from disease also must not eat the head.

If the skin of a killed animal is wanted, they naturally flay it. Otherwise it is singed. The animal is put on burning coals, and all hairs are singed off. Birds are similarly treated to singe off the feathers.

Small animals are to start with, frequently, beaten with a stone or an axe-head, to pulp, and are then put on live coals to be singed. Hares are similarly treated, but only the four legs and the head are beaten not the whole body.

Anything intended to be eaten as curry is, before cooking, cut up into small pieces. The Santals have no knives, forks or spoons and have to use the fingers of the right hand to convey the food to the mouth; hence the need for cutting it all up.

If meat of oxen or cows is brought, the Santals do not take this inside their houses, nor the vessels in which it is cooked. It is hung under the eaves at the rear of the house or under the eaves of the cowshed. When cooking it they put in salt, turmeric, seed of the Roselle plant, hemp seed, Niger seed and Sesame seed, all partially roasted and pounded. Men (not women) boil this meat, and men also serve it out. It is eaten in the courtyard.

The liver, lungs and intestines of larger animals are prepared separately.

Under the influence of their Hindu and (so far as pigs<sup>1</sup> are concerned) their Mohammedan neighbours some Santals have ceased to eat the flesh of many animals. They will not eat the meat of bullocks, cows and buffaloes and of pigs. It is not up to their standards of culture. Some folk say they feel disgusted at eating meats which their ancestors enjoyed. But, as a saying of theirs has it "If you become wealthy you will give up eating all kinds, but if you become poor you will eat everything".

Nowadays the Santals are compelled to rely mostly on agriculture. Except where there are reserved forests, where hunting is greatly restricted, the real forests have mostly disappeared, and the spoils of the chase are extremely poor, very much so when compared with what is said to have happened in former times. Hunting now, it seems, gives a good deal of enjoyment with but little spoils. They will hunt for hares and for rats, and for single animals that they have seen or heard about; and they will use snares or traps to catch certain animals and birds. Otherwise the game is only what they happen to come across accidentally and kill.

#### CURRY.

A few words in connexion with the way in which the Santals prepare their *utu*, curry, may suitably find a place here. The procedure is naturally somewhat different for the different foods used, and all working cooks do not act in the same way. They have no recipes.

To prepare meat or flesh curry they generally proceed in the following manner:—Turmeric, leaves of *Laurus Cassia Willd.*, coriander seed, salt and spices are placed in oil in a vessel that has been heated; the vessel is then put over a fire, and when the oil boils, they add onions and pepper, and finally the flesh. It is then cooked until ready. Some do not use turmeric in all cases; especially is this the case when they make curry from hares.

With curry of fish, mushrooms, vegetables and split pulse (*dal*) they proceed in almost the same way, but in many cases they omit turmeric. When making *dal* curry, they first put the *dal* into hot water to make it into a soft mass, and turmeric and spices are added. Oil is poured into a heated vessel and made to boil, and onions and pepper are put in. When the onions have been boiled so as to look reddish, the *dal* is poured in. When cooking certain vegetables only salt is added; no oil and no spices are used.

The Santals fear the evil eye. To guard against this some women will take in their hand a little of the food that is to be made into curry and holding it over the vessel used they will say: "May it have a spell cast on it, may it get teeth". The meaning of this is said to be, that if any woman with an evil eye has looked upon it, no spell may be cast on the food, and it may be eaten and digested without any resultant stomach-ache, vomiting or diarrhoea.

#### MILK.

Before closing this section a few words may be added about the use of milk among the Santals. The cows, buffalo-cows and goats, that the Santals have, give, according

<sup>1</sup> Pig is taboo to the Hindus also.—*Ed.*

to our ideas, very little milk. If a cow gives one seer daily, it is considered extraordinary. It is significant, that, when being milked, a cow must have its calf (or, anyhow, a calf) standing at its head; otherwise it will not give any milk according to Santal experience. The Santals do not drink much milk. They will give fresh milk to their children, when the mother has too little or has died. They may also boil rice in milk and enjoy eating it in this way.

*Dahe*,<sup>1</sup> Curds, is not generally eaten alone, but together with parched and flattened rice (this is considered a great treat) or with Mahua. It is further used for churning butter. It is boiled and then poured into an earthenware vessel and kept there, more milk being constantly added. It soon becomes sour, but this does not matter.

The churning is done in the following way:—the vessel in which the *dahe* is kept is, when there is a sufficient quantity, placed at the foot of a post. They have a churning-staff, a staff of wood, generally bamboo, some five feet long, split at the lower end into four parts, that are kept apart by fixed cross-pieces. This churning-staff is put into the *dahe*, its top being kept in position by a loop of cord running round the post and the stick. Another long cord is taken three or four times round the churning-staff, and by alternately pulling this cord at each end, the staff is made to revolve. This may be done by either a man or a woman. The result is *nainu*,<sup>2</sup> unsalted butter. They do not know how to make this into butter, but make it into ghee.

The *dahe*, from which the *nainu* has been extracted is called *ghor*,<sup>3</sup> butter-milk. This is considered very savoury and a very nourishing food.

#### FORBIDDEN FOOD.

It may be of interest to state what Santals will not eat. They will not eat any kind of monkeys, as may be quite naturally supposed. Their traditions tell that the present-day *Bir hōṛ* (lit. forest men), a now very small tribe, originally belonged to the ancestors of the Santal people; but they were "outcasted", in every way ostracised, because they would kill and eat *hārū*, the Hanuman monkey, *Presbytis entellus*. Strangely enough they have no objection to using the skin of these monkeys, bought from the *Bir hōṛ*, to cover the narrow end of their *tumdaḱ*, dancing drum.

Santals will not eat horse-flesh. On two occasions the writer has been obliged to kill a pony. The Santals were on both occasions offered the flesh for food, but they absolutely refused to take it, and were apparently horrified at the offer.

They will not eat hyenas, seemingly on account of the way in which they feed. Some Santals will, for the same reason, refuse to eat pigs, although to most Santals their flesh is the best they know.

As regards birds, they will not eat any that are known to touch anything putrefying, e.g., practically all the vultures and the *jalo* falcon. Crows they will eat before they are able to fly, but not after they are full-grown ones; nor will they eat parakeets.

<sup>1</sup> In Hindi *Dahi*, in Bengali *Dai*.—*Ed.*

<sup>2</sup> Bengali *Ghōl*.—*Ed.*

<sup>3</sup> In Bengali *Nani*.—*Ed.*

## CRUSTACEANS, MOLLUSCS AND REPTILES EATEN.

*Boḍa*, a Python, *Python molurus* (*Linn.*). Fairly rare in the Santal Parganas, but common in the Eastern parts and Assam. The Santals distinguish the following:

*Dudhiā boḍa*, lit. milk-python, so called on account of its whitish colour.

*Dhima boḍa*, lit. the mild-tempered python, it is marked somewhat like a Russell's viper.

*Dhanwa boḍa*, and *dhinuar boḍa*, the same snake, kept by people, because it is believed to bring wealth.

*Ramnat boḍa*, a python that has rudimentary legs.

The flesh is considered excellent. Quite recently the Santals caught a python near to the writer's station. They brought it in to let people see this rare snake. Next day word was sent down to the village that the writer wanted to buy the skin, but the messenger came back saying that they had cut it to pieces and eaten it. They said it was fat and very good.

*Jambro*, the Dhaman or Rat-snake. The Santals distinguish:

*Kod jambro*, *Ptyas mucosus*; so named from its dark colour, like the colour of *kod* fruit.

