

Medical Practice.

All Aboriginal Indians suffer from illnesses and disorders of health just as does any other race or people. With their (almost) complete isolation from all other races or types of civilization except their own, they naturally have peculiar methods of describing the various diseases from which they suffer. To even a medical man, a description of the symptoms of an Indian's illness, in, say, the next village, would in the majority of cases convey absolutely nothing. An examination of such a patient would, of course, in many cases permit a diagnosis to be made. In their own peculiar way, they have discovered quite a variety of economic products that have been of great use and service to civilization, but the average Indian has little knowledge of medicine or treatment of illness generally, except a variety of counter irritants in some form or other which may or may not be beneficial. A good many illnesses are due to, or at least increased by, severe periodic constipation, yet I know of no tribe who has any knowledge of a purgative, although it is almost certain that there is some tree or shrub in their locality that would provide a laxative at least.

They rarely use a single word to denote any particular illness, except the common every day cold, smallpox and one or two others. Their various aches, pains and symptoms are described in most indefinite terms that leave much to be guessed at unless after considerable experience. Of course, a "pain in his tooth", or a "pain in her head", are world wide complaints which can easily be located, but they have other complaints that baffle diagnosis even after examination, and descriptions that lead nowhere. They have a fairly common illness that takes a very baffling form, which is known as "heavy foot", "heavy leg" or "heavy arm", according to which limb or part of a limb is affected. I have often had a carrier lag behind from no known cause, and when asked for the reason, has answered that his foot or leg was heavy and that he had experienced difficulty. The sufferer has no temperature; there is no swelling, neither does he limp as if in pain. Examination and comparison

between the limb affected and the other show no difference to the layman's eye. They are frankly definite that they do not suffer any pain, but the person (it occurs as frequently amongst women) merely complains that the limb has a feeling of having become ~~so~~ heavy as to interfere with normal motion and speed. When on the march, the only thing to do is to go into camp for a day or two to allow a complete rest, or try to arrange for a substitute carrier. In severe cases, the sufferer takes to his hammock, and when necessity makes him move out, he walks with a slow dragging motion of the afflicted foot and leg as if he had a heavy weight attached to it.

The native treatment for this trouble is to scarify the limb at a point indicated by the patient as the centre of the peculiar feeling. A series of light cuts is made by the operator, sufficiently deep to cause fairly profuse bleeding, and pounded hot peppers are rubbed on as a counter irritant. The trouble is quite common, and I have often thought it was mental to a great extent, either through sheer laziness or temporary disgust at some enforced continuous and uncongenial labour. It is however just as common in their own homes, and the women complain of the trouble as often as the men. They generally rest off at home for a week or more, and only in aggravated cases scarify the limb. I have had it occur to a most willing and devoted employee; one who refused to relinquish his work or his load, and who would crawl into camp an hour or two later than his companions.

They also suffer from an opposite form of illness generally affecting the arm or head, and occasionally the foot or leg. This is known as "light arm", etc. The symptoms are inability to deliver a blow with the required force, or to put strength into the work on hand. In "heavy hand" - or arm - they have a difficulty in raising the limb, but once up, they can deliver a normal blow. With "light arm", however, the limb comes up easily enough - too easily they say - but they cannot put force or weight into the downward stroke. Here again there are no symptoms of temperature, swelling, or otherwise, and complete rest for a few days is the only cure; scarifying is

rarely, if ever, employed. There is nothing more annoying when marching with a minimum of food, or when employed on some important work, than to have a man or two develop either complaint. There seems so little reason for the thing; one is so helpless, yet one has to admit that it does affect the sufferer to a considerable extent in some queer unknown way.

Practically every elderly Indian carries in his shoulder bag or basket a crude instrument for the sole use of scarifying various parts of the body. Not infrequently a knife or machette "dishes", when cutting some peculiarly hard piece of wood. Dishing is an expression to denote the breaking off from the blade of a small piece of steel in a half moon shape. Such a piece of steel is carefully treasured, but just as often any small piece of thin iron, even an inch or so off an old barrel hoop, is sharpened and used. Some men acquire quite a reputation in scarifying, either for neatness in operating, or efficiency in curing, and they always carry their instrument as they never know when they may need it. The illness never assumes a serious form, and beyond a little inconvenience, anyone at home being seized with the complaint, can await their return. Few of the younger men attempt the operation, and a woman more seldom still.

The common wellknown cold in the head is very prevalent amongst all Indians and probably is the primary cause of more deaths than any other disease. In a way, the Indians dread the cold, and an old time salutation amongst the Wapichanna used to be, "Have you brought the cold?", to any party returning after a prolonged absence, especially if they had been out to the coast. These colds are highly infectious, and spread like wildfire through the different tribes, as sufferers seldom remain quietly at home, probably due to the fact that so many colds pass off after some days with no ill effect. In every epidemic there are always a few cases, when the cold gets down to the throat and lungs, and pneumonia sets in. A bad cold generally gives a rise in temperature, probably even high fever, and very often at the uncomfortable period before it breaks and the sick party begins to perspire, he goes off and has a bath in the creek.

This cools him down temporarily, but it often means a bad chill followed by lung trouble. The Indians have not the most elementary notion as to how to treat pneumonia and the case generally ends fatally.

The introduction of clothing amongst Indians largely increases their liability to chills and colds. When they go completely naked, the rain runs off and they are completely dry a few minutes after a shower, but clothes hold the rains and you can see the steam rising under the direct 180° rays of the sun for an hour afterwards. Clothes also conserve the moisture of perspiration. No harm results while the man is actively employed, but the moment he stops, the steady winds of excessive dryness at certain seasons, start rapid evaporation; the person feels very cold and he has caught a chill !

Smallpox is by far the most dreaded disease known to the Indians, due largely to the large number of deaths that occur, but equally to the disfigurement of face and body and the occasional cases of blindness left in the train of every epidemic. They know of no remedy, but their dread is sufficiently strong to cause them to leave home in most cases, and to seek refuge and shelter in the depths of the forest for weeks or months, where, securely hidden away, there is a minimum danger of infection, and which is probably the wisest thing they could do. A severe epidemic must have swept through the Guianas in the '90s of the last century, for when I reached Wapichanna country, there were numerous pock marked persons and one or two who had lost one eye at least. In later years, I experienced one or two milder epidemics, although such mildness was probably due to their prompt dispersal to the depths of the forests following their 1890 experience, and thereby limiting the ravages of the disease to a great extent.

In that serious epidemic whole villages were wiped out. Travellers who went through the districts found decaying bodies left in their hammocks and not a soul left in the village to bury them. In the Rio Negro District of Brazil there is a theory amongst many

of the more ignorant Portuguese, that calcined dog dung is a specific for the disease. One man assured me that he himself recovered from a severe attack, after excessive illness had overcome his revulsion to the idea of such a nauseating remedy, and that there were no further deaths in his family after they had all been given a dose. He used solemnly to declare that he had felt considerable relief within an hour or so of beginning with the remedy.

One dry season, when I was amongst the Wapichanna, an epidemic swept through Brazil and the district I was in. The tribe promptly disappeared into the forests; every programme of work had to be abandoned, and there was nothing to do except go hunting and fishing with my one remaining boy. My old interpreter, Saik Tau, decided to visit his own tribe, the Taruma, but before starting, he ventured in to see if I wanted any trade doing on his journey, and begged for some supplies for himself. I suggested a visit to the Waiwai as a better idea and that I would go along myself, a proposal that received very prompt acceptance, and off we set!

Late afternoon of our travel through savannah country, we arrived at Saik Tau's village, the last outpost of the Wapichanna, and situated at the very edge of the great forest. The village was composed of some 7 or 8 houses, the inmates of which had not as yet fled to hide, largely because of their isolation and remoteness from the rest of the tribe, and their proximity to the forest in case of emergency or necessity.

As we approached the village, we heard the loud peculiar wailing that generally accompanies a death. Investigation showed that during the night, just prior to our arrival, a family of Indians had arrived from Brazil with a very sick baby not more than two moons old, and that it had died a couple of hours earlier. The mother of the child was herself a daughter of the village, to which she had fled when the child took ill. We found the whole village assembled in the house and that instead of clearing off to the forest at once, they had stayed on to see what assistance they

could render to the stricken strangers. There was no doubt that the child had died from smallpox, and the mother, so far, had refused to part with the body of her child to have it buried. I went over to the house where the strangers were, and found a pretty little Indian woman of not more than 18 years old, sitting on a stool clutching to her breast the tiny body of her dead child - her first - and crooning as she rocked backward and forward, nay, yelling as I approached, "Oh ! my baby ! my little baby !! my little baby is dead !!!"

The child had certainly died of smallpox, and the sooner it was buried the better for everyone. As it was, the chances were that the whole village was infected. By the time the ceremony was completed, the sun had sunk, and I ordered all the youths in the village to scatter around and collect every scrap of dog dung they could find in the gathering gloom. Meanwhile, I had got a big fire going in the centre of the clearing in the middle of the village, into which I dumped basket after basket of filth as it came to hand. After the dung had been thoroughly calcined, I withdrew the ashes and mixed them into a couple of calabashes of water. I then delivered a lecture on the potency of the medicine I had brewed, proclaiming complete immunity from the smallpox to every person who drank. I ordered Saik Tau to go round, and give a small cupful of the stuff to every person in the village, even the children. Everyone took his medicine without the slightest qualm, but I was thoroughly non-plussed when Saik Tau handed me the last cup to drink myself, in accordance with strict tribal custom. I had given him two calabashes of liquid for distribution and naturally it must be finished by no other than the person who gave it ! I wriggled out of my fix by saying that this was not beer, but medicine, and that no pisiman (medicine man) was supposed to taste any of the medicine he gave his patients !

Next morning, I ordered the Indians to disperse in the forests and then left with my carriers for the distant Waiwai. On that journey, Saik Tau took a keen delight in dosing with the same medicine

every inmate of the various Taruma and Waiwai villages we visited or passed through ! More than two months later we returned to the savannahs to find the epidemic had disappeared and not one single person had suffered in that village where the child died. Even the little mother had escaped without a hint of illness, and she lived to have a family of four fine boys and girls.

Chickenpox used to go the rounds periodically also, but this they knew was not so fatal or disfiguring. They would refrain from visiting, but would not stampede to the forests. Here again they had no remedy for the trouble except staining the entire body a lovely black with the juice of the *Gwenipapa* tree. One of my boys developed the disease and promptly stained himself a fine shiny black. My station was placed under strict quarantine, but a bunch of Indians arrived one day from the high forest in complete ignorance of the disease, or the taboo. They gave the usual salutation just outside the house and the sick boy stepped out to reply and to see what it was all about. Now he had got to that stage when the pustules had come to a head and burst, each leaving a white mark about the size of a sixpence. Surrounded by the deep black stain, these marks gave a hideous appearance, especially as he was speckled all over with them. There was consternation amongst our visitors, the old women screaming, the babies yelling, and everybody scuttling across the savannahs, shedding as they ran, the pawpaws, potatoes and pumpkins they had brought some 40 miles to sell for some small necessity.

The Indians have definite names for only a few illnesses, and the remainder are described in rather indifferent and elastic terms of some length. Such troubles as "My tooth is hurting", or, "My wife's head is aching" can be diagnosed at once, but when a man reports his wife as "having illness", or "being sick", one is completely in the dark. Then one has to wade around eliminating symptoms until one gets some sort of hint. Malaria comes under the vague definition, "having illness", and one gets there by asking if the sufferer's "skin is hot". It is impossible for them to give anything more than their own impressions. They may not even

have touched the patient and decided to say "Yes" to your question, because they sensed you expected an affirmative reply. Also in most illnesses, a rise in temperature is practically certain, thus it is very difficult to prescribe for some person living some forty miles away, who is said to be "having very much sickness", and has sent messengers along for medicine. For such indefinite cases, in fact all unseen cases, I used only two prescriptions, namely very strong purgative pills, and quinine in 5 grain tablets. They could do little harm in any case and experience taught me that in a great number of cases the treatment was of great benefit.

The Indians who make contact with civilization and develop syphilis immediately coin a word of their own for the trouble. Amongst the so called "wilder" tribes who have little or no contact they are completely free from the disease. I have never known a single case that I could not trace to some connection with the outside civilized world. Just as soon as any tribe gets into touch with black or white people there seems to be a strong desire (amongst the men only) to have connection with the loose women who follow up any large scale pioneer work, mining, timber, etc., and this is generally followed by the usual results of promiscuity. I have frequently had a man develop gonorrhoea soon after leaving the coast. When this had been disclosed the steersman would at once make for the nearest habitation or old clearing to obtain a supply of pawpaw fruit. The organs would be well washed with the squashed seed and thick soft flesh of the fruit during the day. At night a fruit would be cut in two halves and the organs introduced into the bowl-like cavity of the centre. This would be fixed in position by the loin cloth so as to sleep with it in this position. In every case it proved effective and the cure was very prompt. I have never had an Indian arrive on the savannahs - about a three weeks journey - with the disease, nor was there any subsequent infection to his family. I have known women arrive on foot from Brazil who had been infected, but within a few weeks with pawpaw treatment they became well and infection never spread.

Indians generally have lice aplenty, both in the head and on the body. These are found on the small children up to the stage of puberty; on the aged and infirm, and on such persons as are dirty and careless in matters of hygiene. The budding maiden and youth think it a disgrace and keep themselves scrupulously clean, but they often get reinfected from the children. The women have difficulty in keeping their long hair completely free, and I have often seen a line of some half dozen of the Taruma or Waiwai women sitting on the ground, each squatting inside the thighs of the person behind, all busy picking lice off each other's heads. When caught, they have a horrible habit of putting these vermin in the mouth and eating them. I have known a case or two of pubic lice, but these were easily killed off. A strong solution of tobacco and water would be made and the affected parts carefully washed with it. To eradicate lice on the head, a vegetable oil is applied and well rubbed in. The Waiwai men who keep their hair well oiled daily, very rarely have vermin in the head.

A severe case of headache amongst Indians is cured with the dagger off the tail of the Sting-ray Fish by all who are living on rivers large enough to carry these creatures. The sting is a hard tapering bone, with sharp curved saw teeth on either side, and is about 3" in length, $\frac{1}{4}$ " in width and $\frac{1}{8}$ " in thickness. The whole sting is covered with a dark, rather slimy substance, which causes intense agony to anyone who inadvertently gets stung. I have seen some dreadful wounds from these stings, deep open sores an inch in diameter, which have taken six to twelve months to heal. I have twice been stung myself, once slightly only, but the other time I got a direct sting on the instep, which is about the worst place. All Indians have the idea that no sting, beyond the immediate intense pain, will give much trouble if the wound is kept absolutely dry and no water or moisture allowed to touch the wound. I have repeatedly had men stung on river journeys, and I always insisted on their observing this precaution. The pain would entirely disappear and the wound would be healing nicely. After a week or ten days the

Indian would step into water or go for a bath and then the trouble began all over again. The wound would simply rot away until a deep hole was left, when flesh had to grow up from the bottom. Owing to their own carelessness, I never managed to cure a man without this open sore, although the week's observance of keeping from moisture reduced the period of convalescence to weeks instead of months. When I got stung myself I carefully observed the belief and did not allow moisture to touch the wound for some weeks. Thirty six hours after I had been stung I had no further pain, the wound closed naturally and never gave me a bit of difficulty afterwards.

The sting-ray is of little use as food although I have seen one or two Indians eat them, but they are frequently shot with the arrow as they are a menace to progress in wading along the creeks. When shot, the Indians carefully remove the sting, hang it up to dry properly and then store it away for future use by pushing it into the soft inner pith of a suitable length of the reed used for making arrow shafts. Many of the elder men carry one in their shoulder bags and certainly every village will have one or two if required. When a patient decides to try the sting-ray tail remedy as a cure for a headache, the surgeon firmly grips a fold of the skin on the selected part of the brow, between the thumb and forefinger of the left hand, pulling the skin towards him at the same time. Then the sting-ray bone is forcibly pushed through both folds of the skin so held between the fingers and the forehead. After pushing through till the free end protrudes an inch or so, the sting or bone is pulled sharply back and out, and the operation is over. It takes quite a lot of force to push the sting through the two folds of skin and the subsequent pain must be more than any headache.

All Indian tribes suffer from ^hophthalmia, acute enough to cause partial blindness in severe cases. The infection is probably carried by the myriads of tiny flies that annoy the eyes of both man and beast, and against which there is no possible protection. For this complaint they have two cures, one being the white juice exuded when the stem of a lowgrowing, common weed, found in every garden

or clearing, is broken. The other cure is to squirt human milk straight from the breast to the eye. I have gladly tried both, but cannot vouch much for the cure, though there was a slight temporary relief from the intense pain. After having been caught more than once in some lonely spot with a bad attack, I carried proper medicine always. A few crystals of Sulphate of Zinc dissolved in water was the best remedy and the simplest. Most Indians used to carry a bean or two on their belts or round their necks. My bean was a tiny bottle of the sulphate hung on my belt and thus available at any moment. I have often met a man on the trail and made him cup the palm of his hand, into which I would put a drop or two of water and then dissolve a crystal or two to enable him to introduce it into the eyes. In half an hour, relief would set in, long before my carriers appeared. I had to be sparing with the crystals I gave away, as I found out the Indians began to regard them as a better charm for good luck in spotting game, than their own hot pepper water, and they would have used my whole supply as fast as I could dole it out.

In cases of biliousness and certain disorders of the stomach, most Indians have very effective emetics, generally the bark of a tree or the roots of some plant. There are two varieties of guava peculiar to the river-beds and found nowhere else which are extensively used. These guavas are found ⁱⁿ every forest river and up all the creeks where daylight can get in, but not on the tiny creeks of only a few feet in width. All the Indians living along a river or major creek know its use. The bark is pounded and macerated in water which is then drunk. The result is fairly quick, and the vomiting severe and continuous. Indians vomit so readily on occasion such as a drinking festival, that it is rather surprising that they know of an emetic, but I have seen the remedy used repeatedly. Tobacco macerated in water is also used to some extent, but only when no other emetic is ready to hand.

When travelling by boat on the rivers which abound with rapids and falls, and where the men had to be constantly wading and swimming in the strong rushing water for days on end, a man would occasionally

develop a peculiar complaint. The sphincter muscle of the anus would completely lose its power. A man might be as active and cheery as any of the others and have no complaints to make until he told you the muscle would no longer close the orifice. A sufferer would lose condition and strength rapidly, and in a few hours would have to be assisted out^{of} or into the boat. Fortunately, the Indians knew of certain barks of trees which they would pound up and make a wad of some 2" diameter and force into the opening. Gunpowder (the old black variety) was also used when obtainable. They would sprinkle it freely on a wad of wet grass and use it in the same way. The remedy **must** be painful as most men groan considerably for some hours. Complete rest for a week or ten days is necessary, to allow full recuperation. I have never known anyone die from the complaint. It also occurs occasionally in their own homes following exhaustion and debility caused by malaria or other sickness.

One of the cures known to the Indians is the use of the seed of the Greenheart Tree in cases of malaria. The seeds are scraped down and macerated in water and the liquid drunk. Greenheart is very local in its occurrence and none grew within reach of the Wapichanna, but in my early days amongst them every man who was sent to the coast would bring back a supply of seeds which were found in profusion about 200 miles down river. With the free distribution of quinine by Government this habit fell into almost complete **obeyance**. Another cure for malaria was a tea boiled from a handful of Lemon Grass of which every Indian grew a few plants. The tea is not unpleasant, with a distinct taste of lemon, and although I have tried it, I cannot vouch much for its efficacy.

Most of their cures are simply counter-irritants, amongst which hot peppers in some form are the principal. Horrible stinging ants are another, as also salt or gunpowder when obtainable, rubbed into cuts made in the skin. I once had a very bad toothache when many miles from anywhere, and an old Indian persuaded me to try the seeds of a particularly virile variety of hot pepper, assuring me it was a certain cure. On the principle of trying anything once, I

consented. When the old rascal poked the seeds down on the nerve with a piece of wood, I certainly had no more toothache, but I had something a darned sight worse. I suffered agony and the worst of it was the seeds were so well jammed into the tooth as to be almost impossible to get them out again. I have never tried that cure again, but strange to say, when the pain did subside, the tooth gave me no more trouble.

I had a friend who developed some sort of a rash all over his body. It itched so badly as to make sleep almost impossible. His Indians persuaded him to wash his whole body with a concoction of hot peppers and leave it to dry on. He nearly went demented and the only relief he found was to spend the night in the strong current of a small fall in the creek near which he was camping, and to allow the water to flow all over his body. He said he got some relief, but he was very positive that the cure was much worse than the disease.

Indians frequently suffer from pains along the back, particularly just over the waist line. The cure for this is scarifying with a knife and then rubbing in gunpowder if obtainable, otherwise they use salt or ordinary hot peppers. Gunpowder leaves a thin, deep, black sear and most Indians carry a series of such marks on various parts of their body^{is}. Scarifying may run to 6 or 8 cuts or more, all made with the accurate eye of a surgeon, each cut being equidistant, of the same depth, direction and length. These marks are never ~~made~~ on the face, but they are made on practically any part of the limbs and body.

Another little exhilarating counter-irritant is found in the use of stings. Wasps, scorpions and centipedes are occasionally used, either as charms for success in hunting, as tests of endurance, or as a cure for illness, but it is some vicious variety of ant that is much the more popular. It is very difficult to diagnose many of their diseases, but in **this** they have a complaint of pain along the back, coupled with a fairly high temperature - it may be lumbago - which always calls for ants as a remedy. One of the men of the

village prepares a number of reeds of the type they use in making their basketry, and begins to weave a peculiar open-work, diamond-shaped fan. The pattern is after the style of the well known cane bottom chair. In each of the cross junctions of the various strands, he imprisons a large, fiery, stinging ant by its slender waist - all with their heads on one side of the work. To do this is a work of art, especially as the weaver is not supposed to get stung while weaving. The weaving is done in the forest, by the side of an ant's nest, and as the weaver gets ready another cross section, he deftly picks up a wandering ant between his forefinger and thumb, inserts it properly in position and flips a strand across the opening, and the ant is beautifully imprisoned. Of course the weaver frequently gets stung, but just how often it is impossible to even guess, since the Indian considers it a sign of weakness to show any symptoms of pain. Occasionally a weaver will speak to the ant as, "Hei, you!" or some short ejaculation, which denotes a sting. The plaiting in of the ants without being stung calls for great deftness and accuracy and is one of the most difficult feats to perform that I know of. The number plaited in will rarely be under 20 and may easily be double that number or more. When the article is finished, the patient rolls over to expose the part of the body to be treated, and the diamond of ants is pressed closely down on it, so that the abdomen of each ant presses against the skin. After being held in this position long enough to allow the ants to have forced their stings well home, the whole affair is gently pulled up and then applied to a new surface. The ants used are those that cannot withdraw the sting once it has been driven into the flesh, and I have often seen the skin of a patient lifted up fully a $\frac{1}{4}$ " over an area of 3 square inches, when the ants were pulled away. The patient rarely shows any sign of suffering, but I have seen the younger lads grip the sides of their hammocks, or make a face. After the operation, the imprisoned ants are hung up above the patient's hammock and left there till they die, when they are eventually flung away.

Puppy dogs are frequently thrown into these ant nests in the belief that it will make them better hunting dogs. The man goes stamping all round the nest until the ants come out in droves, then he drops the puppy on its back on the blackest spot of ants. At once, dozens of ants drive their stings home and the puppy races off in pain to tear them off with his teeth. A grown up hunting dog which has failed to find game for some days is frequently tied up close to a nest, and may be left for several hours, during which time the poor dog suffers agony.

The Indians have few medicines. Some roots and barks are used, but it is difficult to determine if they have much actual value. They are quick to adopt any new idea from outside when strangers arrive, to supplement the little they know or have themselves. The Waiwai on my first visits used to beg for salt as medicine, an article of which they had little experience. Prior to my time, all expeditions to their country would have very little salt, but they had more than once been able to buy a teaspoonful or two from their various Taruma trader friends. It was rather pathetic to see these Waiwai headmen receive a tablespoonful from our slender supply; to watch the meticulous care, after tasting a grain or two themselves, with which it was wrapped up in dried leaves and safely stored away in some safe, dry place to be used as medicine at a later date when someone became ill.

All tribes make a so-called salt, but its preparation and manufacture is slow and difficult. The Taruma and Waiwai burn the bark of various trees and then dissolve the ashes in water. This is allowed to settle for some hours, and the alkali impregnated water decanted into another earthenware vessel which is set out in the sun to hasten evaporation. After much work, I have seen a Taruma family produce a hard ball of this alkali about the size of a small orange. It entails much labour over a lengthy period, and the product, poor in quality, black or dirty grey in colour at best, is much too valuable to be used daily. In Wapichanna country there

are various low lying depressions in the land, which show a thin sprinkling of alkali crystals during the dry seasons. These crystals are scooped up with the shell of a certain river bivalve or mollusc. Much soil is also scooped up, and the whole is dissolved in water also and evaporated by the sun or by boiling. Some make a grass filter which results in a purer salt. I have known a family make six pounds of this salt in one month of steady work. This salt is much better than the bark variety, both in taste and colour. Some of the best I have seen has been almost a pure white. With traders living amongst the Wapichanna for the last fifty years, the manufacture either from bark or collected soil has been entirely discontinued, but I knew one old lady who would never buy salt for her household. She would accept as much from her neighbours as she could beg for nothing, and every year she took her whole family to these salt licks for a month or so. If it was a good dry year, she always made a 50 to 60 pound basket.

Most Indians have a belief in the efficacy of perspiration either as an actual remedy for illness, or as a charm to ensure strength and good health to their children. A request for perspiration can be made to any healthy robust stranger, though very rarely in the case of a woman, unless it be in the case of a female child to whom they wish to transfer some well known quality from the woman. Any Indian can approach a stranger with a handful of cotton and ask for some perspiration. The person asked takes the cotton and rubs it vigorously on his bare chest and under the arm pits, after which it is carefully stored away for future use. It ~~was~~ is nearly always used on the tiny infants in arms and the method was to rub the little body with the cotton generally in the case of illness, or to enclose a little in a receptacle to be hung round the neck of the child. It was a fairly common request amongst the Wapichanna, and scores of women have asked me for perspiration, as I was taller and larger built than the average Indian, and they wished to ensure their child having my physical ability and appearance when it grew up. The Taruma and Waiwai have repeatedly made these requests also. On my last visit

amongst the Waiwai I penetrated to a remote village, none of whom had yet seen a white man. As I was leaving, the headman, cotton in hand, very hesitatingly asked me for "perspiration" to help a tiny baby which was crying continuously and was apparently far from well.

The use of steam as a curative agent is well known to most Indians and also has a place in the myths of some tribes. The Wapichanna have a tradition that a certain tiny lake in their territory held a fabulous monster which did a considerable amount of damage (death) to anyone foolish enough to go fishing in its waters. At one side there is a towering rock rising some 50 or more feet sheer from this lake or pool. During one of the exceptional droughts that are periodically experienced, the waters of this lake evaporated until only a small deep hole at the foot of the rocky mountain was left and in this the monster was confined. The tribe was summoned, and they climbed the mountain. Trees were cut down and huge fires set going around the many movable boulders on the mountain side. When these stones were a good red heat, they were rolled down over the cliff into the water until the water became so hot that the monster died.

I know steaming was fairly common amongst the Wapichanna, generally as far as I remember, in cases of malaria, during the ague or shivering period, but I have never seen the actual operation. I, however, saw a demonstration amongst a very primitive tribe on the head waters of the Trombetas River in Brazil, many days journey East of the Waiwai country. In this case a child was ill. They were too shy to ask me for help, but I had admission to the child and certainly it had a very high temperature. I gave them quinine but they decided to apply their own remedy. They secured a number of large stones measuring roughly one foot in diameter - as heavy as a full grown man could carry or roll easily to the hut. Round these stones were built large fires which were tended and kept going from morning till night. Meanwhile a small circle, about six feet in diameter, was made with wild plantain leaves. The circle had one opening sufficiently large to allow one stone to be rolled in.

The walls were the full length of the leaves at one side but on the other were about breast height. As soon as the sun went down, one of the hot stones was rolled in to the circle, the men using short wooden levers, as the stone was much too hot to touch. The mother then entered carrying the naked child and at once everyone in the village began pouring cold water on the stone. Enormous clouds of steam arose at once often completely hiding mother and child from view. The mother could not stay in owing to the heat; she would come out until the steam was less scalding, but as the stone cooled she would go back. The men would take the child in their hands in turn and hold it over the breast high wall at times. As one stone grew cold, another was rolled up and the operation occupied fully half an hour. The poor child screamed in the most heart rending manner although I do not think it was actually scalded, but it must have been agony to its tender skin even if the men did withdraw it when they felt the heat too great. The child cried practically all night, but was quite quiet next day. Whether ^{it received} ~~the child got~~ any benefit from the treatment I cannot tell, as the following afternoon I had to resume my journey and was never in the district again.

Poison.

Many travellers amongst the Indians give them the credit for the most marvellous cures of diseases, but I doubt very much if many of these can be substantiated by actual evidence. After living amongst them well over 20 years and spending months amongst tribes who previously had had neither contact with civilization, nor within living memory a visit from a white man, I can positively say that their knowledge of the treatment of most diseases is, at best, very poor, and in reality often detrimental. Periodically, some person will recover from an illness after any hope of recovery has been absolutely abandoned, but the same thing can happen in any modern hospital to-day with the finest skill and talent in attention. Such miraculous recoveries depend much more on the mental calibre of the sick person than on his physical capacity, or the treatment. Amongst primitive people they are of course the customary nine days wonder. Everybody hears of them, but the credit can scarcely be assigned to anyone except the patient himself.

In the same way, many travellers credit the Indians with a knowledge of all kinds of mysterious poisons, some of which may take effect almost at once, and others which will only produce fatal effects after a variable lapse of time, sufficient to make it impossible to declare who was the responsible party. Again I am certain these accounts are much exaggerated although definitely there is much more reason or scope for the assertions. All Indians have a considerable knowledge of the detrimental effects of many of the plants in their environment. Parents will see that their children do not touch various roots, fruit or barks. There are many plants they know can cause death, but these are rarely (if ever) used on people, although many are turned to use in securing supplies of game, and the many varieties of fish poisons are by far the most popular, the best known and most often used.

I once met a doctor, who somewhere around the seventies of the last century visited the Macussi and Wapichanna in the Rupununi District. While crossing Macussi territory, they entered a village

where a drinking festival and dance was in progress, and spent the night there. About 9 p.m. the doctor was called to inspect one of his men, who had suddenly become very ill. He found the tongue of one of the carriers had begun to swell alarmingly and the man complained of agonising pain in his whole mouth and throat. No medicine on hand seemed to give any relief and the tongue continued to swell until the mouth and nasal passages were completely blocked. Towards morning, the carrier died, from as far as could be seen, sheer inability to draw breath. Enquiries into the probable cause, showed that this carrier had mortally offended a Macussi of that village some years previously. On his arrival no signs of enmity were shown the man: on the contrary he was made welcome, but, after darkness had fallen, he was singled out for special attention and drink was forced on him until he was fast becoming hopelessly drunk. When the appropriate moment arrived, a woman approached with a calabash of drink which he was bated to drink without a stop. Under the long nail of the woman's thumb a deadly alkaloid salt was secured and as soon as the man accepted the calabash, she dipped the point of her thumb into the beer. The salt dissolved at once and the man drank the beer without noticing anything. Within the hour he was in great pain and was dead before morning.

I have been in and out of the Macussi tribe for many years and did not then, and do not now believe the story, although the doctor was very definite as to the results of his investigation. I don't believe that any Indian has either the apparatus or the brains to evolve and concentrate a rapidly soluble and deadly poison to go into such a small compass or to be of such horrible effect. Whilst I knew that the Indians certainly had a considerable knowledge of the lethal properties of various vegetable matters, I felt sure none knew how to administer it to anyone in some secret way, but this idea was rather rudely shattered when a man I knew quite well, together with his attendant boy were poisoned.

This friend was making a long journey amongst the Indians, picking up fresh carriers to assist as he found convenient, but

keeping his own personal attendant throughout the whole trip. On his return journey, he was met by a party of Indians who offered his party some food, of which they were very glad as they had been on pretty short commons for some days. My friend was handed a special dish which appeared to be some small vegetable bulbs that had been boiled, very similar to arrowroot and not unlike our own potatoes. My friend took only one mouthful but as it had a very pronounced disagreeable flavour, he passed the balance over to his personal boy, who, aware of local customs, had to eat as much as he possibly could. My friend's mouth and throat began at once to have a nasty burning sensation and his tongue began to swell considerably: his entire mouth and throat blistered and became so much red raw flesh. He suffered agony for weeks and it was many months before he became normal again. His attendant died in agony.

I was very loath to believe all this, although I had no reason to doubt the veracity of my friend. Some years later I had occasion to visit a rather remote village and I was considerably surprised when one of the men with whom I was on particularly friendly terms, asked me if I had come for a certain woman. Knowing their peculiar way and from curiosity I asked him why he should think I had any interest in that particular woman, whom incidentally I knew quite well. He answered he felt sure I had come to arrest the woman for having poisoned my friend. I pooh poohed the whole idea for how could she poison anyone? He then detailed how this woman had a deep grudge against the man: how she had gone to meet him and how she had given him the boiled bulbs of a certain indigenous calladium which it was certain death to eat. When I enquired for the woman, I found she had disappeared in the forest as she saw me approaching. I knew it would be easier to find a needle in a haystack than to search for her in that forest, so I passed on. I have never been back: have never since seen that man or the woman and I only give the bare facts of the story as they came under my observation.

One occasion I was coming up river from the coast with a boat

manned by a dozen Wapichanna men. One of my men broke down with bad dysentery and malaria fever. For days it was touch and go as to whether he would live, but the medicines I administered proved effective. I had got him back to that stage of convalescence where he could sit up in the boat and take an interest in what we were passing, although against his wish I forbade him to do even the lightest work. On our way through the Macussi country, we came upon a large party - probably a couple of hundred - of this tribe camped on the side of the river. There was no love lost between the two tribes in those days. The Wapichanna regarded every Macussi as Kenaima and evil spirit, and the cause of every death in their tribe. The Macussi regarded the Wapichanna with intense jealousy because, for no very tangible reason, no settler or trader had resided in Macussi country for many years, whereas there were several Macussi amongst the Wapichanna. The Macussi knew that my boat contained much merchandise of which they stood in great need, and which they would have loved to see going into barter amongst themselves, and soon they started a running barrage of rather immoral ridicule at my men, as we were passing. My own men were shaking in their skins, and much too afraid to reply although they knew what was being said. We were almost past their camp when one hag, determined to get something from the men, waded out into a shallow we were passing and demanded some article - a knife or something - I forget now. In her hand she carried a calabash of beer in exchange, and if they refused she threatened to send every Kenaima in the Macussi country to wipe out the entire tribe of Wapichanna. My men were now almost paralysed with fear and begged me to give her a knife. I consented, saying, "All right, mop up that beer and let us get ahead". While busy getting out a knife, the sick man who knew the Macussi language well, took the calabash, and had a good drink as he took it, and again as he handed it back. We passed on without further incident, but that night my boy's dysentery broke out afresh. Medicines proved of no use now, and when we were within a mile of his home, he died. Every man in the

boat swore the man had been poisoned by the Macussi. The sole topic of conversation for weeks was his dreadful death; the whole tribe believed it and were living in terror of Kenaima in case the Macussi made good their threat. Had any stranger arrived about that time, he would have got another instance of their mysterious ability in poisoning.

As is natural in any society where there is no written language, all teachings are oral, with some practical demonstrations of the more important and intricate matters. Thus the method of preparing any peculiar compound would be handed along from father to son, but the chain of continuity might at any time be snapped by death, and the secret lost for ever. Most of the tribes have now come to some extent under the influence of civilization, and their customs and habits have undergone large modifications. I have myself seen the Taruma using stone knives, but to-day no Taruma could make one; they depend on the steel by way of barter to do their cutting. The Waiwai, generations ago, depended on the use of stone implements and fire to cut away and do the subsequent charring in felling trees and making fields, but since the axe of civilization became known, this method has been forgotten and lost forever. Thus change of habit can greatly modify their knowledge of what were once important factors in every day life, and in death, hence it may be that some tribes long ago knew more than those, whom - primitive enough, Heaven knows - I have met.

Few tribes are at active warfare with each other. There may be great fear or dread of a neighbouring tribe, largely due to ignorance, superstition and lack of information, but such fear can be or has been removed by a little association. Most of the dreaded tribes, such as the Waiwai, when I first entered their tribe, ^{dwell} ~~live~~ in the far remote recesses of the forests, where they live very isolated lives, are very few in number, and the use of any poison for private revenge or gain would be limited very much in scope. When from any cause, strong enmity arose between members of the same tribe it is much more likely that one would shoot the other with an

arrow, or do some other sufficiently serious bodily harm as to cause death, and there are not infrequently murders committed by such means in moments of extreme exasperation or passion. They have demonstrations almost daily in the pursuit of game, of the effectiveness of such methods in killing the largest known animals, and they are much more likely to try this method, than to resort to some subtle poison of which they can have little or no experience, to rid themselves of someone they hate.

This argument only deals with death at close quarters, where different means to the same end are always available, but matters assume a very different aspect when it comes to causing death at some distance, such as in the inter-tribal fighting, which oral teachings and myths disclose, or the every day necessity of procuring game for each succeeding generation. Here, any aid that tends in some way to the tribal security, or a fuller supply of food, becomes most important, and at once we have valid reasons why such aids should not be forgotten and why they should be passed on to succeeding generations. Thus the deadly alkaloid salt that could satisfy personal petty spite would stand a poor chance of surviving, by comparison with some poison which could be relied on to cause death at a distance, say up to the limit of the accurate range of the arrow.

All the more remote Indians of my acquaintance have a good knowledge of such a poison, a very little of which introduced into the blood stream of a victim by an arrow, either from the blowpipe or bow, means death in a short space of time. This peculiar poison is known to the outside world generally by the name of Urali or Kurali. Each tribe gives it ^{its} ~~their~~ own local name, and although there may be slight differences in the manufacture, results are the same and equally good. In the days of warfare, it was very necessary that the knowledge of its manufacture should be general, and uninterrupted and certainty in the chase equally important. One poisoned arrow means a quick death to the tapir - the largest game of the forests - but fifty non-poisonous arrows might be required; the tapir might even escape and every arrow would be completely lost,

Under any but the best circumstances every arrow fired into a tapir is smashed beyond repair in the animal's struggle in the dense jungle around him, thus entailing several days of hard work in making a new set, just at a time when they are most urgently required.

Urali Poison is fairly well known in the outside world and is in considerable use amongst various experimental bodies because of the different effects it creates when administered to all warm blooded animals. Much of the compound, masquerading commercially as Urali, is however very indifferent, either through faulty manufacture or deliberate adulteration in face of a good overseas demand. When I first went amongst the Wapichanna, I found urali in general use, not only amongst them but in all the surrounding tribes. Guns of various kinds began to be introduced and as their range was more than the arrow, their results more certain and rapid, the blowpipe and bow and arrow were superseded just as soon as each individual could afford to buy a gun. The manufacture of urali amongst the Wapichanna fell away, until only one man knew how to make it. The forest fires of 1911-12 swept over the mountain where this man lived, wiping out his field and village and also the forest trees from which he drew his ingredients. He migrated to Brazil and the secret was lost to his tribe. It was still considered the correct thing to shoot the Red Howler Monkey with poisoned arrows, for the few weeks they were in season, and supplies had to be purchased from long distances away. The neighbouring Macussi tribe was held in great dread, and though this fear was slowly decreasing, the Macussi no longer knew the secret either, and it became necessary to purchase urali from the Arecuna and Patamona tribes who lived beyond the Macussi. The supply was so erratic that for some years before I left the district, there was no urali of any kind to be found amongst the Wapichanna. My experience has been that once guns are introduced to any tribe, Urali poison is relegated to a minor place and the secret soon lost.

The Taruma tribe made large quantities of a poison very similar to Urali and called it Makabur. At each of my visits to the Taruma, I found every adult male in possession of a fair amount. In effect, as I have repeatedly seen, it was every bit as effective as urali,

yet it never became popular amongst the Wapichanna. Probably it was due to a different method of putting it up in marketable form. The Wapichanna preferred his supply put up in bulk in a tiny calabash, whereas the Taruma spread theirs directly on to prepared arrow points, which were ready for use, as soon as they were dry. Urali is difficult to keep, for mould or mildew during the wet season is fatal to its potency. In calabash form, it was easier kept and even if it did go mouldy could be easily brought back to full potency by boiling it with the bark of a certain vine the Wapichanna knew of in the forest. The Taruma variety thinly spread over dozens of arrow points was more difficult to keep, and could not possibly be scraped off for reboiling. The Waiwai used a poison similar to Makabur and I have seen it in fair quantity amongst them at all my visits.

The manufacture of urali generally is the secret of certain families. It is not so much a secret as the natural outcome of their mode of life and teachings. With no written language, a man can only teach a limited number on any subject and when, as in the case of making a potent drug of considerable complexity in composition, he must have apprentices to whom demonstrations may be given, so it is natural that a son or some near relative living in the demonstrator's own house and constantly available, should be chosen. Amongst themselves, it is not regarded as any secret. It is however a speciality peculiar to certain families, simply due to the fact that the general public have not the opportunity to learn the details of manufacture. This is the reason of the many weird tales that are generally current of the great mysteries attached to the work, and the carefully hoarded secret of the ingredients.

I have never seen urali manufactured, but several Indians have told me how it is done and have offered to teach me if I would promise faithfully to follow the very rigorous ritual demanded by custom during the process. The successful maker of the poison must abstain from all food from the time his fires are lit until the boiling process is completed. He generally retires to some distant hut, where no one under any circumstances is allowed to come near.