*Man baha jambro*, having a yellowish colour.

*Soso jambro*, black like *soso*, the Marking-nut.

*Torngor jambro*, light-coloured.

The *jambro* is treated as follows: When they have killed it they tie it to a tree by its head. One man takes hold of its tail and keeps it stretched out, while another man starts skinning it. The skin is cut along the backbone and torn off. Having made a cut at the neck they tear the flesh of one side off, and when this is done, the flesh on the other side is torn off in the same way. The flesh is next cut into pieces and collected on a leaf-plate. They thereupon beat the backbone with a stone and also do the same to the ribs. The tail is singed, and when all this has been sufficiently beaten, it is cut up into bits and mixed with the flesh on the leaf-plate. They put all in a small vessel or a large piece of broken earthenware, and cook it on a piece of rock or on a fireplace made of three stones. When they are cooking it, they take a ball of the stuff and break it into two; throwing one half in, they say: 'This is salt', and throwing the other half in, they say: 'This is turmeric'. And they who eat it find it savoury, as though salt and turmeric had been added. They say to the children, that they must eat with care, or they may get something sticking in the throat. The ancestors have said, that if you get a bone of a *jambro* sticking in your throat, and then do not find and kill and eat its mate, you will never get rid of the choking matter. To divide the flesh they make leaf-cups of one leaf, the leaf-stalk being used to keep the leaf in a proper position.

They have a curious superstition in connexion with the *jambro*. To see a *jambro*, before taking any seed out to sow is unfortunate, because the *jambro* is a being that attracts all luck to itself. To obviate this bad influence some people will, before they

see a *jambro*, roast some Mahua, Sesame and Niger seed, pound this and eat it. Every member of the household will each eat one ball of it.

So far as the writer has been able to find out, the Santals do not eat any snakes other than those mentioned. A Santal once told the writer that he had one day seen a snake entering a hole; thinking it was a *jambro*, he had taken hold of its tail and tried to pull it out. He did not get the whole out; it broke, and the head was left in the hole. The man prepared and ate what he had got; but next day he felt very queer. He then went and dug out the head of the snake and found that it was the head of a cobra. Many cobras look very much like a *jambro*, so that the mistake is understandable. The Santals have an idea that all cobras are female, and that they copulate with these rat-snakes. They have often seen them copulating, they say.

*Daḱ goṅgha*, a large snail, living in water. The flesh is eaten.

*Icaḱ*,<sup>1</sup> a Prawn. Very common in the Santal country; eaten as curry. Also called *reṭhe icaḱ*, small prawn, to distinguish it from the *sole icaḱ*.

*Sole icaḱ*, a large kind of prawn, not so common as the *reṭhe icaḱ*.

*Jhinuk*,<sup>2</sup> a Mussel. The flesh is eaten.

*Kaṭkom*,<sup>3</sup> a Crab. The Santals distinguish the following, the flesh of which is eaten as curry:

*Baḍ kaṭkom*, common in the higher rice-fields.

*Baihaṅ kaṭkom*, the same as *baḍ kaṭkom*, but found in the low-lying rice-fields.

*Buru kaṭkom*, a small black kind, found in hill streams.

*Des kaṭkom*, the same as *baḍ kaṭkom*.

*Dhiri kaṭkom*, found under stones in rivers, a large kind.

*Patal kaṭkom*, the same as *dhiri kaṭkom*.

*Pokoḱ kaṭkom*, the same as *baḍ kaṭkom*.

*Rega kaṭkom*, a small kind.

*Reṭhe kaṭkom*, another small kind.

*Soḍoḱ kaṭkom*, a crab found in rivulets, resembling *buru kaṭkom*, but not so black.

*Toa kaṭkom*, white and soft, found in rice-fields.

*Rokoḱ*, a Periwinkle, Whelk. The flesh is eaten as curry. The Santals distinguish the following:

*Coelo rokoḱ*, a small periwinkle having a thin tapering shell.

*Jom rokoḱ*, any periwinkle that is eaten, the most common is *Melanoides tuberculatus*. A number of *rokoḱ* are not eaten.

*Roṭe*, a Frog. Of frogs the Santals eat:

*Barudaṅ*, the Bull-frog, *Rana tigrina* Daud.

*Hardia barudaṅ roṭe*, the yellow Bull-frog.

Other frogs than these they do not eat; rather they express horror at the mention of some of them.

<sup>1</sup> In Bengali *Ichā*.—*Ed.*

<sup>2</sup> Also *Jhinuk* in Bengali.—*Ed.*

<sup>3</sup> *Kaṅkrā* in Bengali.—*Ed.*

*Torhoḷ*, the Iguana. The Santals distinguish:

*Bād torhoḷ* (also called *ṭāṇḍi torhoḷ*), *Varanus flavescens Gray*.

*Baihar torhoḷ* (also called *pinḍha torhoḷ*), *Varanus monitor(?)*. The flesh of both is very much relished. They are now becoming rare in the country. The skin is used for covering part of the Santal fiddle.

### HONEY.

It should be mentioned that the Santals collect and use the honeys of different kinds of wild bees and insects. They naturally have not yet reached the state of keeping bees. Their name for honey is *rasa*.<sup>1</sup> They distinguish:

*Dumur rasa*, the honey of a wild bee called *dumur*.

*Kaṭ uru rasa*, the honey of a large black wasp, also called *rasa uru*; from this they also prepare a kind of small sweet balls that are eaten.

*Luti rasa*, the honey of the now very rare *luti*, *Trigona terminata*.

*Ñeḷe rasa*, the honey of the *ñeḷe*, *Apis dorsata Fabr.* This bee is fairly common and often seen. When they are swarming they make their hives shaped like a large rudder suspended from trees. The Santals eat the young *ñeḷe* bees.

*Terom rasa*, the honey of the *terom*, *Apis florea*.

### FISHES.

Where not otherwise stated, the fish mentioned below all live and are caught in the rivers. They are eaten mostly as curry.

*Aṛ*,<sup>2</sup> a not very common fish, *Macrones aor (Ham. Buch.)*.

*Badhoṛ*, *Notopterus chitala (Ham. Buch.)*, a fish full of bones (hence probably the name, *badhoṛ* meaning twisted, crossgrained).

*Bāspata*,<sup>3</sup> *Chela bacaila (Ham. Buch.)*. The word literally means bamboo leaf.

*Bambi*, *Anguilla elphinstonei (Sykes)*, an eel. Specially applicable to large specimens. *Bam*<sup>4</sup> is also used by itself.

*Baṣḷa hako*, lit. adze-fish. Large, not common.

*Boaṛ*,<sup>5</sup> two kinds of fish; the one called only *boaṛ* being *Wallago attu (Bloch.)*.

*Raghoḷ boāṛ* (also called *raghoḷ*<sup>6</sup> *boāṛ* or *raghu boāṛ*). It might be mentioned that the *raghoḷ boāṛ* is mentioned in the Santal traditions as the fish that was called on to raise earth from the sea to make land; but all the earth melted for this fish.

*Siḷka boāṛ*, is a name used for the *Wallago attu (Bloch.)* when still young.

*Bumbuḷ*, *Lepidocephalichthys guntea (Ham. Buch.)*. When large it is called *budhi bumbuḷ*. Considered excellent food.

*Caole bumbuḷ*, a small fish, often found in rice-fields.

*Kaḍa bumbuḷ*, possibly only another name for *bumbuḷ* when dark-coloured.