Any unauthorised person appearing on the scene would probably reduce its potency to nil. This rule is absolute in the case of women, and the manufacturer must have abstained from any intimate association with woman for some time previous to his beginning operations. He must drink considerable quantities of water in which strong tobacco has been macerated. Then there are many minor details for the student to learn; the different incantations at different moments of manufacture; the different passes to be made, and most important of all, the quantities of the various barks to be used. I ~~was~~ quite curious in these early days, when I went amongst the Indians, but not sufficiently so to voluntarily undergo some of these trying practices, which I knew could have no real effect, so - and quite rightly - they refused to allow me to see the process. It is often said that snake fangs play an important part in making urali, but every maker I have asked has always scorned the idea. I have had a poison maker amongst my carriers for weeks, on trips when numerous snakes were killed; he took no interest, beyond helping them to death. The fangs of the fierce bushmaster, often quite two inches long, may often be found in the shoulder baskets of Indians, but that means nothing. They have simply been kept as a trophy and to show the prowess of the hunter, as the bushmaster is by far the most deadly snake of the forest, as also the most pugnacious, attacking man for no apparent reason; ~~and the~~ ^{he is the} largest of all poisonous biting snakes, so therefore the most dreaded. The hunters generally keep some part of the bigger game that falls to their skill and weapons, such as the teeth of deer, wild hog, acori, and all the various cat tribe. These all form necklaces or other ornaments for the hunter, his wife or his children. Many feathers of birds shot are also kept and used in a like manner. The youth recently admitted adorns his hammock with the tufted crest of the powis or other bird, to show the world his ability and skill. The teeth of a snake are kept solely, in my experience, as a memento of the occasion, when he was probably within an ace of losing his life, or for their extreme size, or as a tribute to his physical powers,

The actual ingredients for making urali are the barks of various

trees and vines - about three in number - although different plants are used in different environments and by different tribes. The plants which grow at several thousand feet elevation in rocky mountainous land would scarcely be found on the undulating, deeper soiled plains of a thousand feet above sea level. The principal bark is that of a vine which in its younger stages has fairly long spines on its stem.

I once made a garden in which I grew every rare medicinal plant in use amongst the Indians. Most of these were Calladiums and different herbs that were used as beanas to give success in hunting, fishing and living. Nearly every form of game and a large number of the bigger and best flavoured fishes have their special vegetable beana. Thus a bulb of one plant carried in the hunting bag ensures success in locating wild pigs; the cloudy leaf of a certain calladium run along the rod or the line by hand is supposed to mean success in fishing for a particular variety of tiger fish. I got a plant from the most successful urali maker in the district, which he told me was the most essential bark according to his recipe. The plant throve quite well, although it grew only slowly and I had it trained up a support to fully six feet after some years. Many of the elder men knew the plant and vouched for its being the real thing. Numbers of them used to bring their growing sons and male relatives along, with a request to inspect the plant. Their object was to memorise its bark, leaves, and any other peculiarity, as the plant was extremely rare in the lowlying forests. Its habitat was the tops of certain high rocky mountains whence indeed I had got it. Unfortunately I went home to England on leave, and when I returned, my urali plant had died from the lack of water during the dry season. I was never able to obtain another plant, as the forest fires of 1911 destroyed the last known sources of the supply amongst the Wapichanna. I have been shown a tree the bark of which is said to be the second ingredient in urali. I have seen specimens of a good size - 18 inches diameter and over - with a grey outside bark and a greeny yellow cambium. In these early days there was little or no

interest taken in urali, and unfortunately I never had the bark, leaves or flowers sent out for identification. After 1911 all chances of making a study in my district vanished with the forest fires, and the migration to Brazil of the last man who knew the plants and the secret of manufacture.

Shorn of all its formalities and secret humbug, I imagine the making of urali is quite simple once you know the different barks required. The Indian takes a certain amount of bark off two different plants - three at the most so far as I could tell, although methods vary with different chemists - These barks are pounded up and each variety put in a separate, large, earthenware pot and covered with water. Fire is put under the pots and they are kept boiling continuously. When sufficiently cooked, the bark is lifted out with a stick, but boiling is continued until the liquid is evaporated and the quantities are judged to be about right. The different liquids are strained through a fine mesh sieve and thrown together into a single pot, and boiling recommences and is continued until the required density is obtained. During the last boiling, a number of small squares of bamboo is thrown into the pot. These pieces are roughly half an inch square and generally left in, even when packed and dried for sale. The first boiling may take as much as 48 hours continuous fire, varying in the amount of water and subsequent evaporation and the second boiling should not take more than 18-24 hours. Men who have made urali have told me the operation never took longer than 3 days in their case. The result of this work is a dark brown treacle looking liquid. The man of experience boils until density is considered right and applies no test until later, but the novice generally tries it out on some captive animal - generally a chicken - and the effect is carefully noted, when if satisfactory, the pot is taken off the fire and set aside to cool. A number of small gourds or calabashes, roughly about three inches across the mouth and two inches deep, have been previously prepared. Into these a few spoonfuls of the dark sticky liquid is now poured, care being taken to see that a few of the bamboo squares are included. The calabashes

are put out in the sun for some days until the urali becomes quite hard and dry, when it is ready for sale or to be packed away indefinitely either for future use, or the appearance of a customer.

In calabash form, urali can be kept for years without deterioration if proper care is taken of it. The few calabashes that filtered through latterly to the Wapichanna could not have taken less than a year to reach them since the time the poison was made, and a lapse of even three to five years is probable. The lucky possessor had a supply that would last him for some years as it was very sparingly used and I have seen urali that was at least ten years old. It is however very subject to mildew or mould during the rains, and seasons of excessive moisture, when it completely loses its potency. The Indians carefully stow their urali in such a position that the heat from the continual household fire drives off all moisture. In bringing it down from the far interior, I have repeatedly had urali completely ruined from mould, even when I was taking the greatest care of it. When urali ~~loses~~^{lost} its potency, the Wapichanna knew another liano that when boiled up with the deteriorated stuff renewed its efficacy. I have seen my headman once or twice collect this, rather-rare liano for the purpose. When the urali of barter is required for use, a little water is dropped on one spot. The poison soon absorbs the water and becomes soft. The Indian then coats such arrow points as he wishes with the urali, after which both calabash and arrows are put in the sun to dry thoroughly.

The knowledge of the various barks and some idea of quantity are the two essential factors in making urali. The Indian has no scales to weigh his bark nor measures to regulate the quantity of water. He has no apparatus to test either density or strength of his liquids in any way during manufacture. The whole art is done by rule of thumb backed by some previous experience, but even with the most observant, the amount of bark and water used will never be the same twice in succession, nor will the chemical composition of the bark always be the same, yet it is seldom that a boiling is useless. There are degrees of potency between every boiling but it is not often

they have a complete failure. On such occasions the blame is laid on occult influences as an excuse. A woman in certain conditions may have touched the barks or seen the boiling or something equally trivial that appeals to his simple imagination and mind, although actually his own faulty mixture would be the real reason.

I have had Indians who said urali is a specific for toothache, but I have never seen it used. I have known, however, when a man has tasted it with no ill effect. I had some in a box of medicines which got thoroughly wetted on a journey. The case was opened to dry things out by a friend, who found the calabash of urali and did not know what it was. A medicine man tasted it and at once pronounced it to be urali. How he came to know the taste, I never knew unless he had the habit of taking small amounts to give him greater success with the spirits he had to exercise. All my men said the poison was harmless, unless it came into contact with the blood in circulation. Here a very small amount is fatal, and I have seen a large monkey drop dead out of the forest roof in less than two minutes after being struck by a tiny arrow. Animals so shot suffer a minimum of pain and never struggle in death. The pain from a blowpipe arrow would be no worse than the half inch prick of a pin, or a hypodermic syringe. A monkey shows but little sign on being shot. True, he jumps at the impact and turns to brush away the arrow, but rarely scampers off. The pain is too slight to make him realise there is any danger at home. Naturally active and restless, he will wander into the next tree top or so, his movements gradually growing slower and slower, until, just as if he had gone to sleep, he slumps down on a branch and falls over dead.

Urali is the only compound of any degree of complexity that seems known to the Indians, but they all have a considerable knowledge of a number of simple vegetable poisons used almost exclusively in the killing of fish. During my residence, I made quite a lot of observations of such poisons as on occasions they could be extremely useful. These observations were confined principally to the Wapichanna tribe and they have at least sixteen different varieties

of poisons which are in general use in killing fish. These range from small shrubs which they plant in their fields, to lofty trees, and include several lianos. The parts used are the roots, bark, leaves, fruit or the entire plant according to which part carries most poison. There is a considerable range in potency amongst the different varieties. Some are very deadly and will kill every fish in the water. These are used to poison on a grand scale, say a pool with a surface area of approximately an acre, and with a depth of less than an inch at the edges, to eight or ten feet deep at the centre. Others however are much less deadly, and are used on much more restricted areas, while certain poisons only affect certain varieties of fish. When the roots, bark or wooden parts of a plant are used, they are well beaten by a wooden club on a rock. The mass is then put into woven palm leaf baskets and leached in the water to be poisoned. In the case of leaves or seeds, a hole is generally made in the ground in the form of a mortar and they are pounded and squeezed with a rough wooden pestle until they are pulped, when they are leached in the water as usual.

By far the most popular and most efficient of all the poisons is a stout liano, known to the outside world as Haiari, of which the Wapichanna recognise about five varieties through slight differences in colour of the wood, bark or leaves, and all showing a difference in potency. These lianos are found only in high forests, but the Wapichanna have combed their district so well that it is of rare occurrence, unless beyond the range of their customary hunting activities. In more recent years Haiari has become well known to science and its use as a valuable insecticide has been conclusively proved. It is said to be stronger and more effective than Derris Root, but so far it has been impossible to secure it in sufficient quantities to be much beyond the experimental stage. In my earliest days, most of the Wapichanna cultivated one variety in their fields. This was the strongest of all the Haiaris and was easily grown and made rapid growth. The poison in these lianos is distributed throughout the entire vine, and in the cultivated variety, roots, stem and twigs were all used. So far as I know, no one has started

plantations with this variety on anything like an economic scale and there is a considerable field for the pioneer. The extract from Haiara has enormous possibilities as a spray in horticulture and many sides of agriculture. The juice of Haiara is used in the districts where it grows as a remedy for mange or scab in domestic animals.

When a Wapichanna makes a find of Haiari in his forests, the exact location is kept very secret until such time as the dry season has set in and the rivers almost stopped running. Then he discloses his secret, and a poisoning match is arranged at some selected spot where fish are known to be in quantity. A Master of Ceremonies is appointed, generally some elderly headman of considerable character and personality. He assumes complete control of operations and decides who shall, or shall not be invited. An expedition of some six to ten carriers is sent to cut down the vine. The whole plant is used up to small twigs, cut into lengths of rather over two feet in length and carried to the rendezvous, where everyone must assemble at least one day previous to the operation if possible. Sexual continence is strictly demanded for some days previous to and during the ceremony, as indulgence would seriously mitigate success.

If the selected pool has no exits or ramifications, operations can be begun without many preliminaries, but where a pool has openings connecting with other pools or a small stream of water flowing in and out; all such channels must be closed, otherwise the fish would rush out and escape. Walls have to be built across all possible exits. Where shallow, a rough cobble stone wall is built to just above water level but in the deeper parts, palm leaf retainers have to be used. In such parts as are deep, rough poles are erected and stones rolled up to keep them in position, the men even diving if necessary. Across these poles a few lianos are tied to act as laths and palm leaves are laid thickly over the framework on the side where the stream enters or leaves so as to utilize the current to hold them in position. The erection of these barricades may take a whole day or more, but is generally completed the night before the

actual poisoning.

On the morning of actual operations, the usual light breakfast is eaten in the growing dawn and soon after the sun has risen, even earlier on occasion, the M.C. sends out a number of young lads to act as sentries at strategic points. Their duty is to see that no passing stranger or late arrival is permitted to approach, once operations have begun. They are allocated camping sites in the near vicinity, but on no account must they view the proceedings, otherwise it would mean bad luck to the poisoning. When the M.C. later gives the "All clear" signal, these strangers can approach and receive their share of the spoil, but even then, it is not considered "good form" to appear in a hurry - no matter how hungry they may be. One of the first poisoning matches I attended was by pure accident, as I came across it unexpectedly, when crossing from one side of their country to another. Operations were in full swing and my carriers made for the camp assigned to them, but I thought I would go and see the operations. The sentry protested and finally rushed off to call the M.C. who came hastily up in a perfect stew about my unwelcome appearance. I argued that their regulations did not include white men and that my presence would probably help rather than hinder success. Consent was reluctantly given and I joined the party. A little intelligence showed me that by placing the poison in the deeper parts of the water, it would affect the greater number of fishes which would naturally congregate there and then allow it to spread to the shallows. The result was that the fish turned up (died) a couple of hours or more earlier than was usual; the pool proved to be better stocked than in previous years and the catch was larger. In any case my reputation as a fish poisoner was made.

After placing the sentry guards, the M.C. next posts a line of guards armed with bow and arrows, clubs, spears, machettes or just the bare hands along or just behind the different retaining walls in order to secure any fish that either finds a way through or jumps over, as frequently happens. Outside the pool they can

murder or kill all fish to their hearts' content in any and every way they choose, but on no account may anyone as much as touch a fish until the M.C. gives the signal. They are very strict about this rule unless in the case of certain fish that are dangerous. The various species of perai can cut off a finger or toe, or can take a chunk out of a limb at a single bite, and are mercilessly clubbed and thrown aside. The Stingray is also awarded the same fate and a few others, but it is only such fish as are rarely or never eaten and are a potential danger, that may be killed. I once killed a few choice fish while operations were in full swing just to see what they would do. It drew down a nice lecture from the M.C. and the discouraging scowls of everyone. Later on I asked to have these fish cooked and not a soul would touch them although they were all choice quality, nor could I give them away. When everything was over they were left lying, to be eaten by the carrion crows and various hawks that assemble as soon as they get the chance and devour all discarded fish and such tiny minnows as are beneath the notice of even the children.

While these various guards are being posted, the carriers bring the baskets of Haiari out on to some convenient rocks in or as near the pool as possible, where it is at once attacked by some half dozen hefty men who, armed with long wooden clubs, beat it into a mass of strings. The poison element is held in the cells of the woody fibre of the stem, and the more it is pounded the more poison is liberated. The wood is tough, but fairly soft, and at first breaks up into a stringy fibrous mat. The spare men, women and children now put the beaten lianos in roughly woven palm leaf baskets and go out into the pool. The children keep to the knee deep shallows, the women go farther out to neck deep water, while the men swim the deeper parts, dragging the baskets behind them. Everyone dips his or her basket under the water to ensure complete saturation, then lifts it in the air to allow the water to drain out carrying with it a considerable portion of free poison. For the first few dips, the water falls back a decidedly milky colour, but soon it becomes crystal clear, when the baskets are taken back to the rock and the

fibre given more beating. Repeated beatings and washings go on until the poison is exhausted, or the M.C. decides the operation has gone far enough.

As soon as the fish begin to feel the effect of the poison, they make for clean clear water if possible, hunting every possible avenue for an exit. Numbers approach the barricades and quite a few jump clean over, and there excitement begins amongst those on guard. The great majority of the fish, by expanding the air sac, rise ~~to~~ as near to the surface as possible, but keep darting away at anyone's approach, but they soon turn over, side or belly up, and float helplessly around until they die. The M.C. keeps going round, directing poison to be dropped here or there as he thinks necessary, and supervising generally. At length he makes a ceremonious round of inspection where upon all operations are suspended as this may mean the signal to commence collecting the fish. If satisfied that the fish are completely helpless or dead, he gives a loud shout, "Gather the fish", and every man, woman and child dashes into the water and begins grabbing fish for dear life. The smarter fellows have carefully provided themselves with a strong thin liano at one end of which they tie a bunch of leaves, and they rush or swim from fish to fish stringing the free end of the liano through the gills as they catch it, until the liano will hold no more. The women and children grab about two fish at a time and rush for the shore to drop them on their own pitch and then back into the water for more. With from one to two hundred people it is surprising how soon a large pool, that previously was covered with the white, silvery, upturned sides of fish, can be completely cleared. There are generally some of the larger and more robust species of fish that require much longer time to become affected. They may have been in some deep nook where the poison has not penetrated too well, but eventually they will also seek the shallows in search of pure water. The men armed with bows and arrows prowl round the pool for hours, or take up a position on a commanding rock, and as the fish appear they are promptly shot.

Such a poisoned pool remains a danger for some weeks to man or beast who may drink the water, but eventually the poison loses its

strength. Great care has to be exercised in cattle rearing country that a poisoning match is only arranged at a pool with no entrance for stock to drink. Amongst the Wapichanna we used to arrange as far as possible with the Indians regarding such poisonings and try to get them to poison only such pools as were well wooded all round, so as to prevent the entrance of cattle. It was, however, only possible to do this when operations were on a grand scale. Small individual poisonings near their homes could not be restrained or regulated, and considerable numbers of cattle were lost every year, and there was often considerable friction on this account at times. One rancher doubted that the poison would affect cattle in any way and he gave his own staff permission to poison a pool close to his yards and at which his cattle drank every day. Next day, when he found nineteen out of his twenty milch cows lying dead by noon, he realised his mistake. The afternoon was spent erecting fences round the pool to prevent further accidents and subsequently a claim was laid before the local Government officer for damages, as the poisoning had been done by Indians who should have known better. He, however, received a very stern lecture on his own account. When trekking across country with few water holes, the traveller has to be very wary of such as he meets. The Indian carefully scrutinises the weed or grass grown edges where the tiny minnows love to hide. If none are seen, it means the pool has been poisoned and even if it has been weeks or even months ago, it is unwise to drink. I have known some severe attacks of diarrhoea result from unwittingly drinking poisoned water, weeks and weeks after the poisoning had been done.

When the fish have all been collected, each family assembles at some favourable spot where they commence gutting and taking off the scales. The first fish treated, naturally go into a pot to provide a good meal all round as everybody is now hungry, since no food is allowed during operations and it is probably some time past noon. The surplus fish are promptly placed on a barbecue for curing and drying. A barbecue is made by planting 4 to 6 forked upright poles in the ground to reach a level of about waist high. On top of these forks a grid of slender saplings is built, and a large fire started

underneath with wood that gives off a minimum of smoke. The fire is kept going continuously, probably all afternoon and all night, until the fish are completely cured, when they can be packed into baskets, and the crowds disperse.

The numbers of fish killed in these poisoning affairs is truly astounding. A biggish poisoning would have about 20 adults, which with 5 to a family means 100 persons all told. The average catch will run well over 100 pounds of fish per family, making roughly one ton of fish, but this may be doubled or more in some of the really large affairs. On the average, I doubt if these fish would scale more than half a pound each. Thus probably 4000 fish or more may be killed at a single poisoning. Much depends on the numbers of fish trapped in these pools when the dry season sets in. I have cast-netted a small circular pool not more than 15 yards diameter and have caught roughly 50 lbs of fish every week for some six weeks in succession. Fortunately the rivers simply teem with fish from the sea to their sources, and each year during the floods of the rainy season, every pool is replenished.

The Macussi used to stage the largest poisonings of fish I have ever seen. Their territory abounds with large lakes along their river, in which enormous quantities are trapped. Some of these run into acres in extent, and resource has to be had to dug-outs and woodskins to distribute the poison as also to eliminate danger from the more voracious fish, the stingrays and huge alligators that abound in these pools. In certain parts of the forests controlled by the Macussi, there are almost inexhaustible reefs of Haiari poison, and I have repeatedly seen long lines of carriers, well laden with the liano, converging on a certain lake where several hundred people would assemble to take part. In Macussi country there are large numbers of a huge fish - the Arapaima gigas - which may often scale 400 lbs or over. These fish rarely succumb to the poison, although generally it affects them to the point of becoming "drunk" as it is termed, when they rise to the surface for purer water, No self respecting Macussi will eat this fish, so he is rarely if

ever molested or shot. If an Arepaima appears on the surface, it is considered great sport for the children to ride on its back. A woodskin cautiously draws alongside the bemuddled fish and a naked boy, anything from 9 to 13 years of age jumps astride its back. The idea is to grasp the fish with the arms and to see who gets the longest ride. Most of them are thrown as soon as they touch the fish. When the fish is exceptionally sluggish and a good grip is secured, the urchin may be carried below the surface of the water and finally reappears quite a distance away. In strict Macussi etiquette the collected fish belong to no particular person. Each person carries his catch to a special place, where the fish are sorted out according to species and placed in separate heaps. When the poisoning is finished, the fish are distributed so that the representatives of every family receive their proper quota of the special, good, or inferior grades, after which the pots and barbecues get going.