<sup>1</sup> *Rasa* in Bengali means Juice.—*Ed.*

<sup>2</sup> Also in Bengali *Ār*.—*Ed.*

<sup>3</sup> Same in Bengali.—*Ed.*

<sup>4</sup> Also in Bengali.—*Ed.*

<sup>5</sup> Cf. *Boāl* in Bengali.—*Ed.*

<sup>6</sup> Same in Bengali.—*Ed.*

*Kul bumbuč*, *Botia dario* (*Ham. Buch.*).

*Coč bumbuč*, a fish so called, because it gives a kind of squeak (*coč*) when caught.

*Bheđa hako*, lit. ram-fish. Not common.

*Calha*, *Barilius bendelisis*, var. *cocsa*, *Ham. Buch.*, considered very good food, especially during the cold season.

*Rodo calha*, a certain fish.

*Calka*, probably the same as *calha* (name not known in the Santal Parganas).

*Citol*,<sup>1</sup> *Notopterus chitala* (*Ham. Buch.*), a broad, flat and spotted fish. Sometimes kept in tanks.

*Cođa*, the same as *cođgoč*, q.v. Large specimens caught in rivers are often called *gađa cođa*.

*Cođgoč*, *Ophiocephalus gachua* *Ham. Buch.* Found also in rice-fields. (Divorced girls and this fish are said to be of the same nature, always moving about.)

*Dūrī*, also called *baihaṛ dūrī*, *loṣoṭ dūrī* (from the places where they are found, in low-lying rice-fields or in mud) or *maṭ sakam dūrī* (lit. bamboo-leaf, from its shape), *Rhynchobdella aculeata* (*Bloch*).

*Gađa dūrī*, lit. river *dūrī* (because it is found in rivers); also called *kabra* or *laṭu dūrī* (*kabra* means spotted, *laṭu* big). *Mastacembelus armatus* (*Lacép.*). Very slippery, eel-like.

*Đanđka*, *Perilampus laubuca* (*Ham. Buch.*) (also called *maran đanđka*, big *đ.*). Common during the rainy season.

*Kaṭič đanđka*, *Danio* (*Brachydanio*) *rerio* *Ham. Buch.*

*Sadom đanđka*, *Esomus danricus* (*Ham. Buch.*). Considered good food. *Đayka* and *dhanđka* are the same as *đanđka*.

*Gajal*<sup>2</sup> (or *gadjal*), a fish found in shallow lakes or marshes.

*Garai*,<sup>3</sup> *Ophiocephalus gachua* (*Ham. Buch.*). They bury themselves in mud and are considered one of the best for eating. They are another kind of *cođgoč*.

*Gendlan*, a small kind of fish. This word is also used for small fish in general (also *geñlan*).

*Ilsa*,<sup>4</sup> the Hilsa or Sable fish, *Clupea ilisha* (*Ham. Buch.*). Not found in the Santal Parganas, but in the big eastern rivers.

*Jiol*,<sup>5</sup> a certain fish, having spines on the sides of the head.

*Kakra hako*, a certain fish found in rivers.

*Kal bagus*,<sup>6</sup> *Labeo calbasu* (*Ham. Buch.*). (Also called simply *bagus*, or *kal bokos*.)

*Kara ghakor*, a certain fish (found in Manbhum).

*Kāṛā*, lit. blind, has very small eyes, *Glyptothorax botia* (*Ham. Buch.*).

*Kaila*, *Catla b Buchananii* (*Ham. Buch.*), very large, kept in tanks. The fry are annually brought from the Ganges or other large rivers.

*Kotro hako*, a certain fish (found in Manbhum).

*Kučla*<sup>7</sup> (also *kucila* and *khucila*), an eel-like fish.

<sup>1</sup> Also in Bengali.—*Ed.*

<sup>2</sup> Also in Bengali.—*Ed.*

<sup>3</sup> Also in Bengali.—*Ed.*

<sup>4</sup> Also in Bengali.—*Ed.*

<sup>5</sup> Also in Bengali.—*Ed.*

<sup>6</sup> Compare *Kāl Baus* in Bengali.—*Ed.*

<sup>7</sup> Compare *Künche* in Bengali.—*Ed.*



*Liṅḍa*, Garra lamta (*Ham. Buch.*). Also called *pathor caḷa*. Considered excellent food.

*Litur*, a certain eel-like fish, Amphipnous cuchia (*Ham. Buch.*).

*Matkom hako*, lit. the Mahua fish, *Gobius giuris* (*Ham. Buch.*).

*Mat sakam hako*, v. sub *dūrī*.

*Māṅgri*, a certain fish, *Clarias batrachus* (*L.*). It has no scales and is kept in tanks.

*Mīṛik*, a certain fish; kept in tanks.

*Paṅgas*<sup>1</sup> *hako* (also called *paṅgas boṛ*), a certain fish found in eastern rivers. Considered bad for sick persons.

*Potea gaṛai*, a fairly common kind of fish.

*Poṭha hako*, the same as *puṭhi hako*, when grown to a certain size. Also called *budhi puṭhi*.

*Puṭhi*<sup>2</sup> *hako*, *Barbus stigma* (*Cuv. & Val.*); small, often found in rice-fields. Also called *kaṭiḥ puṭhi*.

*Raghō boṛ*, v. sub *boṛ*.

*Rēṛḥ* *hako*, a certain fish, *Macrones tengara* (*Ham. Buch.*). Considered excellent food. They have thorn-like barbs on their back and head, the sting of which is considered poisonous.

*Ruhi* (also called *rui*<sup>3</sup>), *Labeo rohita* (*Ham. Buch.*); one of the best kinds for eating. Kept in tanks.

*Sīṅghin hako*,<sup>4</sup> a species of fish, so called on account of its spines. Not found in the Santal Parganas.

*Sirhoḥ hako*, a certain fish, said to be so called, because its head reminds one of the head of the *sirhoḥ* bird.

*Sīṛiṅ hako*, a certain fish without scales. Said to be very savoury.

*Sisiṅ hako*, a certain fish, *Amblyceps mangois* (*Ham. Buch.*). Certain filaments on the head are said to be poisonous.

*Sīṭka boṛ*, v. sub *boṛ*.

*Sol*,<sup>5</sup> *Ophiocephalus striatus* (*Bloch.*).

*Soroḥ*, a short, thick and round fish, *Barilius bendelisis*, var. *cocsa* (*Ham. Buch.*). Considered excellent food.

*Su*<sup>6</sup> (or *sūh*), a dolphin, *Platanista gangetica* (*Lebeck*). Said to be so named from sound like *su*, heard when they rise to the surface.

*Tale hako*, *Anabas scandens* (*Daldorf*). Said to be so named from a belief that during rain they will mount a *tale* (*Borassus flabelliformis*).

*Tēṅgra*,<sup>7</sup> *Macrones vittatus* (*Bloch.*).

*Tirom hako*, a certain fish.

#### FISHING.

As it is of ethnological interest, something may be related of how the Santals catch fish. Like hunting the catching of fish is said to be one of the real joys of the people.

<sup>1</sup> Also in Bengali.—*Ed.*

<sup>2</sup> Same in Bengali.—*Ed.*

<sup>3</sup> Same in Bengali.—*Ed.*

<sup>4</sup> Compare 'Singhi' in Bengali.—*Ed.*

<sup>5</sup> Same in Bengali.—*Ed.*

<sup>6</sup> Compare 'Sisuk' in Bengali.—*Ed.*

<sup>7</sup> Same in Bengali.—*Ed.*

A man may naturally go alone to angle, but this is very rare and likely of fairly recent introduction, as it is only of late years that they have been able to get serviceable fish-hooks. As a rule a number of men go together to a spot where they know that there are fish. If one or several of the party have no rights to the surrounding land, they will always have to come to an arrangement beforehand with the owner, but this does not apply to the big rivers. To catch the fish they employ different kinds of nets.<sup>1</sup>

At certain times the Santals hold a kind of public fishing festival, in which the whole neighbourhood, and anyone wishing to do so, participates. It is quite a social event. In such cases even the women may be seen accompanying the men. The women will naturally not enter into the deep water, but standing on or moving along the edge they will try to catch what they can with their hands. They apparently enjoy the fun.

The headman of the village, inside the boundaries of which the fishing is to be, makes a public announcement that on such and such a day there will be a public catching of fish. If believed necessary, they make sacrifices to the *bongas* (spirits) to remove possible impediments. They use their nets or hands to catch the fish. All fish caught are collected in the nets (in the *bukā*), the big fish being cut into pieces. When the fishing is over, they collect half of the big fish from every net. This portion is for the people of the village. They divide this half into three portions; one portion for the owner of the place, the two other portions for the village people.

If the public fishing is held in a river, the village headman of the boundary gets his one portion; but if the place is within the boundaries of two villages this portion is divided into two equal parts, and the two village headmen each get one of these parts. The remaining two portions are divided among the people of the two villages.

<sup>1</sup> The following are the nets used (called *jal* [Same in Bengali.—*Ed.*] or *jhāli*) by the Santals: *Chāhi jal* (or *jhāli*), shaped like a spoon-net, but has no handle. The wide circular opening is fixed to a ring of bamboo, and to this ring four pieces of bamboo or other suitable saplings are fixed tent-like and joined together above. The user takes hold of the **thin end of the net** (called *bukā*, lit. navel), that is not tied. When he thinks there are fish to be caught, he carefully presses the net down, so that the bamboo ring is firmly pressed against the ground. Letting go of the *bukā* he feels for the fish with his hand and takes them out. This kind of net is used in the larger rivers and in what is called *ahar*, low rice-fields that have a small dammed up rivulet.

*Gānari*, small round net, like a hand-net, with or without a handle.

*Gitoc jal*, a net up to 10 m. long and 1 m. broad with floats; only used in still water. Very rare amongst the Santals.

*Hundā jal*, the most common fishing net of the Santals. It is made like a big bag, tapering towards the centre, and the *bukā* is long and narrow. It is fixed to three poles which give it a triangular form. One of the poles protrudes and serves as a handle. When using it the man, keeping the *bukā* in his hand, presses one side down and moves it along the ground. Any fish caught are kept in the *bukā*, until the fishing is over.

*Lebda jal*, a casting-net, fairly common and used in shallow water. It has a wide circular form, tapering, with a long cord fixed at the top. At the border it has weights of iron or anything suitable fixed so as to make the net sink quickly. Practice and skill are needed to use this effectively.

*Or jal*, made of thick string with large meshes. It has weights of iron or stones at the bottom and floats (wood or straw-bundles) at the top. It is 3 to 4 m. deep and very long. It is used in large tanks, being dragged along the bottom to catch fish that are otherwise difficult to get. Very rare amongst the Santals.

*Rāñhi jal* (or *janalqm*), a very large net, consisting of a netting fixed to four poles, some 3 to 5 m. long, and tied together so as to form a square. To each corner a rope is tied. Four men are needed to work this. Standing one on each corner they press the frame down to the bottom. After a short while they raise the frame by pulling the ropes. If any fish are brought up in the net, they kill them with a stick. It is used in water some five feet deep. It is rare amongst the Santals, and not found in all districts.

The Santals also have a way of catching fish by poisoning. They obtain noxious substances from the forest, crush them and throw them into the water. The fish are drugged thereby, float to the surface and are caught. The substances most commonly used for this purpose are the following: The roots of *kita*, *Phoenix acaulis Roxb.*; the fruit of *corco*, *Casearia tomentosa Roxb.*; *jīoti*, a grass growing in rice-fields and moist places; the bark of *kumbiy*, *Careya arborea Roxb.*; the fruit of *loṭo*, *Randia dumetorum, Lam.*; and the bark of a tree called *sakri phol*. This poisoning can only be done in still water (in tanks, pools and certain parts of rivers).

Another very common way of catching fish, especially the smaller kinds, is by using a *ṭoroḍani*, a weir-basket, a kind of fish trap. The *ṭoroḍani* is made of wicker-work, either circular or oval, and up to some 80 cm. long. The lower end is tightly closed. Water will run through, but no fish can pass. The 'mouth' is broad and furnished with 'teeth' to prevent the fish from getting out again. The *ṭoroḍani* is placed in running water where there is a narrow passage. It may be set in a river, but more commonly in an opening in the lower ridge of a rice-field. Here it is usually employed towards the end of the rainy season. Small fish may frequently be seen in the water of the rice-fields, and when the water is led out through the gap, the fish are carried along and fall into this trap. Practically every Santal uses this. A Santal makes something like the real *ṭoroḍani*, except that it is of straw, for his children to play with. It might be added that the name of the material from which they make the *ṭoroḍani* is generally combined with this word, thus *icaḅ ṭoroḍani*, when made of the twigs of *icaḅ*, *Woodfordia floribunda Salisb.*, *maṭ ṭoroḍani*, when it is made of split bamboo, *tale ṭoroḍani*, when made of the leaves of *tale*, *Borassus flabelliformis L.*, and so on.

#### SMOKING AND DRINKING.

In connexion with the hygiene of the Santals smoking and drinking must be mentioned for they play an important part in the lives of the people, especially of the men.

Santals may smoke tobacco. Their national way of smoking is to take a dried tobacco leaf or part of one and make it into a kind of cheroot by wrapping a Sal-leaf round the tobacco and then smoking it like a cigarette. This way of smoking is not very common. The writer has, in quite recent times, seen Santal girls smoking modern machine-made cigarettes.

The use of the hookah is rare; but some Santals have adopted it from the Hindus. The hookah used by the Santals never has any flexible tube attached to it. It is made from a cocoa-nut shell, or the emptied kernel of the Palmyra palm, with a wooden stem attached, on top of which is the *cilim*,<sup>1</sup> the earthen bowl in which the tobacco and the fire are placed. The tobacco used in the hookah is generally mixed with some other substance. The *cilim* is frequently used alone, removed from the hookah-stem, the lower empty end of it being put to the mouth. The Santal name for smoking is *ūū*, to drink.

<sup>1</sup> Saue in Hindi.—Ed.