Alligators of various species are found in all the rivers. Several of the smaller varieties are eaten and the eggs of all are esteemed a delicacy. The larger variety - known generally as the Kaiman - grow to a huge size, ranging anywhere between 12 to 20 ft in length. I know of no tribe which eats these brutes, for not only must they be pretty high smelling, but it is almost an impossibility to kill them with the weapons at the command of the aboriginals. They are very powerful and I have been dragged around helplessly in a fair sized boat, when I had got one on the line while fishing. I have known of several deaths amongst the Indians who were caught unawares, and have witnessed some very narrow escapes. I knew one Wapichanna boy quite well who went shooting fish along the margin of a lake where lived a few of these monsters. An arrow he had fired missed its mark and stuck in the mud of the shallow water. The boy waded out to retrieve his arrow in water little more than knee deep. A huge Kaiman must have been lying hidden for the man was suddenly seized by the legs and carried off into deep water. The man's companions fled to warn the camp but nothing could be done. Next day a spot at the edge of the lake was found littered with loose

beads and a few broken bones. The beads were recognised as those from necklaces round the lad's neck. Travelling up country, my boys once made the mid-day camp in an inlet that held dozens of these huge brutes. We had scarcely begun our fires when a contract boat manned by some 20 negroes arrived for breakfast also, but they decided to make fire on the other bank of a small stream so as not to mix with my Indians. Amongst other things, the negroes had to throw ashore a large bundle of folded tarpaulin in order to get down to their supplies. Both camps served breakfast simultaneously and we were all quietly sitting eating, when a Kaiman broke water by the side of the negro boat. There was not a single gun which had been landed, so we all sat quietly to see what the brute would do. His attention was drawn to the tarpaulin and presently he began to gather it into his mouth. When he had got a good hold he suddenly whipped round and dived in the lake carrying the 50-80 lbs bundle with him. The rest of the day was spent dragging the place with hooks but the tarpaulin was never recovered. These Kaiman generally have a cave in which they place anything large that they may capture until they feel inclined to eat. My Indian captain offered his quota of consolation to the negroes by telling them that he was sure the Kaiman had taken the tarpaulin to make a suit of clothes for himself. In those days clothes were just becoming popular amongst the Indians. Owing to enormous strength and size, a Kaiman is pretty well monarch of all he surveys, either on land or water, yet there is one animal - the otter - that can overcome him. The Indians say that when the Kaiman comes out to bask on the sandbank - a favourite stunt - a pack of otters has been known to attack and kill ^{him} ~~them~~. The otters carefully keep away from his mouth and concentrate on his legs and toes. The brute does not seem to have the ^{sense} ~~strength~~ to make for the water and submerge. He whips round to catch such otters as have attached themselves to his toes and legs. He soon gets exhausted on the hot sands and finally they chew off his limbs and he dies. Once when travelling in a lonely river, we found every evidence of some great struggle on a sandbank and one foot of a Kaiman. The

Indians reconstructed the scene as that of a fight between him and the otters. I have, however, never witnessed one.

Apart from the Haiara, they have quite a number of other lianos and shrubs that are poisonous to fish, but these are weak in their effect, bulk for bulk, when compared with Haiara. They are used more locally in the pools of the small creeks near their homes, the net catch from which will only be a couple of potfuls or so of fingerling fish. It is these varieties that much more often kill the unsuspecting cow, as the small creeks are seldom wooded along their course. Most Indians grow or cultivate a number of fish poisons, - the Wapichanna have at least six. The quantity, however, seldom goes beyond an amount sufficient only for occasional use, and again on a rather small scale near their homes. These poisons are all pounded or pulped, and used in Haiari, but there is one that deserves mention - the Kunan or Konani. The leaves, fruit, flower and the very tender twigs are grated down to a pulp, which is mixed with a certain amount of bitter cassava pulp. This is wrapped in green banana leaves and gently roasted amongst the embers of a good fire. When being used, it is made into pellets about a quarter of an inch in diameter and thrown into the river around some tangled boulder strewn place, knee to waist deep, with rapid running water, which is known to be the resort of certain vegetable feeding mullets. As soon as the fish takes the poison in his mouth, he rises to the surface, where he dashes around in the most crazy manner to eject the mouthful. More and more fish rise until every pellet has claimed a victim. The instant a fish appears, everybody dashes in to secure it; another and another appears and they separate until every person, bare hands the only weapon, is hunting on her or his own. The madly rushing fish offer no target for the arrow and soon you have a crowd of shrieking, laughing people, racing, stumbling and diving all over the place, all eagerly trying to secure fish. Should the fish succeed in throwing out the poison, he recovers almost at once and disappears, hence the need for haste. On the other hand, if the fish is not successful in ejecting the poison, he dies very quickly

and as fish deflate the air sac as they die, they soon sink and are lost. Time and time again, I have barked my shins badly in a mad endeavour to get my fish. There is great rivalry amongst everybody, and I know of few more exciting aquatic sports than poisoning fresh water mullet if they are plentiful.

All Indians love to eat fish and each tribe has developed its own technique in their capture according to the circumstances in each district. This love of eating fish may to some considerable extent sway their mode of living in the face of approaching civilization. When I first met the Wapichanna, the blowpipe, although not made by themselves, was common, the bow and arrow universal, and a gun the rare exception. In little more than 20 years, the proportion was just reversed. The gun was universal, the blowpipe extinct and the bow and arrow of only secondary importance. Since the arrow, however, is the only common possible method of procuring fish for daily consumption, the use of the bow and arrow will always be general. Their arrows have undergone considerable modification in form and variety. The old bone arrow points are no longer made, as also many of the varieties for different types of game, many of which had their own particular arrow. The arrow is now useful only for shooting fish, and common iron points in various forms, being less liable to breakage, are now in general use.

The same may be said of the Macussi tribe who live in similar environment, but a difference is found among the Arecuna and Patamona tribes, who inhabit a rugged mountain range whose peaks run up to some 3000 feet in altitude, yet little more than 50 miles distant. The rapid descent of several thousand feet in such a short distance, largely over high perpendicular falls, prohibits fish of all kinds ascending to their country. There are, however, a few small fish in the district, probably the survivors of the days when these sandstone and conglomerate mountains were under water. When a party of these Indians finds one of these three inch fishes in one of their crystal clear streams, the excitement is as great as if a meteorite fell in Trafalgar Square. The principal weapon of these tribes is the

blowpipe in conjunction with urali poison - both of which they manufacture extensively - while the bow and arrow are of very minor importance. Should commerce or industry ever place within the reach of these people the elementary amenities of the outside world, the gun would completely oust the blowpipe and bow from use.

The Taruma live on fish to a greater extent than any other tribe, due to their scanty numbers, who all live along the banks of a fine broad river, which is heavily stocked with fish. They use the bow rather rarely and depend more on the hook and line for supplies, and are by far the most expert fishermen I have met. They use a wonderful range of bait, running through the flesh of beast or bird, fruit, flowers, and coloured feathers. They imitate accurately the fall of various fruits in the water, in order to attract and deceive fish which have a fondness for these different varieties. How often have I envied the sensitiveness of eye and touch of the Taruma, when I have seen them jerk fish after fish into their corial, whereas I could feel and see nothing and would raise my hook to find the soft ripe banana used as bait had been gently eaten. At one time the Taruma made their hooks of bone -^{so} Old Bushdeer told me - but the steel ready made ones obtained through barter now supersede these and I never saw any. Unfortunately, the Taruma are almost extinct, but had civilization come their way, the bow and arrow would have disappeared and the gun and rod be^on the accepted methods of supplying game.

The Waiwai live largely on the extreme sources of small creeks, but with a landing place and corials on a navigable river some hours from their villages. They eat few fish by comparison, and their technique is confined to steel hooks, a few traps and occasionally the bow and arrow, generally for the killing of only certain fish of which the Haimara is the most desirable. Their huge bows, often as much as 7 to 8 feet in length, and their various arrows, have been developed principally for shooting game on the land, or the leafy roof of the 200 feet high forest in which they live. Harari is common in Waiwai territory, and I once staged a poisoning match as I had some twenty Wapichanna and Taruma carriers with me. My men did all the

work and the Waiwai did not seem much interested at all. Let a shout of "wild hog" go up, however, and any Waiwai village will be completely depopulated in three seconds. When guns become available, the Waiwai will, in a single generation, come to rely solely on them for shooting, and their other weapons will completely disappear, or become so modified as to be mere toys in comparison with the beautiful and popular weapon in use during my various visits.

Piainen.

Every tribe of Indians possesses medicine men of some degree of qualification which may range from the making of passes over some sick person to the ability of ranging in the spirit and the killing of such demons as are detrimental to human life and welfare. The former are common and may be found ⁱⁿ practically ~~in~~ every village, but the latter, generally known as Piainen, only come into being after considerable practice or as the result of a chain of circumstances. Piainen have to be made and seldom reach the Harley Street status until fairly late in life. It is very rare to find a son following a father in the profession, a contradiction to ordinary tribal procedure where it is general that an expert father passes on his knowledge most easily and readily to those of his own family immediately under his own roof and control.

At the commencement of some ordinary complaint such as a bad cold or an ache somewhere, little attention is paid at first. When however the illness grows worse or continues for a length of time, it is customary to ask some virile adult, or one of the elderly men who already has a reputation, "to blow" on the patient. When a man is asked "to blow" on someone, he generally makes and lights a cigarette, and after a few puffs to ensure that it is going properly and also for a moment or two of serious concentration, he goes over and squats on his heels, or sits down on one of the low stools in general use - often the shell of a land turtle, - alongside the hammock of the patient. He then takes a long noisy inhalation through the cigarette, drawing in the smoke to the full capacity of his lungs. He now exhales the smoke in short puffs on the spot where the pain is located, muttering incantations in an undertone with each puff, and ordering the spirit of the pain to leave the body and go elsewhere. The invalid is never blown on with more than two or three exhalations in succession, and the blower retires to his hammock or such duties or work as he may have on hand. Should the blower be a non-smoker, or tobacco not available, the blowing is done with the ordinary breath in much the same manner. Men are generally selected, but women blow

on invalids also, generally in the case of ailing babies and children, but they seldom if ever use smoke. Young lads may be asked to blow when capable adults are not available, and in their cases the results are carefully noted as anyone may have the makings of a celebrated curer of disease. I have often been asked "to blow" on sick people, particularly little children, but realising that the method had no actual value beyond the psychological in the case of grown-ups, I always refused. I preferred to prescribe such simple medicines as I had at command and which were of much greater assistance.

Some men, through a chain of lucky recoveries, acquire quite a reputation for "blowing", but they are by no means what are called piaimen, however successful they may be. Success acts as a stimulant however, and soon a man may begin to pretend and probably actually believe that he has the ability to cure through supernatural means, and he takes his first step towards entering the ranks of the amateur piaimen. Gradually he assumes credit for marvellous cures. His successes become generally known; his failures are simply put down to the influence of some strong piaiman working against him, or directly to Kenaima or evil spirits. Gradually he receives requests from further afield, his influence and experience extends and he goes deeper into the mysteries of the cult. He may or may not consult with another piaiman, but as these are generally very jealous of their profession, I fancy it is rare. I have only known of one such instance where two brothers became well known piaimen, in which the elder taught his small brother what he should do. Anyone can, however, attend at a seance and in this way acquire a fair knowledge of the procedure. Every Indian knows these, or at least the more obvious, and the budding piaiman can easily do something new so as to go one better than the other fellow, and thus impress his fellows with his ability. A few lucky recoveries again, and the piaiman's success is assured and he is a made man with a large clientele ready to pay for his every service.

Most men become piaimen voluntarily; others again may be forced into the profession against their own wish, probably through some boasting admission in a moment of exhilaration that they can deal with spirits, when they already have a certain notoriety and success in "blowing". One of the first men I employed amongst the Wapichanna was a young married man who was the best weaver of baskets in the tribe. I was interested in this work, and I got him to teach me everything he knew, and although he was a very shy, reserved fellow, in this way we became great friends. He became much attached to me and was at great pains also to teach me much of his language. He was also a well known "blower", and as he accompanied me round the tribe on various tours of inspection, he had abundant opportunity of extending his practice. He was very successful, too successful, in that he drew forth the jealousy and rage of an already established piaiman, who soon spread it around that some deaths in the tribe had been caused by wrong blowing by my friend. As it happened, some of these cases were far afield and the boy had never been within miles of the village. The boy was horrified, as both his desire and performance had only been for good and in line with tribal practice. He retired to the depths of the forest and only came out once a year to see me, but the tale had gradually gone the rounds that he was dabbling secretly in the occult, and would soon become Kenaima or evil spirit. Eventually he did become a piaiman and had a fair reputation.

A piaiman of this description with a genuine desire to help those in sickness can add to his usefulness by assuming some degree of control over the supernatural, as it definitely has a considerable psychological effect on his patients, through which they accomplish some of the marvels so frequently brought to the notice of the outside world. I have never in all my experience known a piaiman do anything that could not be explained, and most of the people cured would have recovered in any case. Periodically, a case can occur where the will to live has been started by the removal of the dread of Kenaima from the patient's mind, or psychological effect through the piaiman's efforts.

There are men who take up the profession of piainan from a very different angle. I have in mind one or two who were simply lazy vagabonds with a boastful domineering disposition, and who definitely began to experiment in the occult simply as the means to their own selfish ends - easy money, unbridled licence and occasionally, revenge. Fear of various aspects of the unknown and the spirit world is an enormous factor in all primitive minds, a fact that can be largely traded on by the unscrupulous and the "get rich, quick and easy" type. An Indian can begin his reputation as a piainan by hinting that a certain death has been caused by his sending out a Kenaima. His neighbours put two and two together - the budding piainan and the deceased were bad friends - and make five ! He may hear of some person very ill, and foretells a death which becomes true. Once it gets generally known that a man holds the power of death at command, his prosperity is assured. Any sick person prefers his skill backed by a pious hope that a large fee will induce him to drive off or kill the Kenaima which this man has himself sent. His services are in request as a piainan, and from every house he enters he will also receive gifts, voluntarily given him in an endeavour to purchase his favour, and immunity from the dreaded Kenaima. No one dares to refuse his slightest or most exorbitant request, and he is feted and fed wherever he goes,

A bad piainan soon passes into the Kenaima however, and as such, his career is rarely long. The man openly boasts he can cause death over scores of miles to anyone that incurs his displeasure. This must be through the means of Kenaima, therefore he himself must be Kenaima! Kenaima are spirits emanating from some corporeal body somewhere. Here, right to hand, is such a person, and the sooner he is killed, the sooner will cease the epidemic of Kenaima. He may be dangerous, but it is merely a question of time before some Indian, deeply moved through the loss of some loved one, will vow to kill him. Special weapons must be prepared. The Indian knows he is fighting with a man armed with the supernatural, and the ordinary arrow or gun will be of little use, therefore he makes some arrows that will cause the greatest amount of damage possible, generally from the joints of

large bamboo, which on striking a bone, mushroom and cause dreadful wounds. If a shotgun is used, double or even a heavier charge of gunpowder is poured into the muzzle loading type in general use. Chopped up nails, bits of wire, pieces of iron or even chips of stone are used as shot. Not infrequently, the gun is so overcharged that there is considerable danger of its bursting, and I have known a case of a piaman so shot (and at close quarters) recover, simply because the gun was imperfectly overloaded. The piaman is generally ambushed and shot without warning. In the case of such violent deaths, one naturally abhors the means used, yet I must admit it removes an objectionable feature that has become a source of danger not only to the happiness and security of the tribe, but to the life of such members, whose mental and physical qualities are closely allied.

I remember the case of one man, admittedly of a rapacious, domineering type, who for some years had been the scourge of the Wapichanna, and who had long been classed as Kenaima of the first water. Finally he either claimed, or was given the credit of killing a little child. The parents felt their loss very acutely and the father made it frankly public that he was going to shoot this bad piaman. The rumour spread until it reached the ears of the man in question, who to everybody's surprise, ordered his family to get ready to accompany him, as it was his intention to pay a call and settle matters with the outraged father some 40 miles away. When about 3 miles from his destination the piaman was met by two women who warned him that the dead child's father was lying hidden in a swamp just ahead with the intention of shooting him. He made his wife and family stay where they were, while he, gun in hand, went ahead to investigate. Soon a shot was heard and the wife rushed up to find her husband lying dead on the trail. I had to investigate the case, and the evidence showed that the man who fired the shot had risen clearly above the tall grass where he was hidden, coolly taken aim and fired. The piaman was walking with his head down and paid no attention when his assailant rose a few

yards off and must have been plainly visible. The man was shot at a distance of not more than 12 to 15 feet. I have never understood the mentality of that man, who walked straight to certain death without using average Indian intelligence or lifting a finger in self defence. It is certain that once the man had publicly threatened to kill him, his bluff was called, and he must do something to keep his reputation, yet he need not have left his home in the first instance, and he could have turned back after having received the warning of what lay ahead. Most piaimen harbour the belief that they are invisible at such times as they care to be so, as when they travel over large distances and visit homes and villages during a seance, and the piaiman in question may have thought this might be his case in the present instance.

The life of a piaiman is at best hard and strenuous, and the better and more successful he is, the worse it is, as then his services are in almost constant demand. The long seances he must conduct - invariably at night - may mean anything from 3 to 6 hours of yelling, shouting, and singing, with a considerable amount of acting and bodily and mental excitement. He is popularly supposed to drink a quantity of tobacco water during the performance, although most if not all of them evade this by some trick or other. I have known piaimen almost too hoarse to speak the next morning. Most of them are very much the worse for wear and generally go home for some days to recuperate, before conducting a fresh seance.

My opinion of a piaiman's seance is that it is the last thing on earth that the traveller wishes to be within earshot of, apart probably from a first experience which naturally is interesting. The piaiman deals only with evil spirits - Kenaima - and everyone believes that only the spirit language must be spoken in the seances. This language must naturally be different from that of the tribe, as no individual tribe will admit that they possess or have at their command Kenaima of any degree. The evil spirits invariably come from outside; a neighbouring tribe probably, but more often from one many days' journey distant, and of whose language they are completely

ignorant. Thus the Kenaina must possess a peculiar language of its own, and that the piainan is supposed to know. The language of any known tribe being ruled out, he is thrown back on his own ingenuity to create one, especially as speech is a recognised method of striking fear home to the heart and mind, and the louder and more forcible, the greater amount of intimidation. A piainan is reduced to his own imagination and inventiveness in the matter, and as this is but poor in even the best, he has to fall back on all the strange and peculiar sounds he has ever heard during his life and to reproduce or caricature these if he wishes to be original, failing which, he has simply to follow, in large measure, the sounds and methods of his fellow piainen.

One man who heard the chug chug of a train starting, made quite an impression by including the sound in his spirit language. Again when the first sheep were introduced amongst the Wapichanna and their baaing caught a local piainan's fancy, his chief form of spirit language became a loud imitation of the sound interspersed by way of variety with every other weird sound he thought fitting.

The greater part of every seance is therefore enlivened by the most grotesque and unintelligible sounds the performer can command, uttered in an almost inaudible whisper at one moment and the next at the utmost pitch of his harsh raucous voice. The whole seance is a bedlam of meaningless yelling, interspersed now and again with sentences in the tribal languages to inform his audience of his progress among the spirits. This may be kept up from dusk to midnight, or longer, and when the traveller comes off a long wearisome journey, late in the evening, to find a seance is being staged that night in the only house where he can find shelter for miles around, his thoughts, in view of a certain inability to get to sleep before midnight can be imagined.

As an example of such a seance, I describe below, one at which I was present during the whole proceeding, with the piainan only a few feet away from me. The patient was a woman not more than 30 years old, who had been sick off and on for some time. It was considered practically certain that she was suffering from the attack

of a Kensima, and the piainan was sent for. He arrived about mid afternoon and after the hospitality and welcome, he started a series of conversations with every adult, adroitly bringing in the case of the woman who was sick, with whom he also had a long conversation, when he took the opportunity of "blowing" smoke on her as a preliminary palliative prior to the seence proper. In the course of these conversations, he had received the public's opinion as to just how and where the Kensima had stricken the woman, which gave him a definite line to follow during his operations and his diagnosis of the case, which would fit in with popular opinion and draw forth the customary, "I told you so".

A little before sundown, two youths were sent out to cut a couple of handfuls of selected twigs about two feet long, well adorned with tough rustling leaves that would give out a good sound when shaken. These twigs were firmly tied at their base into two separate bundles just large enough to be easily grasped by the hand. One of the elderly men of the village had meanwhile been chopping up a few ounces of strong tobacco, which was put in a calabash filled with water and set aside to soak.

In the gathering gloom of night, the whole village assembled in the house where the invalid was lying in a hammock. It was a tiny hut and the place was soon packed with people except a space of some six feet in diameter immediately in front of the patient. In this place an empty box was turned up as a seat and between that and the patient was placed the calabash of tobacco, flanked by the two bundles of twigs and leaves. Presently the piainan entered and took his seat on the box. The doors and all places where light could enter were closed while the piainan spoke to a few of the men and got his bearings, then he ordered, "Put out all lights", whereupon the fires were promptly blacked out with water. The piainan then began singing in a rather low tone of voice some of the wordless tribal tunes that are common. Some half hour of this and we heard the gurgle of the tobacco water. It was absolutely pitch dark, but it sounded more as if he had put his lips on, or just under the surface and was blowing bubbles instead of drinking it.

The plainman had gradually been raising the pitch of his voice until he was singing at the top of his voice. Soon he slipped into spirit language and began caricaturing various animal sounds. He had also taken up the bunches of twigs which he shook violently in the air or forcibly beat the floor. He was now in full force, yelling at the top of his voice all the meaningless and wholly unintelligible sounds in his repertoire. Presently he altered his voice to a deep guttural, his face close to and probably almost touching the ground. Then he resumed his ordinary voice, which began to rise in the air from a lower to a higher level. As the sound ascended, it decreased in volume and the rising leaf shaking gradually became fainter until the last whisper died away, and the final almost inaudible shiver of the leaves sounded high in the air.

This particular plainman had a wonderful reputation for his ability in ventriloquism, even amongst various white men who knew him, and which accounted for my presence there that night. He had, however, not the faintest knowledge of the art. Certainly he altered the pitch of his voice, but his ability to "throw his voice" was due to his speaking with the lips at as near ground level as possible, gradually rising erect and finally standing on tiptoe on top of his seat with the bunch of leaves held high over his head, lowering the voice and the quivering leaves as he rose until both became inaudible. To the credulous, it all sounded very strange and mysterious, sitting there in complete darkness on a mud floor packed to touching point with Indians on every side. The performance would never have stood the light of day as an exhibition of ventriloquism as I could distinctly follow the ascending sound without a break, with my eyes so to speak, until my head had to be bent backward in the endeavour to locate the last dying quiver of the leaves.

A tense silence now ensued, then a few whispers were heard in the audience. "His spirit is now ranging the distant mountain tops". "He has now gone away amongst the spirits". "He has gone hunting Kenaima", and such like caught the ear. The silence seemed terribly long, long enough for everyone to move around and re-arrange his

cramped limbs and distract the attention from the last focus of the disappearing voice and rustling leaves, but at length a faint rustle of leaves began slowly and gradually rising in intensity. A whisper was soon heard also growing louder in pitch and lower in altitude, until the piaman was back on terra firma with a loud voice and some hearty thumps on the ground with the leafy twigs. Then he told the crowd where he had been, how he had crossed the mountains and how over the top of a far distant range of mountains he had met the evil spirits, - Kenaima of a tribe living hundreds of miles away. They had evaded him and managed to hide, and he had hurried back lest his audience be caught unawares and unprotected. Complimentary remarks were now showered on him by everyone, encouraging him to return to the spiritland where it was everyone's opinion his well known ability would surely be crowned with success and the patient would recover.

When plaiting their baskets all Indians have a habit of taking a mouthful of water and then blowing it back out of the mouth in a fine almost mistlike spray over the work in hand, when the moisture tends to keep the various strands securely in position. The piaman began taking very audibly a mouthful or two of the prepared tobacco juice, blowing it all over the open space around him and across the patient's body. Some of it came over the audience to their discomfort; my own included, but no one dared remonstrate. That which fell on the ground would soon disappear in dust under the hammering of the threshing leafy twigs.

The piaman now repeated his previous manoeuvres, gradually fading away into space as symbolised by the diminishing sound of voice and quivering leaves. This time I had got into a more comfortable and favourable position and was able to sit out the long silence in comparative comfort, with my eyes focussed on the invisible point where the last rustle had been heard. The long tense silence was, without the slightest warning, suddenly broken by the resounding thump of bare feet striking the mud floor with force, followed almost immediately by the violent whack whack of leaves striking the earth, but not before I noticed the long downward swish of these leaves through the air as the piaman jumped off his box to land on the floor.

In a loud voice, quivering with excitement, the piaman shouted "I have caught the Kenaima", and immediately every person in the room began shouting at the top of their voices, "Kill him ! kill him !!". There now began what sounded like a glorified dog fight. Men, women and children were shrieking and shouting encouragement in strained unnatural highly excited voices. The piaman now had two parts to act: the most terrible squeals of pain from the Kenaima as he received blow after blow from imaginary weapons in the hands of the witch doctor, intermingled with a running fire of yells in a completely different tone of voice from the piaman himself, imitating and caricaturing every weird sound he knew - a cow, sheep, donkey, anything, so long as it would intimidate the enemy, and keep or raise the excitement amongst the audience. Amongst all the noise there could also be heard the handfuls of twigs violently beating the earth and the heavy impact of bare feet on the floor as the piaman sprang hither and thither to give reality to a desperate struggle with a powerful opponent.

The Kenaima was reported as weakening, his squeals and groans grew fainter until with one long quavering wail he sank quiet. Complete silence also fell on the crowd until the piaman in a harsh but almost natural tone announced, "The Kenaima is dead", and one heard on every side the long whistling indrawn breaths and sighs of the entire audience. Conversation became general and we were informed how the piaman had met and caught the Kenaima, and a number of details of the actual fight, none of which of course could have been seen in the dark. After half an hour or so of this, a man - one of my own personal boys - said as he had been away from home for some time he would be glad if the piaman would visit his distant village and see that all was well with his family. Nothing loath, the piaman agreed. We were treated to another exhibition on similar lines, another dog fight and another dead Kenaima. Another stranger in the village asked a similar favour with the same result - another dead Kenaima, and the seance was over. It was now well past midnight. The piaman must have been near the point of exhaustion and his audience sleepy, stiff and cramped so everybody sought his

hammock.

The whole affair was really a well staged, dramatic and most realistic play. In absolute darkness and surrounded by mass excitement there is every excuse for an onlooker attributing the marvellous and incredible to the performance. Certainly the Indians believed the whole thing to be absolutely real and true, but I doubt if the piainan believed in it himself. At his first few seances the man must know he is simply staging a hoax, and he realises his success depends on the ability to carry his audience in the accepted field of excitement. The beginner rarely can do this, but the Indians are tolerant and he continues to practise, often amongst his own family. At each attempt he acquires experience and confidence until success does come. I remember one young piainan who for years was an almost complete failure. Certainly he killed his Kenaima at every seance, but he could not hold his audience, nor could he raise the excitement and realism to a proper pitch. Eventually he became a fair success however, but the seance given above was one conducted by a very famous piainan at the height of his popularity. Even if the piainan knows at first that he is merely play-acting and that the whole thing is make-believe and fake, I do think eventually ^{he} ~~they~~ comes to believe ^{his} ~~their~~ performance is genuine. It is little short of marvellous how the mind can deceive itself in time. Every Indian believes just as firmly in spirits - some good but mostly bad (as our own "Deliver us from evil") - as those in civilization believe that there is a God in Heaven and a Devil in Hell. With this solid foundation it is easy to raise some system to counteract the evil. His first, awkward, uninitiated attempts were more a feeler in the dark, but gradually he develops personality, the methods of controlling the feelings of the crowd, and with it success and a definite knowledge (surpassing belief) of the genuineness of his performance.

Early on the morning after the seance, the sick woman was up before the sun and busy preparing food. She was quite lively and in answer to my enquiries said she was perfectly well. "I am completely cured, but have not yet much spirit", were her actual words. The piainan however seemed rather the worse for wear; something after the

nature of the 'morning after the night before', and an exceedingly hoarse voice, but he soon got down to business. The husband of the woman who had been cured had to pay, and pay handsomely for the piaiman's services. Then on the plea that if the Kenaima had not attacked that particular woman, it would certainly have been another woman, probably So and So's wife, naming a good hard working villager, and So and So had to pay. Then my boy had to pay for his Kenaima as also the other stranger, and it was not long before every responsible person in the village had contributed some article of barter or necessity of life to the piaiman's empty bag. They paid up quite cheerfully. Life at best was uncertain, but meanwhile they had got a short respite granted, and their little world had been cleared of all danger for the time being. It was cheap at the price, although it still meant unceasing vigilance on their part at all times to ward off new evil spirits that might creep up at any moment unseen and unheard to destroy them.

The foregoing is a description of the straight killing of a Kenaima, but there are many other forms in which these can injure the human body. A piaiman may decide the spirits have introduced some ordinary object in daily use into such parts of the body as the patient declares he feels pain. Amongst the commonest of these, is the introduction of a rusty fish hook or an iron arrow point into the bowels via the anus, or into the chest or head via the mouth or the ear, the former when the patient exhibits severe abdominal pain: the latter in pulmonary troubles, accompanied by pain and the spitting of blood, or some inflammatory and painful trouble in the head. The piaiman must remove these as well as kill the Kenaima, which generally means considerable pawing of the patient in the region of the pain or the organ of entry. Such arrow point or other substance is of course completely invisible to all but the piaiman and he carefully hides it away in some safe place by a spirit journey to the top of some mountain many miles away.

After a seance, the piaiman interviews the patient the following morning. If there has been a definite improvement, all well and good, but if the patient is still as bad or perhaps worse than

previously, something must be done. With practically no medicines at his command, the piaman is limited to what the sick person takes either by way of drink or food. Beer in any form is generally prohibited and clear water in which a few leaves of some aromatic or acid shrub has been broken, only allowed. In the case of food, the patient is generally put on a very strict diet both in range and quantity, probably some tiny fish or a small bird being the only solid allowed. The scissor-tail bird is a favourite object of diet amongst piaman, and I have often seen a whole village scouring their district in search of the bird. Its little body is not larger than that of a small swallow and a good number are required to satisfy a hungry patient, once convalescence has set in.

It is very hard to define or forecast the effect of illness on any Indian I have known, and I have seen some very nasty accidents which would in ordinary life have necessitated a long visit to a hospital, yet in a week or two, with little or no attention or remedies, they would be all right again. A young man in my employ was making fire by striking a percussion cap on the sharp point of his ramrod with a new quarter pound flask of gunpowder. The iron point threw off too much force, pierced the flask, and the gunpowder exploded in his hands and burned the crouching naked body of the Indian. It was twelve hours later when I arrived to find the lad in very bad shape. His thighs, abdomen, chest, neck and face had received the full blast of the explosion and were simply one mass of huge blisters. Fortunately he had closed his eyes at the moment of contact, and his sight was uninjured. I made a lotion of some oil and antiseptic which I had, and treated him for four days to the best of my ability. He must have suffered agony, yet he never once showed the slightest sign. On the fifth day to my consternation he calmly walked off to his village to be with his parents about forty miles away, and within a month he was at work again.

In other cases a person may develop some very slight trouble to all appearance and die in spite of all that may be done for him, especially if he thinks he is the victim of Kenaima. Once a man is

certain in his own mind of his being under the influence of Kenaima, the best thing to do is to clear his mind of the dread, and the piaiman is the best remedy. The physical side of the Indians seems very closely allied to the mental, and it is here where the piaiman makes his marvellous cures. The patient knows the Kenaima has been killed, before his very eyes so to speak; the ambition to live revives and quite frequently, he recovers. Of course all men must die, and there are almost as many occasions when the piaiman is called to cases which are completely beyond all aid or help. Here the piaiman has dozens of loopholes. They were too long in calling him, and the wounds caused by the Kanaima were so severe as to be fatal, or another Kenaima sent by some new enemy had entered the patient after the seance, or the blame may be laid directly at the door of some fellow piaiman of whom he is jealous or on unfriendly terms. The same piaiman is rarely, if ever, called in to perform a second seance. Should the patient linger, an invitation is sent to call a different one and there is generally quite a few to choose from. I have never met a female piaiman, although I have heard of one or two, generally women of considerable character and personality, according to tales in a part where there were few outstanding men.

I always found it a good plan to stimulate the mind as well as to apply the obvious remedies in treating the more primitive Indians. When I entered the Wapichanna country, the Chief of the Tribe tolerated me, but neither he nor his immediate villages accepted me as a Master or Pownar (Patron), due to his rather remote residence on the Brazilian Frontier where he and his men found work, and an avenue for sales of all surplus stuff. The old chief became ill at a time when I had to leave home for a prolonged survey of the work being done in the high forests. Some months later I was at my main station having a day off, and in the early afternoon one of the sons of the Chief walked up to say his father had sent him for medicine. Enquiries showed that every piaiman within the radius of 50 or more miles had been called in, and they had all performed, without the slightest symptom of success. The Chief had steadily grown worse until now he

was lying helpless in his hammock, unable to eat or attend to the usual functions of nature. He had been put on a very restricted diet and was now emaciated to skin and bone except his abdomen which had swollen to a huge size, "hard and shiny like the head of a drum". I told the man to go round to the kitchen and to wait till I called for him. It was impossible to diagnose the trouble, and there seemed very little I could do, however, I went over to my medicine chest, which every employer of ten or more men was at that time compelled to possess by law, and I took out some aromatic spirits - Sweet Spirits of Nitre; Hoffman's Anodyne and Essence of Peppermint - a little of each, which I diluted with water and filled into a small bottle. I then retired to a comfortable chair and continued the reading of a recent twelve months old newspaper. A couple of hours later, I called the man, and apologised for the delay, saying, "This is very particular medicine, such as can only be taken by Chiefs, and it is very difficult to prepare". I gave the man three or four of the very strongest purgative pills I possessed, with instructions that the Chief had to swallow all of them the minute his son reached home. I then handed him the bottle saying, "Every morning and evening, exactly as the sun rises and sets, see that the Chief swallows a spoonful of the medicine in a small calabash of water, but on no account allow any other person to handle or taste the medicine, as it is so powerful and potent that in all probability they ^{would} ~~will~~ die - only a Chief or his oldest son can taste this medicine and be sure of living, and you will probably feel very queer yourself, merely from the smell of it as you pour it out, but you need not be frightened. The feeling will pass off and your father will recover if he does as I say. In particular, tell the Chief he can eat whatever he likes, as much and as often as he cares to".

A few months later, the Chief arrived to thank me for his marvellous recovery, bringing two large baskets of farina as payment for the medicine. These I accepted, but in return made him a present to their full value. Each year afterwards, at the corresponding moon to his recovery, he would arrive with more thanks and presents. His villagers worked under me and their trade came my way, until one

year I went overseas for a long holiday. On my return, I learned the Chief had died, and soon his son arrived to tell me all the details of his illness and death, and to lament my absence from the district, "otherwise my father would not have died". I discreetly closed one eye at my reflection in a mirror on the opposite wall and I wondered !

Music.

All the Indian tribes love music, but it is only amongst the more primitive and forest hidden that you hear their real national music to-day. Any tribes with only a mere nodding acquaintance with civilization become shy and ashamed of their own rather crude instruments and performances, and try their utmost to possess one or two of our manufacture. Certain tribes have taken exclusively to the violin and have developed their own technique in the manufacture of these, largely due to their inability to purchase a proper supply, as also the difficulty in keeping them in proper order in the humid forest, where glue soon comes adrift and strings go west faster than they can be replaced. The violin they make themselves is a very crude affair, but it is a violin capable of standing up to the local conditions, and its crude imitation of the sound, is heavenly to their untutored ears. The body consists of half a calabash, over which a thin worked down piece of wood, in which a couple of holes have been bored, is carefully fitted and cemented with some forest gum. A straight piece of timber, fitted to take some 2 to 4 rough tuning keys, is attached. A few horse tail hairs, or selected silk grass strands form the strings, under which a piece of wood is inserted as a bridge. Horse hair or silk grass again form the bow, when stretched between two points of a long, thin sliver of wood, hewn out of a split tree. Many of these fiddles carry only two or three strings, but some of these people have a quick ear for sound, and it is surprising how many popular airs they can play, so as to be plainly recognisable on these crude instruments.

The accordion is the most popular instrument amongst a majority of the tribes, as also the ubiquitous mouth organ. A good range of these latter among the visitor's baggage will nearly always ensure the open sesame, and a hearty welcome from the most taciturn and diehard villages. The mouth organ requires neither effort nor skill, and is in great request by youths. The accordion requires more art and practice and is much more expensive, but it possesses greater volume of sound and range of expression in capable hands, and most Indians will sacrifice much to possess one. They evolve simple

tunes of their own in many cases, while others with opportunity and aptitude, adopt a few popular airs from the outside world. Anything more productive of a splitting headache and a flood of classic profanity, I have yet to meet, than when one must spend a night - pouring cats and dogs - in a lonely Indian hut, during a drink and dance with some 4 to 6 accordions, all going at the same time, and each person vigorously playing his own so-called tune on a non-stop programme, until sheer weariness or too much beer makes them seek their hammocks.

In their own primitive life, the Indians accept anything that will make a noise, as a musical instrument, but the crudest of these are only popular at their various dances, where noise is at a premium as the sign of fuller enjoyment. Of these, the drum is easily outstanding, and to our standard the most annoying, through monotony and loudness of tone. These drums were in use generally during that period when a youth undergoing initiation into manhood would parade the village square for a couple of hours before daylight each morning, thumping his drum. Sometimes one, sometimes two drumsticks are used and the notes are varied in time or rhythm. He drums one succession of notes for some 10 to 15 moments, then he changes. It may only be a single thump, followed by a quick double beat in the elementary stages, and turned the other way round by way of variation, but with practice he adds to his repertoire until he becomes a fairly expert drummer. Occasionally one of the elder men will demonstrate some particularly intricate tune, but generally the youth is left to evolve his own tunes. Practically every tribe I know possesses exactly the same type of drum, but in no case have I ever known them to be used as a method of signalling in any way.

Drums are made of hollowed out blocks of wood, covered at each end with skins. In other cases, a hard strong bark is used, one in particular being from a tree whose wood is no harder than the stalk of an ordinary cabbage, which is in general use amongst such tribes as have few iron cutting instruments, for they can dig out the bole with sharpened pieces of wood. A tree of the correct diameter is selected - seldom more than a foot in diameter, and an 8" to 10"

portion is junked carefully out and the inside removed so as to leave a tube or shell, (whether bark or wood), about 1" thick. Two carefully stretched, sun dried deer or baboon skins are used to cover the ends. Two circles of strong, tough lianos are prepared, just large enough to slip over the bark or wooden shells of the drum. The skins are wetted, the edges wound round these circles and carefully adjusted to fit the top of the drum. A strong, leg-spun, silk-grass cord is passed from liano to liano along the outside of the shell, and pulled until tight, when it is allowed to dry. When the skins are dried, the tension of this cord is altered until the desired pitch or tone has been obtained. Across the lower skin - which is never beaten - a very thin, double strand of silkgrass thread is stretched fairly tightly, into which is inserted a very thin sliver of bamboo, or the dried midrib of certain palms. This sliver of wood, about 3" long, and no thicker than a fine needle is placed in the centre of the drum end, and adjusted until perfect balance is obtained when a note is struck, with one point just touching the skin. When in proper position, this sliver of wood gives a prolonged note by rapid vibration against the tight skin in sympathy with the note struck, and the repeated oscillation of air inside the drum. If the sliver is not in correct position the note is flat, and the performer alters the balance until the desired effect is obtained.

Most primitive tribes make a musical instrument out of the shell of the tiny fresh water turtle, which seldom grows beyond 6" in length. The Indian removes all flesh and body bones from inside the shell, generally by continued boiling in water, so as to leave the carapace - both back and front - intact and perfect. A thin layer of beeswax is attached to the protruding lip of bone at the head or rear - if a female turtle - of the shell. The side of the hand, between the wrist and the little finger is struck in a series of sharp, fairly forcible strokes across the beeswax. This creates air waves, which the cavity inside the shell increases till a distinct and quite pleasant sound is heard. This sound can be an almost perfect imitation of the call of a certain tiny owl which digs a burrow in the ground, and it is just possible the instrument may have

been invented on that account. The owl is a favourite pet, but is never eaten.

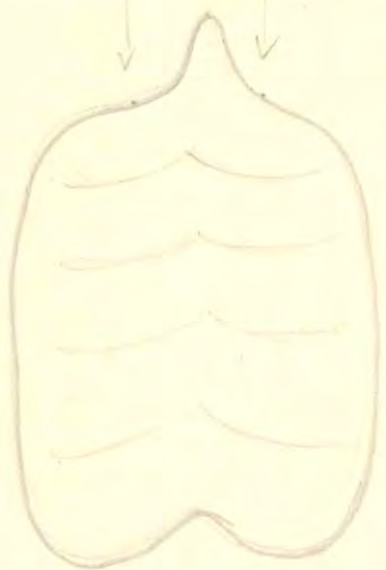
The shak-shak in various forms is a favourite mechanical means of making music, or noise, at their dances. Various hollow seeds are obtainable in the forests which, when strung on a string and wound round a bamboo pole, make a considerable jangling sound when the bamboo is struck on the ground. These trees have a limited radius of habitat, and what one tribe considers very ordinary and common seeds, are frequently held in great request by another tribe. Another variety is made by a whole, perfectly circular calabash or gourd of about 6" diameter, carefully cleaned out, in which several small pebbles have been placed. The calabash is perfect, except for two $\frac{3}{8}$ " holes at the top and bottom, through which a stick is fitted. The lower end of the stick, frequently ornamented with carving or feathers forms a handle. The whole thing is given short sharp jerks with the hand and the stones inside rattle around and produce a noise.

A number of hollow reeds or joints of bamboo, with one end closed and one open can be blown across the top with the breath and produce a note. These tubes are generally about 6" long and can be used singly or in numbers. Very small bamboo tubes lashed together in threes in a straight line are favourites, as the performer can obtain a note from each tube, without moving the head, and thus treble the volume of sound. These tubes can be made to vary in pitch and note if they are cut into varying lengths. About half a dozen tubes from reeds ranging from $3\frac{1}{2}$ " to 7" in length and of slightly different diameters are bound with string into a straight line, each successive length next to the nearest one in length, but with the open tops in a level line. These are held in front of the mouth and blown across by the breath, and the sound is varied by moving the different tubes into position, or by twisting the head from side to side while blowing. I have never heard any Indian produce a tune on these reeds, although the instrument is adapted to the purpose.