The manner in which tobacco is most commonly enjoyed by the Santals is, however, by chewing <sup>1</sup> it. As this is a social custom of considerable importance among the men, it must be fully described. Pieces of a dried tobacco leaf are mixed with mussel-lime. Holding this in the palm of the left hand they pound it with the thumb of the right hand into a solid mass. When ready a pinch is given to each one present who puts it into his mouth and commences to chew it. It is kept in the mouth until the tobacco can no longer be tasted, (this is said to take one to two hours), then it is spat out. This chewing does not hinder speech, but on the contrary, gives them an excuse for conversation. If two Santals meet, even though they do not know each other, and one of them wants to have a talk, he will ask the other for tobacco. If the other one says he has nothing, he will himself offer it. In this way all kinds of conversation are started and kept up. Nearly every Santal man carries pieces of a tobacco leaf and some lime with him. This lime is burnt from mussel or snail shells. The shells are put in a small bundle together with chips of wood, bark, etc., and wrapped up with a straw-rope, like a small *bandi* (paddy-bundle). This is placed in a crate of branches. A rope is tied in one end, and after having set fire to the chips the man takes the rope and commences to swing the bundle round himself to keep it burning. This operation is continued until no more smoke is seen, when the lime is considered to be ready. This task is usually performed in the evenings. Sometimes they make a bundle too large to be swung in this manner. In that case they suspend it by a long rope from a tree and swing it to keep the fire burning by pulling a cord attached to the bundle. A Santal carries this lime with him in a small receptacle, made of brass or some other metal, or in the kernel of certain fruits, tied to his loin-string. Otherwise it is stored in the house.

A few Santals have commenced to cultivate tobacco, but as a rule, the dried leaves are bought in the shops.<sup>2</sup>

<sup>1</sup> This practice is also common among the Hindus of Bihar.—*Ed.*

<sup>2</sup> They have a folktale about the origin of tobacco. It is as follows:

"In olden times, it is said, there was a Brahmin girl who did not get a husband, and died an old unmarried woman. They say that no one applied to marry her, and no one was willing to become a *house-son-in-law either* [means a son-in-law who lives in the home of his bride and is maintained by her family. A common practice with richmen in former times who did not like to send their daughters to their husbands' houses when they were not well off. A term of contempt.—*Ed.*].

Then Chando (a name for the Supreme Being, also for the sun) said: 'Strange, I sent this person into the world and no one was pleased with her. Very well, I shall give this person a blessing, in order that people of the whole world may ask for her all day long.'

Now, truth to tell, they cremated this girl by a river. When this was done, all the village men went back home from the river. Next day, they say, Chando sowed tobacco where they had put the ashes into the water. Tobacco sprang up, grew big and produced very fine leaves.

Now a Mahra (a Goalla, a man of the Hindu cow-keeping caste) was in the habit of daily herding his cattle there. While he was tending his cattle, he saw these leaves. They looked very fine, and he said: 'I wonder what plant has grown up here?' It was very wonderful in his eyes.

One day he saw some goats eagerly eating these leaves, and he drove them away; but the goats came there again to eat. The Mahra then said: 'I wonder why these goats find these leaves so good to eat'. With this thought he tore off a piece of a leaf and chewed it to taste it for himself. He found it bitter and spat it out.

A few days afterwards the Mahra had a toothache. He applied some medicine, but it would not stop. He had intense pain. Then he remembered that the leaves of this newly found plant were very bitter and he said to himself: 'I will try chewing these leaves'. And thinking this he tore off a leaf. Having chewed it into a mass he stuffed it into his mouth and kept it on the spot where the pain was. The pain at once stopped, and he said: 'Wonderful, this is an ex-

*Pan*,<sup>1</sup> the leaf of Piper Betle *L.*, mixed with lime and certain spices, so commonly chewed by Hindus, is very rare among the Santals. It is bought from Hindus.

Santals do not smoke opium.

*Gañja*,<sup>2</sup> the hemp plant, *Cannabis sativa Willd.*, is on the other hand used by a few who have learnt to smoke it from other races. The plant is secretly cultivated by some few people. The leaves of the male plant and the flowers of the female plant are dried and mixed with tobacco for smoking, but only very rarely by Santals. The ojas may teach their disciples to smoke *gañja*, when they are to be 'possessed'.

Now let us consider what the Santals drink, apart from what has already been mentioned among the foodstuffs. The Santals have no wines. To buy them would be more than any ordinary Santal could afford.

Liquor, *paura*, as they call it, is used by some. When Santals take to using this, they soon become addicted to it, and become spoilt and unfit for ordinary work. The liquor is distilled from dried Mahua flowers. It is illegal for Santals to distil *paura*, and is now but rarely done in very primitive apparatus. So far as the writer can remember, he has only once seen what they use, and this was something confiscated by the police.

What may be called the national intoxicating drink of the Santals is their *hañdi*, beer, brewed from cereals, rice or other grain. They distinguish a dozen different kinds, in accordance with the name of the cereal used, putting the name of the grain in front of *hañdi*, such as *horo hañdi*, beer brewed on rice, *janhe hañdi*, beer brewed on *janhe*, a millet, *Paspalum scrobiculatum L.*, and so on. They use besides nearly fifty other prefixes in accordance with the social or festival events, when beer has to be used. It may be noted that Santals drink, not to enjoy the taste, but to become more or less intoxicated, so as to forget the troubles of this world. The Christian

cellent medicine'. After that he always had a leaf of this plant with him when he was herding his cattle. Whenever he felt any pain, he chewed this and kept it in his mouth.

Then one day, it is told, he found some bones that had been burnt to ashes there, or perhaps it was some limestone that had been burnt to ashes. When he saw this, he said: 'I wonder, what this white stuff is'. He picked some up and crushed it between his fingers, and taking this and tearing off a piece of the tobacco leaf he chewed them together and felt them very enjoyable. Afterwards he became so accustomed to eating tobacco with lime that he was unable to give this up.

When anyone has a toothache they crush a tobacco leaf, place it in the mouth where the pain is, and the pain ceases. And from that time, they say, other people also became accustomed to chewing tobacco and lime. The Santals call this tobacco *thamakw* (Hindi *tamākū*).

Thus very many people adopted this habit. Even people who have no toothache feel an intense longing for it, if they do not chew. 'In this way', they say, 'people have learnt to chew tobacco, and as is seen, also now we are chewing. Our ancestors have told this; whether it is true or not, we cannot say. We have learnt it from our forefathers.'

The Santals have generally excellent teeth. It should be mentioned that what in the above story has been translated by toothache, is in Santali expressed by *reñgol jom*, lit. a kind of microbe, called *reñgol*, eating the teeth. They believe that there are two kinds, one that eats holes in the teeth and another kind that causes the pain. The ojas pretend to be able to get the *reñgol* out by smoke. When blowing the smoke into the mouth of the sufferer, the oja uses the hollow stem of a plant and if some small particle of this become detached, he will point to them and tell the spectators, that he can see the *reñgol*!

<sup>1</sup> Bengali *Pān*.—*Ed.*

<sup>2</sup> Bengali *Gānja*.—*Ed.*

missions have, for this reason, been obliged to prohibit the use of Santal beer, and Santals now frequently use tea in its stead.

As beer plays such a prominent part in Santal life, we shall describe how they brew *hanḍi*. This has already been related in a note to one of the Santal Folktales, edited by the Norwegian Institute for sammenlignende kulturforskning, and is repeated here.

When a Santal is going to brew beer, his first act is to prepare the pot in which the beer is to be manufactured. Any earthenware pot with a fairly large mouth will do; they generally use what they call *tukuc* or *handha*. The pot is filled with dry leaves, straw, etc., and this is set fire to in the morning of the day when they are going to start brewing. It takes some hours before everything is burnt. The pot is generally placed a short distance away from the house, as there is much smoke. When the pot has cooled down, the ashes are taken out, and the brewing ingredients are put in. This is all got ready in the afternoon. They take rice boiled in the husks and afterwards husked (what they ordinarily use for their food, and not the sun-dried rice) and roast this a little. This roasting is said to impart a certain flavour to the beer. The rice is then boiled and afterwards spread out to dry. The quantity of rice used depends on the number of people for whom the beer is being made. It varies from four to six *pai*<sup>1</sup> (half-seers), or it may be as much as ten *pai*, and the quantity will also naturally depend to a certain extent on the economic state of the house. The *pai* is very nearly equal to half a kilogram.