At special dances, long tubes procured from Balsa Wood saplings

Taruma Earthenware Flute or Whistle - see P. ³⁶⁹ 375.
(Actual size)

Position of two blowholes



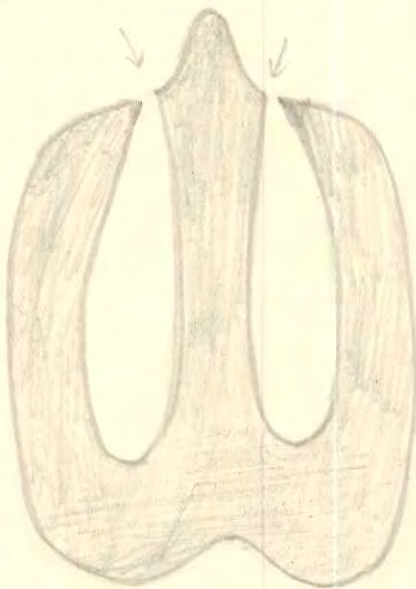
Front view

Position of one blowhole



Side view

Blowholes vary in size, and produce different notes.

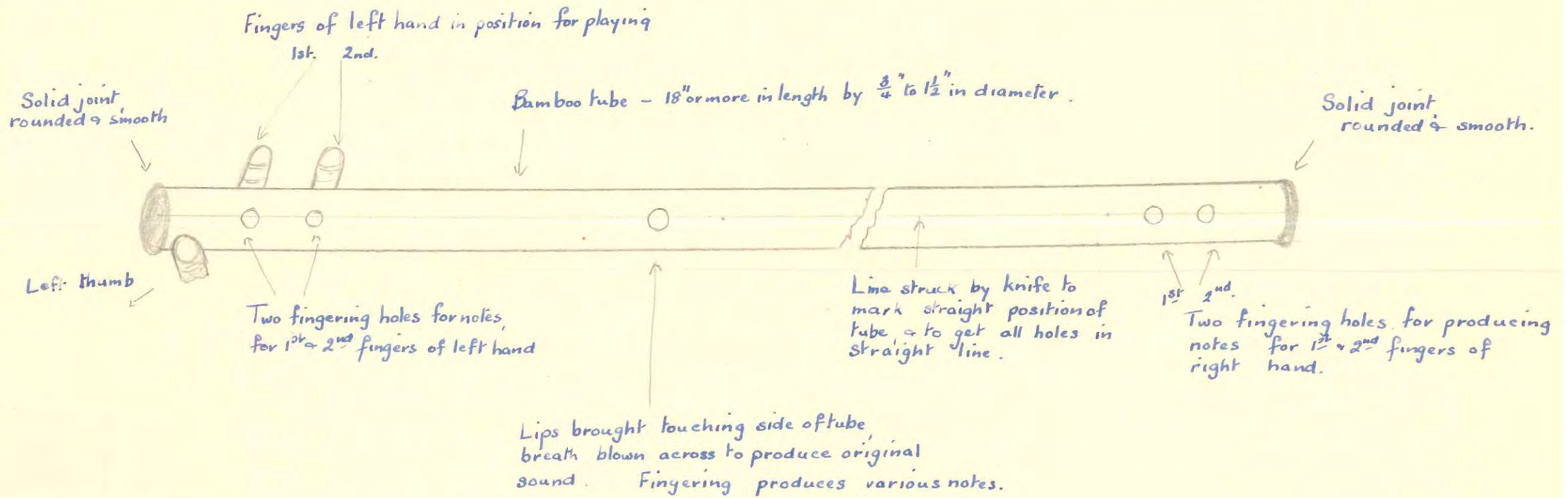


Section, showing the two blowholes,
and the separate airchambers
in centre of instrument.

about 2" diameter and three feet long are used. These saplings have joints similar to bamboo, but they are thin and weak, and easily broken with a straight wooden rod which is pushed through. The tube is placed in the mouth, and the breath blown forcibly through. Much breath is used in blowing and only a single note, or rather roar can be produced, of the same pitch, which is generally a deep bass. The performer cannot keep blowing for very long at any one time, but he generally begins to speak or shout through the tube in imitation of some animal or bird, which he is supposed to represent. At one end of this flute, he fixes a rude carved form of some such animal or bird which he tries to imitate.

The Taruma make a musical whistle from clay and it is the only example of such work that I have seen. Its invention shows considerable ingenuity, especially in a tribe which never had more than the most casual association with the outside tribes, as also that its manufacture is fairly complex and shows some knowledge of scientific facts. The clay is puddled by hand, the instrument is made and then burned in a fire to acquire the customary pottery hardness. If perfect, it is then ready for use, but it is generally painted with various coloured pigments according to the fancy of the manufacturer, and glazed with forest gums before it finds a purchaser. It is pear-shaped in form, but only about half the width from back to front, of that from side to side. On the top, a short nipple projects, which is placed between the lips and the performer then blows. The breath escapes through the lips down both sides of the nipple. (Place the end of a pencil between the lips and blow as a perfect example). The breath impinges on a hole on either shoulder of the instrument and the sound is produced. These two holes communicate with two separate air chambers inside the instrument - see illustrations. As a rule, the two holes are of slightly different sizes as also the air chambers beneath, and in this way two distinctly different notes are simultaneously produced. It requires neither skill nor art to play, even a toddling child can automatically make a noise. I have bought dozens from the Taruma, price a medium fish hook each, for they were plentiful and

Bamboo Flute - Page 370



seemed to be the national musical instrument of the tribe.

The favourite musical instruments of the various Indian tribes are flutes made from bamboo of various small diameters. They use all select bamboos with the longest possible space between joints, at least a clear 18" or more if possible. The diameters vary with the different tribes, the Wapichanna favouring those not more than $\frac{3}{4}$ " diameter, while the Waiwai prefer those slightly larger with a maximum of $1\frac{1}{2}$ " diameter. The various diameters give a different tone, the smaller size a higher pitch, the larger a much deeper one. A man selects a good bamboo joint and lops it off complete with several inches to spare both above and below the joint nodes. It is stuck away in the thatch of the hut and allowed to dry and season for some time. When taken down, the surplus ends are trimmed off, care being taken to have both nodes equal in shape and size, intact and smooth. The manufacturer then squints along the tube from end to end revolving it slowly before the eye until he locates the side with the least distortion and bend. Holding the tube firmly with the selected side up, he places the sharp edge of a knife at right angles to the surface at the extreme lower end and draws it slowly up to the other end with enough pressure to show a distinct mark from the scraping edge of the knife. This mark is perfectly straight and is a line along which to bore the various holes required. Five holes in all have to be bored, which is done by blowing the glowing ember of a pencil sized twig which is held touching the bamboo at the selected spot. Two holes, about an inch apart are burned in the tube at both the extreme upper and lower ends, but clear of the joint. These holes are used in fingering to produce the various notes. The fifth hole is bored about 6" from the selected end. This hole is placed in front of the lips and the player blows the breath gently across it, when the sound is produced. The flute is held in both hands, the left hand passing under and the fingers up in front of the two holes nearest the blowing hole. The first and second fingers are used only in fingering. The lower end is held between the thumb and fingers of the right hand and the first and second fingers from behind manipulate the two holes immediately in

front.

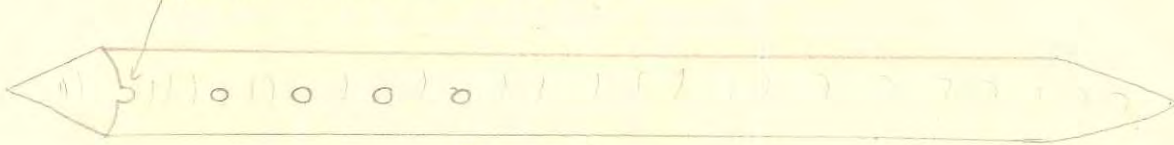
These flutes are rather difficult to blow. The lips have to be brought together until almost, but not quite, touching, in a perfectly straight line. An absolutely straight open space of about one inch in length and not greater than the thickness of an ordinary visiting card is essential. I have known quite a few Indians who were unable to play these flutes, as the centre, or some other part of the lips met and they could not form the necessary straight slit. This method of blowing is required in all their flutes, whether of bamboo or bone and also in blowing on the cupped hands as a method of signalling.

In hand signalling, the hands are cupped together and touching the full length of the thumbs, along the heel and the sides of the hands to the base of the small finger. The four fingers of the right hand are passed round the back of those of the left hand but in such a way as not to pass further than the middle digit, and the palms kept in cup form as much as possible. Then the first finger of the left hand is stretched away from the second finger until it contacts closely with the left thumb, care being taken that the web between these two fingers forms one straight unbroken line. The hands are then brought until the chin just rests in the hollow between the thumb and first finger of the right hand, when the web between the outstretched fingers of the left hand should be immediately in front of the lips. The hands must fit tightly together and round the chin leaving a good open space between the palms. The lips are pursed into a slit and the breath blown on the tight straight finger web in front when a fairly loud sound is emitted. This method of cupping the hands in blowing is nearly general, but an alternative method is to cup the hand together anyhow so as to leave a fair space between the palms. The two thumbs are brought together in front with a small open space between the first and second joints. The hands are brought up to the chin, the breath blown across this open space and the sound produced.

This method of hand signalling is extensively used by all Indians over short distances. It is much less distressing than a yell of

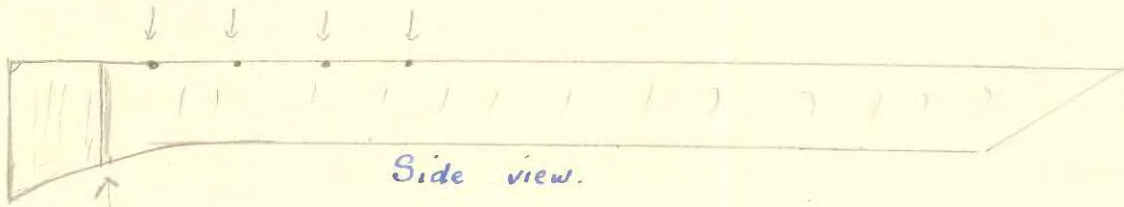
Deer Bone (Femoral) Flute - P. 372.

Breath from above impinges here.



Front view

Four key holes



Side view.

Position of beeswax stopper, with 4 small holes bored in it inside the bone flute.

equal volume and has the advantage of being less disturbing to game within reach of the sound; it is much less harsh on the voice and harmonises perfectly with the natural sounds of the forest.

Variations of the note are given by lifting one or more of the free fingers clasped round the others and in this way intelligible messages can be transmitted some considerable distance. Such signals are very limited in quantity, generally such as "Come to me", and similar simple commands. An exact imitation of the call of several animals can be given and many a roving spider monkey in search of a mate has answered the call and swinging through the tree tops for almost half a mile has met death from the arrow or gun of a motionless hunter as it passed overhead.

A number of the tribes use the femoral bone of the various deer and jaguars as flutes also. The bone is cleaned of all flesh, generally being well boiled, the knuckle joint at the lower end cut off and the marrow extracted. The upper knuckle joint is cut away until a clear passage is assured down the full length of the bone, but so as to leave as much of the open textured bone as possible to rest more comfortably against the chin. A thin plate of beeswax is rammed into the tube for a short distance - $1/2$ " to $3/4$ " - below the upper end, through which 3 or 4 small round holes are bored with a piece of wood. The rough open texture bone of the end is also coated with wax to make it less irritating to the lips. A small U shaped hole is made on the front of the bone where the breath is blown in playing the flute. Four equidistant holes are now made in a straight line down the bone, the uppermost just a little below the wax partition inside. The first and second fingers of both hands on their respective sides of the flute finger these holes and produce the notes of the different tunes they play. These bone flutes, especially the smaller deer ones, are found in the shoulder bag of most Indians, and their principal use is to give warning when they approach a village on a visit, so that dogs may be tied up and other preparations made to welcome the visitors. The jaguar femoral bone is used much more rarely owing to the general belief in the

supernatural powers of the animal, but which powers do not affect a second owner. Thus A can shoot a jaguar and may at any time be faced with the jaguar's supernatural revenge, but if he gives the bone to B, no harm follows the transfer. In nearly every village may be found one or two daredevils who possess such a flute, tastefully adorned with beads, coloured strings or gaudy feathers. When visitors arrive or at a dance, they can be seen strutting around with the flute dangling by a twisted cord from the wrist.

Many of the houses in savannah country used to have a form of Aeolian Harp sticking in the air above the roof pole, very much like the modern aerial. The long stem of some palm leaf was selected and a single fine strand of fibre worked free for about three feet along the centre. A small round piece of wood was slipped under the fibre as a bridge and the whole thing would be lashed to the roof pole so as to leave the upraised strand free for the wind to sweep across. The wind passing over the fibre produced an agreeable musical note which rose or fell in accordance with the wind's velocity. Should the fibre slacken and the note disappear, someone would climb up and renew the tension by pulling the bridge nearer to one end or insert^{ing} a larger bridge. The Wapichanna were particularly fond of this form of sound and I have often had them fit one on my permanent camps, especially during the dry weather, when it would last for months.

Amusement.

All work and no play makes Jack a dull boy ! Given the proper environment, every animal, in his own peculiar and perhaps clumsy way, gambols and plays, and man also must play at times. In civilization however, it is only very small children who gambol and play naturally. At a very early age, class consciousness is forced on the child's attention; to gambol is infra dig, and thus children largely lose the ability to amuse themselves in a natural manner. They are forced along unnatural paths until they can no longer amuse themselves, and eventually, man, in 99 cases out of 100, a child still, has to be amused at a cost by unnatural and often unhealthy means during his leisure hours. When such cost gets too high for his pocket and man is forced back on his own resources, he finds himself almost completely helpless. Discontent and trouble, first in the individual, then in the mass, produce new problems as to how to amuse their increasing leisure - a vicious circle, that taxes the best brains to-day and which can cause considerable financial and economic strain.

The aboriginal Indians, in their natural state, know nothing of this outside curse, and their amusements are simple, and within the reach of all. In their machineless world, each unit - the family - faced with the problem of living by its own exertion and skill, has very little leisure in the endeavour to wring a livelihood from a non-too bountiful nature, when their every need, except a few articles of iron, must be provided by themselves. The daily hours of light are largely occupied with work of some kind, probably at not more than a fraction of the tempo of the outside world with its non-stop machinery, yet work of some kind, maybe just the foolish duty for an hour of spinning on the thigh a few yards of silkgrass twine to serve as fishing lines, that any respectable shop would sell for five cents - only the shop happens to be some hundreds of miles distant ! Just how hard the Indians work is realised by few. A visitor drops into a village and down go all tools. Here is a chance of amusement, barter and trade, the gossip of distant villages, the news of friends, the tales of

adventure in the hunt, the quick flying shuttle of repartee and practical jokes, all of which you can get each morning from your penny newspaper in civilization. An important visitor means the closing down of all work except the production of food, for some days at least, and it is only when the white man's length of time and distance in the forests has reduced him to aboriginal levels in supplies and their mode of living, that he realises the amount of work to be undertaken. Certainly much of the work is light and with considerable variation. Rod fishing is sport to the outside world, often a hobby or pastime, but light as it may be physically, when success means the difference between an empty pot or a full stomach it assumes quite a different aspect. Every Indian has so many calls on his time and energy that it is impossible for him to settle down steadily, and work day in and day out at any one particular task even if he wants to. This fact accounts to a very large extent for a reputation of shiftlessness and poor application, especially when there is a lack of a proper sense of time and co-operation. To-morrow is all right, but is elastic and elusive, and the scarcity of forest game and natural supplies forbid grouping on a larger scale than the family unit. Civilization is steadily encroaching on their preserves, when they must either sink their nationality, independence and traditional culture or move farther away into the forests and begin life anew by themselves.

Although the Indian often works long hours and, at times, undoubtedly hard, he never misses a chance to play. Much of his work takes on a feeling of competition and rivalry, and so work becomes more of a play or at least a popular and pleasant game, as much as golf or cricket with us. All Indians have a keen sense of ridicule, which leads to much teasing and practical jokes coupled with hilarity and laughter or even loud encouraging yells when at work. Life in the forests at its best is hard, in food, comfort and amenities, in comparison with our standards, yet life to the average Indian, when in good health, is one long joke even on a minimum amount of food. He is haphazard, probably thoughtless, communistic, in that he must, and voluntarily does divide the little

he has with others less fortunate; he is hospitable to a degree, cruel at times as any calvanistic fanatic, yet on the whole, kind, thoughtful, courteous, and self denying, and above all, laughter loving and pleasant. Keep a crowd of them laughing and they will do anything !

One joy and source of amusement and pride is a little child. Every woman in the village is on tiptoe to see the latest arrival, and in a day or two, the proud mother is up and around showing off her baby. The father of course will in all probability be laid up for a period of a week to one moon (month) according to the law of different tribes in that curious custom of Couvade whereby he must rest, and abstain completely from every form of exercise unless absolutely necessary, as a single stroke of work may mean death, or at least an ache or a pain to the newly born infant. The father is responsible for the soul or mental part: the mother for the body or physical part of the child, hence the mother has to be up and busy, feeding the father and attending to his every want, as the least exertion may cause the tender soul to leave its frail little casket to return whence it came. During couvade the father takes no interest in the child, or its mother, or even the communal life around him. He is generally on a strict diet, as eating any of the larger game may make him the unconscious medium between the death struggle of such game and his child's soul. Once couvade is over, his pride awakes, and soon he is just as keen to tell of how his child has held a finger or smiled up at him as any father of fact or fiction. A first tooth is shown to everyone, the first word of speech is told and retold, and its various actions reacted to give food for laughter, just as with families outside.

The first child is a great educator to the young parents, neither of whom will have more than twenty rainy seasons to their credit. The mother has in all probability arrived at puberty some years previously, and has become a shy, demure, little person hidden away in a quiet background behind her mother and various elderly relations, but the father has been a loud, noisy, yelling youth, having his own way in nearly everything, full of energy and careless of

anyone's comfort, beyond his own whim for the moment. It is surprising how a little child can take the conceit and self-consciousness out of the average Indian. Probably he comes in tired and hungry after a hard day's work in the field or at the hunting, but as there is only the mother in the house, he must tend the baby while she cuts up the game and prepares a meal. If he doesn't tend the baby properly, it becomes fretful and soon is crying. It is absolutely no use arguing with a baby a few months old. It can bawl louder and longer than he can, and father soon finds the best thing to do is to humour the baby somehow. He is faced with new responsibility and if he does not rise successfully to it, ^{he} is the subject of much ridicule to everybody within reach. By the time the child is a year old, the father is a changed man, and from being a noisy animal, has become the shy, reserved man of his type.

As soon as the child begins to toddle, the father is supposed to provide it with playthings. Generally he first brings in the young of some forest game - beast or bird - and these are given to the child. The child rarely handles these, but they belong to the baby and must be tended and fed against the day when such a pet may have some value as an article of barter. As the child grows, the father must make a miniature set of the various implements in daily use - a bow and arrows in the case of a boy: a small quake (a basket carried down the back suspended by a band from the head - like the fishergirls at home), a fan, or some woman's implement for a girl. The boy is taught to hold the bow and arrow in correct pose, and to shoot; the girl dons her quake and carries some light load, or fans up the fire with the plaited fan.

The first real, and practically the only toy of childhood is a puppy, which is lugged around everywhere, fondled and put to sleep as if it were a baby. The boys are not encouraged in this, but many of the girls continue to play with puppies at times until they are fully grown. Anything that is young and helpless seems to find a vein of sympathy in the heart of most Indian women. I once kept a number of English foxhounds for hunting deer and jaguar, and many a time I have seen a woman of quite 30 years of age put down her own

child and take up one of my puppies to fondle and give her breasts to for the hour during which I would be doing business with her husband. They will also capture the young of almost any wild animal, and often rear them successfully. I have repeatedly seen women suckling a young monkey, in other cases a helpless little deer or a wild hog, and I knew of one woman who reared a young jaguar.

The puppy has a short life as a pet however, as he soon grows teeth large enough to bite with when squeezed too hard or annoyed. It is soon given more kicks than kindnesses and leads a life of misery, unfed and uncared for, until it shows some aptitude for hunting, when it is taken charge of by the head of the house and carefully looked after and encouraged. Many Waiwai women keep a pet dog, invariably a sterilised male, tied up near their hammocks, well fed, fat as butter, going with them to the bath or the field, but never allowed to go near the men's dogs, who would tear the pet to pieces if they got the chance. With the exception of these Waiwai women's pets, every dog has to work for its own living and largely that of its master. The puppy that shows no aptitude for hunting has no master, gets no food except such filth as it can find or what it can steal, and one or two such dogs are to be found wandering free round almost every Indian village, poor, thin, mangy objects which excite no pity, but are kicked and beaten by anyone and everyone, until they die.

When a puppy begins to bite and grow troublesome, the girls often adopt a substitute, a roughly carved root or a bundle of cloth or leaves which forms a doll and is tended in a somewhat similar, though cruder way, as the doll of the outside world.

All the children, independent of sex, roll over one another, chase one another around and gambol naturally for some years. During this stage, it is rare to see any exhibition of temper; they never fight or hurt each other intentionally. The one thing that raises a howl is when some other child takes away the bit of stick or whatever may be the toy of the moment. A child may be imitating some work he has seen going on, say underbushing a field with a piece of stick, and if another child gets a wallop it is a case of,

"Keep out of my way when you see I am working", but I cannot recall witnessing a stand up fight.