When the rice is fairly dry, it is mixed with *ranu*, a vegetable fermenting substance, which is rolled and ground. *Ranu* ordinarily consists of some four or five different vegetable products. Generally it is bought in the market prepared in small white balls, although most Santals know how to prepare it. As the primary object of the Santal in drinking beer is to get drunk, certain vegetable poisons are frequently added to the *ranu* to make the beer intoxicating. When a number of deaths had occurred after drinking beer, the writer was once asked by the Subdivisional Officer, Dumka, what ingredients the Santals had used. On investigation it was found that twenty-three different vegetable substances had been utilized. These were naturally not all used at one time, but only one or two were added to the fermenting medicine for the purpose mentioned. People of the *Sunḍi*<sup>2</sup> caste, who manufacture and sell beer in the Santal country, make special use of these poisons, to make their clients drunk in a short space of time. When a Santal is drunk he continues to drink, and the proprietor of the place is said to give him practically nothing but water in the last cups sold. It has several times happened that people who have been to such shops and have become drunk have died from the effects of these poisons on their way home.

When the rice and the *ranu* have been properly mixed, all is put into the brewing pot, prepared as described above, generally in the evening. The boiled rice has swollen, so that the pot will be fairly full. The contents of the pot are covered with a leaf-plate

<sup>1</sup> Compare 'Poah' in Bengali.—*Ed.*

<sup>2</sup> In Bengal also people belonging to Sundi caste manufacture and sell wine.—*Ed.*

pressed down on the rice. Another leaf-plate is placed on the mouth of the pot, and a *dhakniç*,<sup>1</sup> an earthenware lid, or a small cooking vessel is put on top, to keep it all intact. There is now nothing more to be done for some days, and the brewing pot is put aside in some place where people do not ordinarily go, commonly in the *bhitār*,<sup>2</sup> the closet for the worship of the ancestors. As it must not tumble over the pot is placed on a *binḍi*,<sup>3</sup> a ring of straw used as a stand for round-bottomed vessels.

The rice takes some five days to ferment (*isin*, as it is called, the word that is ordinarily used for the act of cooking). When the fermentation is complete it can be heard outside the pot. There is an exudation from the rice (called *jhar*), which looks like brown water. This is ladled out with a leaf-spoon, and is said to be the most intoxicating part of the beer. It is generally drunk mixed with a little water and it may be kept, they say, up to one month, before it goes bad. As a rule it is quickly consumed.

To obtain the real beer hot water is poured on to the rice from which the *jhar* has been extracted. During fermentation the rice contracts a little. If insufficient hot water is available, cold water may be added, until the pot is full. The beer when ready looks like milk-water, a little brownish in colour. It has a peculiar acid-sweet smell. Any one who has drunk a little may be detected by the smell, a considerable distance away.

Before drinking, libations are made to *Marāñ buru*, the principal national godling of the Santals, possibly, because he belongs to the ancestors. (The Santal traditions tell that our first parents lived holy and happy lives until one day a being came to them, saying he was their grandfather. He was pleased to see them so happy, he said, but there was one joy that they did not know. He then taught them to brew beer, showed them the vegetable poisons they should use to make it good, and made them drink. They became drunk and fell into sin, i.e., had sexual intercourse. This 'grandfather' is the same as *Marāñ buru*). They also offer libations to the ancestors, to each, one after the other, so far as they are known. This is done by pouring a little beer onto the floor inside the house (but not in the *bhitār*) for each ancestor.

They take a broom, made from the straw of *siron* (*Andropogon muricatus* Retz.) that has not been used to sweep the floor, consequently generally a new one or one specially kept for this purpose, and place it in the mouth of the pot with the broom portion downwards, so as to prevent the rice from coming out when the pot is tilted to let the beer run out.

The beer is poured out into brass-cups, with rims (these make it easy to pour from the cup). If there are enough cups, they drink from these; otherwise the beer is poured out from the brass-cups into leaf-cups. Of such they have one kind called *haṇḍi phuruḅ*, beer leaf-cup. As the name implies, this is specially intended for drinking beer, but also used for any other household purpose for which it is suitable. This leaf-cup is made from one *Sal* (*Shorea robusta* Gaertn.) leaf. Both ends are plaited, once on each side of the midrib, which is covered by the plaits, the plaits being kept

<sup>1</sup> Compare 'Dhākni' in Bengali.—Ed.

<sup>2</sup> 'Bhitār' in Bengali means 'inside', inner part of the house, etc.—Ed.

<sup>3</sup> Compare 'Binḍa' or 'Binḍé' in Bengali.—Ed.

in position by a pin of stiff straw, a thorn, or the like. Filled up to just below the holes made by the pins at each end such a cup will take about two to four ounces of fluid. It should be mentioned that the beer is stirred with a wooden ladle before being poured out. The leaf-cups are filled over and over again. It is said that it will take some twenty of these cups to make a person drunk.

When the first 'edition' is finished, fresh hot water is again poured on the rice. This is called *doja haṇḍi*, second brew beer. It is, of course, not so strong as the first *tai haṇḍi*, poured out beer, as it is called (*tai* means to pour out by tilting the container). For the second brew the pot is not filled to the brim.

The same rice may generally also serve for a third brew, called *bodoc haṇḍi*, lit. squeezed out beer. The rice is taken out of the pot and put into a *paṭia*, a small basket made of bamboo. A little water is poured on, and the rice is squeezed with the hand. Another way is to put the rice inside paddy-straw, a hole being left at the top for the purpose of putting the right hand in. Water is then poured on, and the rice squeezed. The 'beer' that trickles down is caught in a cup and drunk.

The rice, or rather the refuse, is given to pigs to eat. If they eat too much, they get drunk, it is said.

As remarked above, the Santals drink beer to become drunk. No description is needed of a drinking bout. According to what has been told to the writer, they pass through all the stages, some becoming hilarious, others melancholy, some scold and become abusive, others sing and tell stories; some become vile, lascivious and pugnacious, others moral, amiable, religious, and so on. The avowed object is to be able to forget for a few hours the miseries of this world and feel like kings, as they put it. Drunkenness is one of the great obstacles to Santal development.

The above description refers to the manufacture of beer from rice. It is manufactured in the same way from *janhe* and other cereals that are husked. It is also manufactured from maize and *bajra* (*Sorghum vulgare Pers.*) in the same manner, only omitting the roasting at the start.

It might further be remarked that they prepare a kind of beer from *mathom*, the dried flowers of *Bassia latifolia Roxb.* These are steeped for three days in water, that is then strained, *ranu* is added to the water, and is allowed to stand for five days, when it becomes thoroughly fermented and is then ready to be drunk. This 'beer' is called *duhli*, not *haṇḍi*.

The beer has to be 'watered' and drunk when fermentation is complete. They say that the fermented grain may be allowed to stay for one day and then have the water poured on. If it is left longer, it turns very sour and is unfit for use.

One might well say that *haṇḍi* is absolutely essential at all social functions amongst the Santals.