By the time the average boy is five years old, he is supposed to be able to accompany the father and do some little thing towards the economy of living. Even before this age, the girl has begun to assist in the household in various light, fetch and carry tasks. Modern law says the child must go to school at five years of age to learn its letters, and in a sense, begin to work. Having no letters to learn or tables to memorise, the Indian child begins to pick up some of the elementary, fundamental lessons in life and some knowledge of the thousands of natural phenomena around him. Acquisitiveness is a trait in all children of every race, but no child can tamely submit to receiving information through the different senses. Their hands and feet must be kept busy, and the Indian parent directs such energy in some small way as will help the family. There is no compulsion or force used, at least in the case of the boys. Every child loves to do something which it sees its elders doing. It is the first step towards manhood and this ambition goes much further than parental authority. The child works willingly and ambitiously, and gets a reward in having a few hills of some of their various vegetables. To carry home a pumpkin, a water-melon or a few ears of corn of his own growing means far more to the Indian child than a First Class Report for the term does to his civilized prototype, and by the time the home child has mastered the multiplication table and long division, the Indian boy has a good and varied knowledge on quite a number of subjects, varying from practical chemistry to zoology, and considerable experience in agriculture. The Indian girl at the same age has had a good grounding in agriculture and an almost complete knowledge of household economy. I have in mind a case where a mother died after giving birth to a baby. The oldest daughter, not more than 10 - 11 years of age, assumed full control of the household, together with a younger sister. I often used to pass that way and could not but admire the two little sisters in their work, which was quite successful. In another case, the father died leaving a young family; the oldest, a boy, could not have been

more than ten. The boy assumed full responsibility, and I can remember the mother's vivid description of how he was just able to hold his father's gun to his shoulder, and with his first shot managed to kill a wild hog.

It is very rare that a child does not respond to the ambition to imitate what father does, but I remember one boy, the son of a sub-chief in the Wapichanna tribe, who declined to do anything, and who positively refused to do any work. His brothers were smart boys and at work under me, but this particular one would do nothing, not even in the field or in hunting. When he was just entering manhood, he began to steal from other Indian fields and pretended he had a field of his own that no one had seen. The ruse worked for a while but he was found out, and he was generally thought to be a complete wastrel. His father sent him in to my station one day with some order or goods to sell, and the young vagabond found an opportunity to steal something. He was caught red handed. My station happened to be crowded that day, so I called everybody up as witnesses, whilst I administered half a dozen of the best with a leather strap, and packed him off home with the promise of a double dose if he ever put a foot back in my station. Three months afterwards the father called in to thank me for what I had done. The lad, on arriving home, had been subject to so much ridicule that he had gone out in the forest and cut a field for himself. Within the year, he came in to me with the first fruits of his own field, which I gladly purchased. He settled down and married, but he never amounted to very much, as he had arrived at manhood without having done a stroke of work, and he had too much to learn. He was bitten by a deadly snake a year or two later, and unfortunately died.

From five years old and onward all children have to do some work, but they are never forced beyond their capacity, and a child has only to say he is tired to be told to stop work. Naturally they still have considerable leisure as they have not yet begun anything in the various arts and crafts of the tribe, and they still play a lot. At this age, many are very fond of a form of badminton as a game. The shuttlecock is made from a short cob of their Indian corn from

which all corn has been removed. In the thick end of a three inch cob there is stuck a ring of feathers from various forest birds. No racket is used: the shuttle being struck with the open palm of either hand. Sides are never chosen to play, and the point in the game is to see how long they can keep tossing the shuttle without its falling to the ground. In some cases where one or other of the indigenous rubber trees are to be found, round balls about the size of an ordinary tennis ball are made from the resilient gum and used in a similar manner by the elder children (in their early teens). The game is noisy and full of movement and much laughter and ridicule is meted out to the butterfingers who miss a strike. They vary this game with the ball by throwing it to each other and catching it.

Practically all the youths of every tribe I know get a great deal of amusement out of string figures - the Cats' Cradles of the civilized child. Few children make many, but between the ages of 12 and 20 most youths spend many an idle hour with a bit of string. Both sexes make these figures, but it is generally the young men who are the adepts. The young maids do not have the time; the chores of the Indian household are even more unending and urgent than those of their civilized sisters. The numbers of these various string figures are endless; many are difficult to imitate owing to the intricacy and number of movements; several are very amusing, and some have a little trick, where some simple movement escapes the eye and throws the whole arrangement into an entangled knot to the uproarious laughter of the spectators who are in the "know". Practically every village and nearly every youth have their own pet figures, which they will make continuously for nearly an hour on end. Many of their various figures have a story behind them, and most are supposed to represent some phase in human or animal life. I never made notes of these figures and many have completely escaped my memory, but I have seen scores of different ^{ones} ~~figures~~. I don't think any one person has ever mastered all the figures they produce, as from time to time they evolve new ones.

Hair cutting amongst the Wapichanna in my early days was quite commonly done with a sharp knife against the rim of an inverted

calabash placed over the patient's head - the result being a grotesque steps and stairs arrangement that was anything but pretty. They had a few scissors in the tribe but it was only when I introduced work on a large scale that they became general. Some inventive youth evolved a string figure which they called "Klitki" (scissors) and which was quite a good imitation of the article. Most figures have names and frequently a story. These names may be The Jumping Flea; the man who got lost in the woods; the Tie-up knot, a trick figure that tangles up most beginners; the Catch-me Figure, the spectator having the choice of two loops neither of which when properly made will hold the inserted finger, and others. Many fishes, animals and some birds are represented in string, also various peculiarities and avocations of the Indians themselves, such as The Old Man's Apple, or the Old Woman's Face.

Most Indians are fond of music, although few of them show much inclination or aptitude to the art in their early years beyond such as meets the test of official manhood. Music is an art confined entirely to the male population, and no woman plays any instrument at any time. Women are however supposed to sing in accompaniment with the men at their dances, and all women sing in some sense to quiet fretful children. It is rare any youth plays any but the most elementary instrument - drum, or instrument requiring no skill - but when they marry and assume the responsibility of a home and family most of them practise on the bamboo flute, and they soon develop some ability to enliven a dull hour between the hour that darkness demands the closing of the doors of the hut, and the time when they become sleepy. This is when they relate the adventures of the day, or their oral traditions or myths, but many men make a point of playing a little every night. On such nights as there is nothing interesting to relate, this flute playing may go on for an hour. The music is soft and not at all displeasing, although generally quite unintelligible to any but Indian ears. They develop a short series of notes which are played again and again for some moments, then they play a new set of notes for a while and soon until they

exhaust their repertoire. At the last, they invariably finish on a couple of high shrill notes which everyone understands as the conclusion of the performance. If another married man lives in the hut, he may alternate in the playing or more probably wait till the Finish signal is given. In the large communal houses this would stretch out the programme too long, and it is quite customary then to hear three, four, or even more flutists all playing at once and each playing his own tune or series of notes. It is anything but pleasant then, but fortunately most communal houses have a guest house some little distance away where strangers are housed, and even a little distance, although it may not add enchantment, at least tends to moderate the noise.

The apex of all amusement is the dance, and this they stage as often as is possible. A dance however means a *paiwarri* or drinking feast with much preparation and hard work beforehand. It is the rule that as many guests as possible must be invited and it is very rare that I have met a householder dancing with only his own family. Where a number of families live in one house, they can dance themselves, or stage a dance in honour of a single guest and his retinue. A large dance may mean a couple of hundred guests or more, and can be staged only when food is fairly plentiful, and seldom more than once a year. After exceptional rains or droughts, when the food supplies may be nil, a dance may be an impossibility for long periods. They must wait until enough food is on hand to convert into beer on which to get a proper kick out of the dance, and I have known Indians at a critical stage in supplies, put on a big dance and then have to live for months afterwards on such forest products as could be found.

The actual dance varies little with the different tribes. The steps are confined to one or two short steps forward then backwards, followed by one short step to one side generally the right. The right foot is always put forward first with a stamp, a few inches to a foot in front, the left is brought forward to the same level and another stamp with the right foot given, but without any forward motion, so as to give movements in triplicate. The whole movement

is made with a bending of the head and upper part of the body. The movement is then made to the rear, right first again, and in the same order. These two (forward and backward) movements are repeated time and time again. One variation is a side step to the right, and the dancer moves round in a circle as a rule. If dancing is done in the house, they generally circle round the beer canoe. Variations are made in the side steps, in one of which a short quick run is made, but all this depends on the leader, or master of ceremonies.

Certain men acquire reputations as dancers, either for skill of performance, knowledge of variations, or ability for singing. Leadership of the dances is seldom an ambition, as it is a most strenuous physical position. Few men care to act as master of ceremonies in their younger days, and it is generally men of 30 - 40 years who act, and then only after much persuasion as I have often seen happen. Once chosen, the leader takes up his post at the head of the line of dancers and there he has to stay for the duration of the dance, which may run from a few hours only to as much as a thirty six hour performance. During this time, he has to set the tempo and rhythm; he has to excel not only in perfection of the steps, the force of his stamping, rattle-shaking, bowing, and distortions, but he has to lead the singing, keeping the highest note, and periodically changing the dance, as also the song or chant. He must drink his share of beer, yet not become so drunk as to have to desert his post. He can only stop for short periods to relieve nature, and at such times - rarely more than a moment or two - the other dancers may follow his example or the dance may stop altogether until he returns. I have known a leader sleep solidly for twenty four hours after a long dance, due to almost complete physical exhaustion, and scarcely be able to walk normally for some days afterwards. It may be a week or more before he recovers completely.

The men range themselves in a long line on the leader's left. The man with the next best reputation as a dancer is next him, the line tailing off in ability to an end where the boys are trying out their first awkward steps and even a wee toddler hopping about.

The leader and a few of his immediate left hand dancers carry six feet long bamboo poles, round which are wound long strings of jingling seeds. These are pounded noisily on the ground to suit either a step or a note in the music. Other dancers carry shak-shaks in their hands, or flutes, whistles, and other so-called musical instruments, all either shaken or blown to keep time with the rhythm of the dance.

Every Indian tribe has a variety of musical instruments, but none that I have met has developed tunes that are suitable for a dance, and invariably the music is provided by the human voice. The singing is done in a fairly loud tone and the song is changed every half hour or so. These songs are short little tunes set to words of little more than a couple of sentences, generally giving a description of some natural phenomenon such as the wind, the sun, the rain, or some bird or beast. These songs are not extempore, but have been handed down from one generation to another. I have heard them trying out new words and ideas to the tunes, but very few catch the fancy and I doubt if a new popular song is composed more than once in a life time. When all else fails, the singers fall back on a simple, interminable, "Hei-ya-ha" treble note to fit the tune, and which can be sung by all. Strange to say, the Wapichanna tribe have never had a poet and they cannot go beyond this last form of song in their own language. The Macussi tribe, however, have had many poets, who have composed songs of almost endless numbers, but then they are the hereditary enemies of the Wapichanna. However, there is no alternative; so to avoid the endless monotony of Hei-ya-ha, the Wapichanna must and do sing the Macussi songs. They begin on their own song, but as the drink circulates and they become merrier and more devil-may-care, they start off singing the enemy's songs.

The women in most tribes form a line about three feet to the rear of the men. Again a leader is chosen to head the line, generally for her voice and ability in song. She however, as indeed the whole line of women, need not continue dancing for very long periods. On the women, devolve the duties of keeping the fires going to provide light, preparing food if required, and above all

keeping the calabashes of beer circulating all the time. It is very rare that all the women are dancing at the same time, and the line is constantly alternating and changing. They dance about a yard to the rear of the men, the line dwindling in ability to a ragged end of young girls who merely stamp and walk aimlessly about. The women's leader is immediately behind the men's leader, keeping the same steps and tune. Their singing is kept on a high strident note, which must be a considerable strain on the vocal chords. The women occasionally carry a shak-shak, but never use any of the other musical instruments.

Amongst the Wapichanna, the women outnumber the men to a considerable degree, and even with their system of polygamy, there are numbers of unappropriated females. As the dance progresses everyone becomes to some extent intoxicated, and after hours of hard exertion, many of the men become quite sodden and carry on almost mechanically. The free-lance woman may get exhilarated with drink but she does not by any means get drunk, as indeed few of the women with their multifarious duties can afford to do. When the free woman thinks the proper moment has arrived, she attaches herself to some selected male by placing her right hand on his left shoulder. The woman hints that the man appears tired and a rest would do him good. The man probably agrees, and he is steered to the woman's hammock quite careless and oblivious^{as} to where he is going. In this way, many marriages are consummated, as the man wakes up to find himself with a strange woman, and if she is at all skilful or desperate, she publishes the fact with no uncertain voice.

Amongst such tribes as have had a fair contact with civilization, these dances and drinking festivals are frequently the scene of much promiscuous intercourse, and generally the more the tribe has become civilized, the greater is the degree of debauchery. Amongst the more remote tribes, however, with little or no contact with outside ideas, habits and customs, there is practically none of this. Generally at a very tender age, the boy or girl knows who his or her future mate is to be. The son of a brother finds his wife in the daughter of a sister, and vice versa, the son of a woman takes as his bride the daughter of his mother's brother, in other words, they

marry full cousins. The children of brothers cannot marry any more than the children of any sisters. Such children are considered full blooded brothers or sisters as the case may be. When however no sister's daughter is available for a brother's son, a marriage can easily be arranged by the boy's father simply calling some woman his sister. I have found it is the general habit of all the boys to be officially engaged at a very early age, sometimes as mere toddling tots. I have often heard a girl spoken of as the bride or wife of a certain boy, and their standing is practically that of the engaged couple amongst ourselves, but actual marriage does not take place until the youth has passed his manhood tests. These engagements are binding and very rarely broken except by death. Amongst every tribe, there are always some men and women to whom marriage has been denied ~~from~~^{for} some reason or other, in which case the male almost invariably has to purchase the woman from whoever her guardians may be. The woman can make no move, especially in her younger days, and seems perfectly content, although when a woman gets to an age of between 25 and 30, she seems to throw all customs on one side, and will probably approach some man of her choice, very often clandestinely. The unattached girl in her teens is rarely ever allowed to move without a companion, a mother or some elderly relative, and at the large dances, I have often seen mother and daughter hand in hand either dancing, handing out drink or food, or attending to various other duties. Of course, I do not say that promiscuity does not occur in every tribe, at times, but I do maintain that there is little evidence of it to be seen amongst the more remote tribes, even at big drinking festivals. After having won the complete confidence of the Waiwais, I went to their villages with some twenty Wapichanna carriers, some two or three of whom, young and unattached, declared their intention of taking a Waiwai girl back with them as a help to their becoming recognised traders for the well known graters so urgently required by the Wapichanna. They stayed several weeks before I went deeper into the forests. There were several dances and drinks: my men were in good employment, and had wealth - clothes, beads, knives etc, - to satisfy and attract any girl, but they returned as they

came - unattached !

Amongst the Waiwai, strange to say, it is the women and not the men who are the principal dancers. A woman is chosen as the leader and takes her place at the head of the line; the men forming up behind and trying rather shamefacedly to keep up with the steps and the tune, and just the opposite to general custom. It is the only case I know of where women assume the leading role in any activity outside the household duties. Dancing would seem to be an art in which the Waiwai is deficient, and I found the women who were recognised as efficient leaders had all come from, or had some connection and practice with, other tribes away far to the South and deeper in the forests. Amongst the Wapichanna, most recognised dance leaders were men who had had some connection with the Macussi, some distance to the North in this case, but the women leaders amongst the Waiwai won their diploma for ability in dancing, whereas the Wapichanna leader (male) was selected for his ability in singing.

The steps and movements of the Waiwai dances were much livelier and more varied than those in most tribes, and they required much more room in which to perform. All dances took place out in the open in the area cleared in front of their houses and I have never seen a dance staged indoors, although their huge communal houses were much more suitable than the small houses of the Wapichanna who as a rule dance indoors. Many of the Waiwai dances are quite elaborate and intricate, not only in the steps, but also in the figures attempted and it must require a fair amount of practice to become an expert. They have had their own poets and all songs are sung in their own language. The men sing less than amongst other tribes, and join or drop out of the line of dancers as and when they please. The men invariably serve the beer to the dancers and spectators, and thus release the women from that duty, although some women and girls still have various household duties to see to. The women keep on dancing until the beer is finished, but drink comparatively little. The drinking is done by the men to a great extent, and while it appears necessary that all the men must dance now and again, they mostly line up as spectators at strategic points. The Waiwai dances

are given during the day, and I have several times seen the woman leader give the signal to close the dance even when there was plenty of beer on hand. I have never seen a Waiwai dance continue longer than a few hours - say six at the most. Every other tribe dances day or night until the drink is completely finished or everyone is completely exhausted, and in this respect the Waiwai customs are interesting.

Each tribe has its own national dance, in which they dress up in some peculiar form and each individual represents some animal or bird. The Wapichanna have their Paresharu Dance. The men tear off the single digits of various palm leaves and string them on to lengths of tough lianos or home made string. They wind one of these round the hips, the waist, the shoulders and neck, and a double or treble one is caught round the top of the head. With the exception of the toes, no part of the body can be seen, and the dancer appears as an animated bundle of palm leaves. Each dancer has previously made a trumpet about three feet long from a hollow Balsa sapling, at the lower end of which is attached a rudely carved animal or bird. The performer must imitate to the best of his ability such animal or bird as he has chosen as his emblem, in all its various actions and calls. This dance is generally done out of doors, as there is neither the space in the small houses for the necessary movements, nor sufficient light to enable the spectators to see. The dance is never staged by everyone, and there are generally plenty of critics and onlookers. When the dancers become weary of the running, prancing and jumping in imitation of their respective emblems, and definitely when the sun sinks and darkness falls, they all retire indoors when the usual Hei-ya-ha dance is begun. Each performer must however carry his palm leaf away to some distance, and it is quite a common occurrence when travelling in the Wapichanna country, to see a Parisharu Dress hung up in a low tree (the accepted place of disposal) at one side of the trail, at a spot that may be miles from the nearest house or village.

The Waiwai have their own national dance on somewhat similar

lines, but the necessary dress is far more elaborate and takes some days to prepare, on which account, I had made several visits without having time to await a demonstration. However, I arrived off a survey trip in the early part of the year 1913, with only two Taruma attendants, who would by no means strain the food supplies of the tribe and I decided to stay till I saw the dance. After fixing things up, the men took their axes and cutlasses and disappeared in the forest. When they returned, each man was laden with a bundle of bark about 6 to 8 feet in length. This was the bark of the Kakaralli tree, a peculiar laminated bark which when properly beaten divides into a number of thin sheets not any thicker than a sheet of fine paper. The men spent almost a day pounding and hammering this bark with wooden beaters, ~~and~~ carefully pulling the thin sheets apart. A stout cord, some 4 to 5 feet long, was next spun on the thigh from silkgrass, and tied between two upright poles placed in the ground. The thin bark sheets were now torn into ribbons about one inch wide, the two ends carefully placed together and each ribbon secured by a hitch at the exact centre round the prepared string. More and more ribbons were attached to the string as close as possible until the space between the poles was packed full. After combing these perfectly straight and perpendicular with the fingers, each man sat down in front and began winding other bark ribbons round and round certain portions of the hanging barks. There seemed no method in this winding or bandaging. A man would take enough bark to make a core about as thick as the thumb and bandage it carefully for as much as two feet of its length, or he might bandage it merely for a couple of inches, but the greater part of the whole thing was left unbandaged. This bandaging took up a whole day and already they had spent three days in preparation. The next day, a hunt was arranged and, "would I lend them" a new hoe I had with me? They carried the bandaged barks with them and we walked for a couple of miles through the forest away from the mountains, until we came to a creek, along whose banks was a deposit of clay. They began digging with the hoe and soon had a strip of clean exposed clay which they dug up and puddled well with their feet. When having added water

this was reduced to liquid mud, the barks were carefully soused and completely covered with mud. They were trampled down till not a single point of bark appeared anywhere.

We then spread out in the forest for home, hunting as we went and leaving the barks behind us. Early next morning, messengers were despatched to bring back the barks. They had been carefully washed free of all mud and were hung up in the sun to dry, but they had completely changed colour. When we trampled them in the mud yesterday, the whole thing had been a slightly reddish, light brown colour, to-day the whole affair was a dull matt black. The following morning, after making sure that the barks were completely dry, each man began cutting and unwinding the bandages he had wound on. As these came off, I found the original colour had been preserved and gave quite a contrast against the black background of such parts as had been left unbound, but it was not until the last bandage had been removed and the bark shaken straight that I discovered the motive in the operations. Even Saik Tau, my interpreter, could not explain what the idea was, but I now found that the bandaging had been done to form some animal or bird. As each man shook out his bark, there was exposed a view of a turtle, a monkey, a dog, a wild hog, or some such animal. Some had chosen birds and one had designed a man. There was no doubt about each animal; they were of course geometrical in form as it was impossible for them to bind a curved limb, but they were splendid figures of the animals selected and showed up to perfection in light brown against the matt black of the background.