Santals may occasionally drink *ṭari*, a kind of toddy, the fermented juice taken from the Palmyra or Date palms. The peduncles of the *tale*, the Palmyra palm, *Borassus flabelliformis L.*, are cut before flowering. The freely running sap is collected in pots and kept until fermented, when it is drunk. This *ṭari* is prepared during the hot season. The *ṭari* of the Date palm (*khijur*, *Phoenix sylvestris Roxb.*) is obtained



during the cold seasons. The sap is extracted from the tree near the top after having removed a couple of leaves. It is prepared in the same way as the *tari* of the Palmyra palm. As mentioned, *tari* is only occasionally drunk by the Santals.

#### SANTAL CLOTHING.

In an account like this of Santal life some mention of their clothing must find a place.

The Santals cultivate sundry varieties of the cotton plant, especially *Gossypium herbaceum L.* and *Gossypium arboreum L.* When ripe the fruit is collected and the seeds cleaned out (generally done by women) in a *çarkhi*,<sup>1</sup> an instrument that has two wooden rollers between which the cotton is made to pass, the seeds being extracted by the pressure of the rollers. The ginned cotton is called *tulam*.<sup>2</sup> This is teased with a bow of peculiar shape, made of bamboo. The portion held in the hand is whole, whilst the upper portion is split and bent into a shape which resembles a mark of interrogation. The string is of catgut and 'played' with the thumb and index finger of the left hand. The cotton is afterwards spun into thread on a spinning wheel. To prepare for the weaving, a man fixes a number of sticks, always two and two together, in a sufficiently long row along a path or a straight border, and runs the thread on these sticks. The thread is cut, rolled up on a piece of wood, and finally arranged as the warp through a comb. The Santals have no permanent ready-made looms, these are always makeshift arrangements. Poles are fixed in the ground. On these the different working parts are hung, and the weaver (invariably a man) sits on the ground with his legs in a hole dug out for the purpose. With his feet he works the heddles from the hole. Only cotton cloth is woven by the Santals.

It should be noted that whilst formerly it was a fairly common sight to see men weaving cloth, it is now very rarely that one sees a Santal occupied in this way. Nowadays the Santals mostly buy what they use, partly from the local weavers, especially from the Mohammedan Jolhas,<sup>3</sup> partly from the Hindu Tantis (from these especially certain silk cloths), and partly, and now much more frequently, from the shops. In Assam they buy a kind of rough, strong silk cloth from the local Meches, or Boros, as they prefer to be called.

Santal children wear no clothing for the first few years. At the name-giving festival just after the birth of a child the 'midwife' ties a thread that has been soaked in turmeric round the waist of the child. This remains on the child as long as possible and is then replaced by a fresh one. A girl continues to wear this loin-string (called *đora*) until she commences to wear clothes. After that time girls and women only occasionally use a *đora*. With males it is otherwise, they always wear a loin-string. There are several kinds, named after the pattern or the makers. A *đora* generally has a knot at one end, called *đora bôhok*, lit. loin-string head, and at the other end a loop, called *đora gali*, lit. loin-string noose, which is easily fixed. Besides its use in

<sup>1</sup> Compare *Çarkhâ* in Bengali and Hindi.—*Ed.*

<sup>2</sup> *Tulâ* means cotton in Bengali and Hindi.—*Ed.*

<sup>3</sup> Usually the term *Jolia* is applied to Moslem weavers in Bengal as against the term *Tânti* to Hindus.—*Ed.*

connexion with male clothing the *dora* is of help in carrying articles that can be tied to it with a string. The ordinary Santal attire has no pockets.

The first piece of clothing that a boy puts on is the *bhagwa*, a strip of cloth just sufficient to cover the private parts. It is passed between the thighs and tucked into the loin-string in front and behind. Also grown-up men may wear a *bhagwa*. This is some three cubits long and up to one cubit broad (the Santal cubit is the distance from the elbow to the tip of the middle finger and may consequently vary a little in accordance with the size of the person; it is used here as a translation of the Santal *moka*). It is very commonly the only piece of clothing that men wear when out ploughing or doing earth-work that might soil the clothes. It is also used as a bathing costume. Curious to relate the writer once met on the highroad the reputed wealthiest Santal of that part of the Santal country his only attire being a *bhagwa*, a bit of cloth round his head, and a pair of native shoes. Parsimony shows itself in similar ways everywhere.

Very poor men use what is called a *kupni*, really the same as a *bhagwa*, only smaller, two cubits long and half-a-cubit broad.

The regular male attire consists of a loin-cloth and something wherewith to cover the upper part of the body. A common name for the several kinds of loin-cloth is *ḍenga* (or *ḍenganaḱ*) with a word prefixed to show what kind it is. The oldest form is probably what is called *kaca ḍenga* of merely *kaca*.<sup>1</sup> It is a piece of cloth that is taken round the loins, passed between the legs and tucked in behind. For a grown-up man the regular size is a cloth five cubits long and one cubit broad. Formerly the Santals wove this cloth themselves. Nowadays they generally buy what they need from the shops, the loin-cloths being both longer and broader, and often dress somewhat like the Bengalis, so far as this part of the body is concerned. This loin-cloth is generally called *dhuti*. Especially well-to-do Santals use this kind.

To cover the breast and shoulders they have a piece of cloth, called *pichauri*, some five cubits long and three cubits broad, two or three pieces being sewn together, the number of pieces depending on the original breadth of the cloth used. Sometimes even four pieces are sewn together, in which case it is called *barḱi*. *Cador*<sup>2</sup> is a name also applied to the overcloth; but this word is considered foreign. This cloth is wrapped round the body as a protection against cold, and it is also worn at social and festive gatherings. It may also be used as a covering at night by both sexes. When at work, and when it is hot weather, the men generally wear nothing above the waist.

It should, however, be noted, that present-day Santals have very commonly taken to wearing jackets, which are almost invariably white. A few Santals may be able to make them but as a rule they are bought in the bazars. Boys and young men may also be seen in khaki-coloured shorts, which are apparently much appreciated.

A Santal man will occasionally wear a long narrow piece of cloth on the head as a protection against the sun. A turban is not essential part of a Santal man's dress. When attending Hindu festivals young men may adorn themselves with large wheel-like turbans. A turban is a ceremonial form of headdress in connexion with betrothal

<sup>1</sup> Same in Bengali.—Ed.

<sup>2</sup> Same in Bengali.—Ed.

and marriage. The relatives of the bride go to the bridegroom's home and put a turban on him. At the marriage ceremony, before the *sindradan*<sup>1</sup> (the application of sindur on the bride's forehead by the bridegroom, the binding ceremony) the bridegroom puts what is called *sara dahri* on the head of the younger brother of the bride (or the one who represents him). It is yellow, having been soaked in turmeric. The bridegroom himself and his *lumti* (best man) wear a peculiar kind of turban during the ceremony. It has part of its cloth pulled out and twisted so that it stands up like a peak. The Santal use of a turban may point towards its Hindu origin.

The Santals generally go barefoot. Some may occasionally be seen wearing a very heavy kind of shoe when fording a river, or when walking along a sun-burnt road, and so on.

They have quite a number of different shaped clogs or wooden sandals called *badha*.<sup>2</sup> These all have a wooden sole, flat on the top and cut on the underside to form a wooden 'heel' at the back and something similar in front. These are kept on the foot with the help of strings. A very common form has a toe peg of metal or wood in front, the peg being narrow at the bottom and having something resembling a small wheel at the top. When in use this peg fits between the big and the second toes. These clogs can naturally not be used for walking any distance. The Santals use them during the rainy season to avoid trampling in mud with their bare feet; when moving about at night, to avoid treading on thorns and stones that cannot be seen; and also to avoid treading on snakes and to frighten these away by the noise that the clogs make. They have some ten different shapes of *badha*, besides the *thenga badha*, stilts, that are used to wade through deep mud. These are made much like ordinary stilts, but when the Santals use them, they put their feet along the piece of flat wood that is fixed in a hole in the pole and keep this between the big and the second toes.

We shall now describe how Santal women are dressed.

When a Santal girl commences to wear clothes—i.e., when she is between three and six years old, she puts on what is called a *putli*, a piece of cloth about two cubits long and one cubit broad. It is tied round the waist, the upper edge ends being tucked together. When the child begins to run about, it is now quite common to see a smaller *putli* being worn. When about eight years old, the girl wears what is called a *pañci*, a cloth one and a half cubits broad and four to six cubits long. This cloth is put on like the *putli*.

When a girl approaches maturity she wears a piece of breast-cloth. The end of this is fixed on both sides in the *pañci*, or *paṛhāṇḍ*, as this 'skirt' is called, and then taken up over the left shoulder and fixed in the *paṛhāṇḍ* behind. This breast-cloth is called *gogok* or *gonok*. It may be used by women at any time, more especially during the rainy season when they work in the fields. Poor women will often clothe themselves in this way daily, for obvious reasons.

The ordinary full dress of a Santal woman is a piece of cloth, commonly called a *khañdi*. This is a locally woven (mostly by the Mohammedan Jolhas) rough kind

<sup>1</sup> Compare 'Sindurdān' in Bengali.—*Ed.*

<sup>2</sup> In Bengali it is called *Khaṛam*.—*Ed.*

of cotton cloth, white, generally with a red border. Up to about a generation ago it was two cubits broad and twelve cubits long, the length being the same as what *Pilcu Budhi*, the first human mother, measured round her waist, according to Santal lore. Nowadays this length is not considered necessary; it may be only nine or ten cubits long. This is considered ample. The breadth is the same, two cubits.

The cloth is put on in the following manner:—The woman pleats the cloth at one end, and taking the cloth round her waist passes it firmly over the pleated part on her left side and tucks in the upper side of the cloth, just beyond where the pleats are, the ends of these rising just above the upper border of the cloth. In this case the pleated end is taken round the back of the waist. The rest of the cloth is then taken back across the front, one edge being fastened on the right side of the 'skirt' so formed, and then taken up over the breast and the right shoulder, the end of the cloth hanging down the back, loose or tucked in at the waist. This is called *gogoĳ* or *gogogĳ bande*. *Bande* is the name for a cloth worn by a woman. Another method is to take the cloth, after having tied the 'skirt', up over the back to the right shoulder, then to take it down over the breast to the right side and tuck the end of the cloth into the 'skirt' on both sides. This procedure is called *gogoĳ japaĳ bande*.

Besides the *khandi* mentioned any suitable cloth of the requisite size may be used. One special kind may be mentioned. It is called *doal*, woven by the local Jolhas. The *doal* is twelve cubits long and two cubits broad. Both warp and weft are of double thread. It has red and white stripes in pairs across the entire length, and broad red borders. At each end there are broad red stripes across the cloth. It is now comparatively rare. On the occasion of his marriage the bridegroom must give such a cloth to the mother of his bride. Nowadays, however, money is more commonly given instead.

Cotton cloth, bought in a shop, is now very often used.

Against cold and for coverings at night the women use the same kind of overcloth as the men. A good many women now use a kind of jacket or blouse. This is naturally due to European influence. It should be noted that Santal women are not by custom obliged to keep their heads covered, they go bare-headed, except when required by custom or necessity to wear a headdress.

The position of the Santal women is very different from that of the women among the neighbouring Hindus and Mohammedans. Theoretically the Santal woman is inferior to man. She may not have landed property, must not be present at religious sacrifices, and so on; but as often as not she rules the house, the household and the family, and when she is the wife of the headman, the whole village.

The man naturally represents the family outwardly. He is the tenant of the landlord (only recently have the settlement people recorded certain females as tenants). The man is the head of the family and is expected to do everything in connexion with money-lenders, and so on. Men alone prepare the different agricultural fields, make them ready for the plough, sow all kinds of seed, and (except the planting of rice, that is solely the work of women), they may do everything in connexion with growing crops, but may be assisted by the women folk. They prepare the threshing

floor and do the threshing, they also do everything connected with the storing of the seed. To quote the words of the old Kolean guru, 'From the month of Phalgun to the end of Baisak (i.e., from the middle of February to the middle of May) is "sitting time" (there is no agricultural work). During this time the men make implements for their own use and gather provisions for the household. They make plough-beams and yokes, ploughs and clod-crushers, earth-shovels and cart-wheels, cart-shafts and -axles, neck-ropes and yoke-leather-thongs, hide-straps and ropes, spinning-wheels and cotton-cleaning machines, handles for the spades and pick-axes, axes and adzes, bedstead-legs and frames, stools and wooden slabs to sit on, wooden ladles and spoons, bows and arrows, flutes, wooden pestles and mortars and weaving implements; they weave cloth and string bedsteads and they bring firewood and wood for the house, and they repair the house'. The men build the houses and thatch them.

As already stated, Santal women are deemed inferior to men. There is certain work that they must not do, whilst on the other hand there are many kinds of work that the women must do, because the men would consider these tasks *infra dig*. The Santals say that the women are constantly working, and this is more or less true. They get up at cock-crow (about 4 A.M.), clean and put the house in order, throw the dung out of the cowshed, fetch water, pound grain (a woman always works the mortar, but a man may tread the *dhiñki*) and prepare the food. (It should, however, be noted that, if there is any special feast, the men may act as cooks.) The women pull out the paddy-seedlings (often assisted by men) and plant the rice, cut it when ripe (in this often assisted by men), and hoe the maize (also assisted by men). They pull out the cotton plants and clean the cotton and make thread for the men to weave. They make leaf-cups and leaf-plates. They plaster the floor and the walls and make all smooth, especially when the rainy season rain has caused damage. The women folk never singly but always in a body gather leaves and small firewood from the forest, and vegetables. They never take part in hunting, but may do so in fishing. The women do not partake of food along with the men. They serve the men and children first, and when they have fed, the women sit down to eat.

#### CONCLUSION.

In conclusion the following effusion of a Santal may be quoted. 'We Santals pass our life in much hardship, because we have no means of earning our livelihood other than by ploughing. We may wish to trade and do business, but we are unable to use the language of the other races properly, and it is with them that we must trade. For this reason we are unable to enter into commerce. Besides, mostly due to foolishness and laziness, indolence and slothfulness, we have no wish to work and to learn any real craft, and we have no time for anything. On the other hand, we are always eager and always find the needed leisure for dancing and attending festivals. At such times we say: "Who knows whether I shall die or live, I must go and meet the people of the country". Saying this we at once turn our back on any work and run off to attend a festival. A few of us have realized that all this is due to laziness, and that it is in this way that we Santals have become so poor.

From olden times our ancestors have said and we also now say, that five months of the year are extremely difficult. From the month of Chait until San (i.e., from the middle of March until the middle of August) we name it "the hunger period". In villages where they have Mahua they are fairly well off for one or two months; but for three or four months we exist with great difficulty. The cultivation of rice is mainly for the benefit of the Hindu money-lenders; these people rob us of everything.'

What the Santal said is a fairly correct synopsis of the attitude of a great many of the Santal people. It takes a long time to change a nomad race to one of settled agriculturists. Something is being done to help the people, but much more is sadly needed.

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