In the dance at a later hour, the bark was worn round the shoulder with the motif exposed on the back of the wearer. Each man pranced around and gave as graphic an imitation of his emblem as he could, accompanied by much uproarious chaff and laughter from the spectators. The women were called out to dance in the usual manner and the men did much of their imitations and buffoonery behind them or round them, or through amongst them. The monkey had by far the greatest range of antics and repeatedly brought down the house with his capers. The signal to stop dancing was given by the woman

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leader shortly before the sun sank behind the forest wall round the clearing, and after a feed, everyone retired to bed, sober, but happy and full of laughter. I purchased these masks (?) next day for one butcher's knife each, and we carried out as many as we could. They now repose in some museum in the United States of America, and are probably the only ones ever brought out of the forests.

Indian Mythology.

Story telling amongst the Indians is quite an art, but is almost entirely confined to the men. Women have their stories, but these are recounted secretly, in low, almost inaudible whispers to their fellow women, or the budding maidens, and never in the public manner of the men. Very few men in early life are adept storytellers. Up to the time of marriage - generally somewhere between 17 and 20 years of age - the young man takes little, if any, interest in the oral traditions and myths of his tribe. He will listen enthralled; he has probably heard them dozens of times and could have them letter perfect, but he is at an age when his powers of observation are being trained at high speed in other directions and it seems to me that his attention is more wrapped up in the practical than the theoretical. He is also too full of vitality and restlessness, which must find an outlet in action and noise. Speech making, and the ability to hold an audience comes slowly and with considerable experience as a rule, and he has not yet acquired the flow of speech or the necessary confidence to enter the lists as a storyteller. Within a year of marriage, the Indian is generally a father, and by the time a man reaches thirty, he will have his own house and some children sufficiently advanced to understand things, and whom it is his duty to amuse and educate. Experience and practice improve his art, but few good raconteurs are met with before they are in their middle thirties.

The stories fall naturally into two kinds, those told in the evening and those in the early morning. The tales at night are invariably told in the house and deal with a great variety of subjects, such as the history of the tribe and the locality, tales of their hunting or fighting ancestors, amusing stories of beast and bird, or the long story of the Creation. Those in the morning are told in the clearing outside the house and are fewer in number and range. They are stories of the various stars or constellations as they appear in the Eastern horizon with the first streaks of coming dawn, and probably are told in an interesting form to assist in fixing them in the memory, as it is by such early morning stars that the tribes

arrange the annual rotation of their agricultural procedure and know the times of the mating or prevalence of forest fauna, and the ripening of various wild fruits.

All story-telling is spasmodic; any excitement, the chase, gossip or a stranger present, may mean they are not in the mood and the atmosphere is not right. During the rainy season, when there is a lull to all except the most necessary activities, story-telling in the evening is pretty general. For many years it was just at this season, that I was forced to make long difficult rounds of inspection and sometimes I was held up by floods for days in a village: therefore I heard many stories and tales, of which, alas, I made no notes, and now many have escaped my memory. Many stories also have so much sexual detail mixed up in them that they are scarcely worth remembering, and if they were, cannot be written down on that account. Sex in Indian life is a natural function just as much as hunger or thirst, but when such intimate and frequently impossible details form a prominent part of a tale, they lose their interest and usefulness to outsiders.

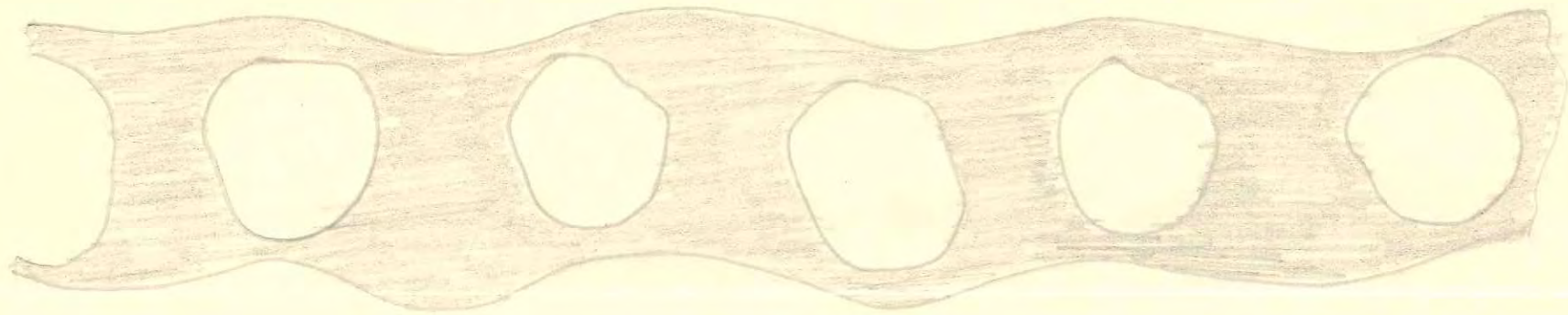
Under the dense and gloomy roof of the forest, it is early dark. As the sun sinks under the horizon, it is already dusk on the forest floor. With no artificial light at their command beyond a wood fire - the evening meal will have already been served if possible and all chores finished while the light lasted. The doors are closed, then comes the customary good-night litany, and a little flute playing, and except for some special reason everyone is in his or her hammock before 7 p.m. None are particularly tired or sleepy; gossip or general talk has languished, until some remarks start a train of talk that will lead up to a story. If the man is a good raconteur everyone is at once silent and all attention. Silently, the women slip from their hammocks, blow up the fires, bring forward stools and begin to spin their cotton by the light; the men quietly turn in their hammocks so as to face the speaker. There isn't a sound from one, and all are breathlessly listening!

"A young male Bittern Bird, his plumage at its height, and

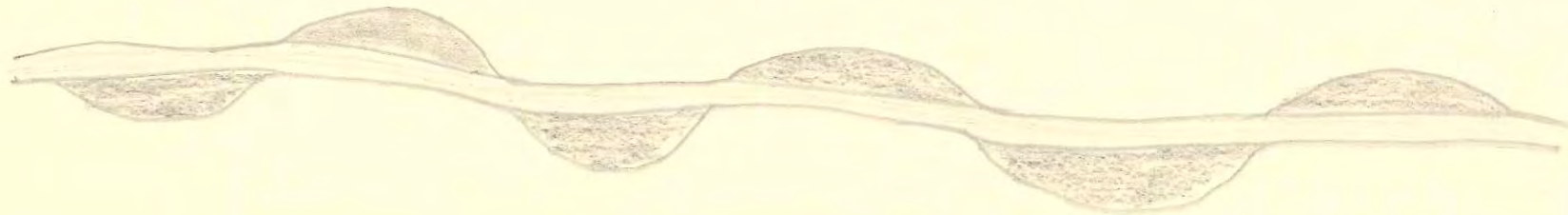
glittering, now blue or green or mauve in the bright sunlight, had left his parents and was slowly working his way up a forest creek by himself. By noon, he had shot a number of fish and having found a fine, clear, open pool, decided to rest during the excessive heat of the early afternoon. Sitting quietly in the shade, on a branch jutting out over the pool, he was surprised to see a beautiful Indian maiden approach the pool. As she stripped off her lap and ornaments and stepped into the pool to take a bath, the Bittern had ample opportunity to note the soft, rich, brown colour of her skin and the seductive contours and curves of a beautiful form. Never had he seen anything he so much desired ! As the maiden was donning her dress again, he flew down beside her and laying his string of fish at her feet asked if she would marry him. The maiden hesitated; the fish were nice; there were several she would love to eat, so she picked up the string, saying, "Let us talk with my father". The Indian hut was not far away and father was sitting outside the door repairing some damaged arrows. He had not been hunting that day. The fish were very tempting and such a son-in-law might be most useful, so his consent was readily given and the marriage consummated that same night. For some days, the newly married pair were left alone; they would wander hand in hand along the various forest paths or down to the creek to bathe, and the Bittern always shot a few fishes for supper while at the pool. Soon these fishes in the pool were all killed out, and there were other tasks and other work to be done, but father-in-law found his son-in-law had no inclination for this, and he did not seem of much use after all. No appeal could get the Bittern to work. Father-in-law would say, "Come on, son-in-law, we must go to fell a new field to-day". The Bittern would solemnly croak out "Ha-a-a", but instead of taking up an axe to join the others, he would only move over a little nearer his wife, and there he stayed. His wife's uncle would say, "Nephew, let us go hunting the wild hog to-day". Back came the answer, "Ha-a-a-a", but that was all. Another man would say, "Brother-in-law, let us go to pick the falling fruits in the forest for your wife". "Ha-a-a-a", was

Turtle Liano

Front view — 2" to 4" broad, & any length, probably 50' to 100' or more.



Side view — $\frac{3}{8}$ " to $\frac{7}{8}$ " thick — showing turtle footprints.



the answer, but he made no movement. Should anyone however say, "Friend, let us go fishing to-day", the Bittern at once answered, "Ha-ha-ha", and was out of the house and down at the creek before the others had picked up their arrows".

The Bittern does have those two calls, and when travelling on the river by boat, all the Indians ask questions in turn when they start a Bittern flipping slowly ahead of them, and he who gets the "Ha-ha-ha" to the appropriate question is exceedingly proud of his perspicacity. As the story finishes there are peals of laughter all round. Then begins a running fire of questions by everybody - women included - asking the Bittern to join in the most impossible tasks they can imagine and there are noisy "Ha-a-a-as" all over the hut, all accompanied by great bursts of laughter. After some five or ten minutes they have more or less exhausted their battery of questions, then a quiet voice is heard.

"Listen to me, all you people. It was the season of the year when the fruit of the forest trees is ripe. Every tree had borne more fruit than could be eaten and the land turtle had grown fat and so lazy, that he could not go in search of a wife, yet a wife he must have. One day, he happened to look up a tree, where fruit was dropping close to where he was resting, and saw a wonderfully pretty bird hopping amongst the branches overhead, eating fruit and every now and again tossing one down that did not appeal to her taste. She would make a fine wife, so he shouted up an offer of marriage if she would come down. "Oh ! no !!", replied the bird, "I am perfectly willing to marry you, but you must come up here to me", and this time a coyly, well directed fruit landed full on his back. "You just wait a little", shouted the turtle, as he rushed to the foot of the tree up which he began to clamber. Round and round the tree went the turtle, but with no success. He would reach up as far as he could, but he was still far too short. Even when he balanced on the tip of his big toe, he could not reach high enough, and then he would lose his balance and roll over, probably to find himself flat on his back. He would have to spend a long time kicking and struggling to regain his feet, and then he would have to begin all

over again. Meanwhile his lady love was shouting, "I am getting weary waiting. Are you not going to come up?" He declared he was on the way and would again dash at the tree with no better results. Once when he toppled backwards, he rolled over and over several times and found himself in front of a wide broad ribbon like liano, which he saw led right up to the branch where his love was resting. This gave him an idea, so he grasped the liano and found he could poke his foot right through its thin weak centre. He tried his weight and the liano held, so he poked another foot through a little higher up. Soon he found himself clear of the ground, and shouted, "I will be with you very soon". Stolidly plodding on, foot over foot, he mounted higher and higher up the liano and at last was able to pull himself up on the branch, where his love had been resting. She was still there, crouching down low on the branch to receive his advances. Slowly he climbed on her back but he had to lean over on one side to get what he wanted, and then he slipped and rolled over, clutching desperately with hands and feet at the smooth silky feathers of the bird. His lady love, thoroughly frightened at such rude wooing, flew off with a scream out and over the tops of the forest and the unfortunate turtle, rolling over and over in the air, arrived "Keb-la-a-am" on the ground".

Towards the close of the tale you could hear the agitated breathing and suppressed giggles amongst the audience until "Keb-la-am" gave the signal for uproarious laughter on all sides, followed again by all sorts of modifications of the scene by everyone. This tale always evokes much badinage between the men and the women who respectively take the parts of the lover and mistress, and all sorts of variations are brought up. Shrieks of laughter greet either side as they score a point, or worst the other in the argument. When the jokes and laughter die down, another man may take up the tale.

"Oh yes ! everyone knows that liano, which ever since has carried the marks of the turtle's feet as he climbed, but, listen, all of you, there is more to tell. The turtle was now very annoyed and terribly angry. No longer would he seek a bride on the tops of the

tree, but as his urge for marriage had only been increased by the adventure, he set off on foot to search for a wife of his own kind. He was passing through amongst some rocks and as he walked, he peered over the side of one. To his great surprise, a lady turtle poked her head out from under the very rock on top of which he was perched and looked up at him. He pushed himself an inch or so further over the rock in order to get a better view, and strange to say, his new found lady love moved out an almost equal amount to get a better look at him. Then he reached out a hand to see if he could touch his bride-to-be and coquettishly she put out a hand to touch him. He was now vastly excited, and must possess this wonderful lady, so he thoughtlessly pushed himself forward a few more inches when he promptly overbalanced and fell "tipo-o-om" in the pool of water where he had seen the shadow of himself "!

The word "Keb-la-am" is in general use to indicate the fall of anything on the ground, the emphasis on the last syllable indicating the force with which the ground is struck. The word "tipo-o-om" or "plung-ng-ng, also general, always indicates the falling of something in water, the accent varying to indicate the force of the fall or the depth of the water. Such words, which are phonetic expressions of the actual sound, can be very realistic and are in use amongst tribes living far apart from each other, with little or no connection. At the word "tipo-o-om", renewed laughter and jokes again commence, after which an old grey beard may add:-

"The turtle certainly met with misfortune when searching for a bride, but they still do it every year. That is why, when we see the fruits of certain trees falling to the ground, we look carefully around and everyone knows how often we find a turtle under a fallen branch or a tangle of vines, where he is investigating the chances of getting into the tree tops, or, when the first rains of the season fill the swamps with water, we follow along the edges of the swamp at such a time with our hunting dogs, as it is almost certain we shall find one or two turtles hustling away from the rising water after an unsuccessful search for a wife".

Practically all the tribes have a story of a tribe or large village composed solely of women who live at some remote creek or corner of the forests. Except in small details the story is the same amongst all the tribes I know. This one told by the Wapichanna is typical.

"Once upon a time, a man built a large house by one of the rivers in the forests far away from anyone. He was the only man in the village, where he had many women living with him as his wives. He collected these women by magical means from the far distant tribes or such corials and woodskins as passed up and down the river in front of his house. This man was capable of almost incessant sexual intercourse, as his organ of generation was in the form of a long flexible tube which never slept, and which could go round the various hammocks and visit the women every night, even when the man himself was lying snoring loudly in his hammock. This treatment aroused intense anger and disgust amongst the women, and they tried many means and ways of killing him, all of which failed owing to the man's command of magic, by which he was able to frustrate all attempts. At length they struck on an idea that was harmless in appearance and might succeed, owing to the fact of its very simplicity. One half of the women organised a whole night's spearing of fish by torchlight at a series of rapids some miles below the village, to which the man - a very keen fisher - would be glad to accompany them. The rest of the women were to stay at home and prepare an amount of extra potent beer against the noon hour when the fishers would return tired out with their night's work, when they would welcome a dance and some good beer. Everything went as arranged and when the hunters returned, the women, careful only to sip the beer, plied the man with so much drink, that before sunset, he was so drunk as to be incapable of further movement. He was put in his hammock where with luck it was almost certain he would sleep without waking until the sun was high next day. As soon as it was dusk, and the various animals who might have warned the man of their movements had gone to sleep, the women manned every woodskin the village possessed, and began paddling

up river for dear life in an attempt to escape. The man could make little if any progress overland and with no woodskin available, pursuit by river was impossible. When daylight broke, the women were many miles upstream and as the sun began to rise, they begged all the birds flying downstream to help them and not to inform the man of their whereabouts. The man slept soundly all night, but woke towards noon to find his village deserted. As no woodskins lay at the landing, it was evident that the women had fled by river, so he called up some of the fishes and asked which way the women had gone. An old Haimara fish, who had been hunting all night, told him they had passed over him going upstream. He soon made a magic woodskin and went off in pursuit. The women kept in touch with his doings by questioning all the birds flying upstream past them. They were now becoming exhausted from paddling, and were busy hauling their woodskins over a bad rapid when a passing heron told them the man was making great speed and was now only some hours behind them. They immediately began to pick up all the huge boulders that lay around, and threw them into every possible channel so as to impede or block the man's progress. He was now drawing near, so the women jumped into their woodskins and rushed ahead on the still waters, leaving one old lady who volunteered to stay and complete the blockade. The old lady was carrying an armful of huge boulders when the man arrived on the scene. As soon as he saw her, he fired an arrow and killed her, but in dying the old woman tottered forward and the rocks fell, to block completely the last possible channel. One boulder smashed the man's magic boat, and he was unable to proceed farther. The women all escaped and kept pushing further and further into the depths of the forest. Somewhere, in an almost inaccessible creek, they have built a flourishing village, but they will not on any account allow any man to live amongst them."

Many of the Indian stories are connected with the history of the surrounding country, such as a particularly deep pool in which lives some beast of great strength or potential danger. Thus Dada Bowk (Macaw Pool) in the Wapichanna country, alongside of which the high rising ground clear of all flood tide is known as Dada Nawa (the knoll

or knowe of the Macaw) derives its name from the old time superstition that the lake was inhabited by a fabulous macaw which meant danger and even death to anyone who was foolish enough to bathe, fish, or even look on its waters. The monster was appeased by presenting it with a young maiden, but I can remember when it was held in considerable dread, as one never knew when the Macaw might again become dangerous. The Warimara - the mermaid of the Taruma - is another instance of a myth or story on similar lines, as also the Kaikusi of the Macussi tribe, where a fabulous jaguar inhabited a certain pool. Nearly every tribe knows of a lake also - always outside their own territory - on whose surface all heavy articles such as stones or an axe will float, whereas the lightest articles such as a dried leaf or an arrow reed sink immediately.

In the Wapichanna country there are numerous hills, sheer sided and domed with practically bare rocks jutting up a few hundred feet in the air, most of which have some fable or myth of the days when the tribes were at war woven round them, and particularly of the times when the Carib Indians were induced to ascend the rivers to secure slaves to augment the workers demanded by the so-called pioneers of Western civilization along the coast. In these days, the savannahs were purely Atarod country, long before the migration of the Wapichanna from Brazil. The fugitive Atarods fled before the Caribs, a more fierce and better armed tribe, and scaled these rocky bluffs, in several cases by the help of the long pendant roots of trees or lianos hanging down the sides and which had found a foothold in the crannies on top. It was easy to club the most virile enemy as he clambered up hand over hand, and in one case when a liano was alive with climbing foes, it was cut from above and their enemies crashed to death on the rocks below.

Many single rocks harbour fabulous monsters, and the local tales of any district are as numerous as the history of the hills and dales of England. These stories are rarely of much interest; there is too much similarity in them and they are definitely pure superstition, but they form the nucleus of endless stories to the Indians who, however devil-may-care and reckless they may appear

in the bright light of day, quiver with invidious apprehension when they are related in the eerie darkness of night. The one exception that is really interesting is that of the mountains and rocks that appear in their wonderful Story of Creation. This myth - far away their best - has been given elsewhere, but apart from the fate of Man and his association with God there are many little stories relative to the creation which are told separately. These are interesting as giving sidelights on Indian humour and their natural creative genius.

"God had been busy all day making the birds, which as they left the Creator's hands, gathered around some rocks to dry and preen their beautiful plumage, where there was a pool in which all could admire themselves. There was one poor unfortunate bird whose colours were so indistinct that everyone was certain God had made a mistake and forgotten to add a little colour. They advised the bird to go back and point out the omission to God, and it was possible she could yet get some flecks of colour put on. When the bird went back, God was finishing work for the day and was busy washing up ^{with a little water} all the calabashes, that had held the various paints and colours, ~~with a little water~~, eking out the small supply of water by pouring it from calabash to calabash in order to save a walk to the creek for a larger or new supply. As He worked, God listened to the complaint of the bird in silence until He finished washing his last calabash, when He emptied all the dirty water over the bird, exclaiming, "You go away and don't you dare come again". The bird flew off back to join its companions, but weary of his delay in returning, they had already set out in search of food in the forests. She then stepped forward to see her reflection in the water mirror, and found she was, if anything, of a more drab and dingy colour than previously. Instantly she burst out crying "Poor me, one !" (beginning at the top of the scale and dropping a full note with each word), and you can hear the unfortunate little bird every day in the forest bewailing in these notes the fact that she alone in all bird life has not one speck of colour to relieve or redeem her drab appearance."

"God had been busy making animals and they all walked down a path to a little open glade by the side of a small stream where they waited for the sun to harden up their limbs before starting off on the serious business of living on their own resources. The monkey was there, a few deer, adoori, rabbits and ant bears, and they were busy examining each other and noting their various peculiarities. Suddenly, some one discovered the Greater Ant Bear had no anus. The older animals were very positive he could not live without one and he must go back at once to God to have one made. Back went the Ant Bear and found God still at work, and at the moment tending the fire underneath some of his pots. God listened to the Ant Bear's story and said, "Turn round till I see if what you say is true". The Ant Bear turned round and raised his tail well over his back and God saw the omission. Stooping down, He picked up a stout flaming dead branch of a tree from the fire and stuck it with force at the spot where the orifice should be, saying, "There, you are complete!". The Ant Bear jumped away in pain and rushed into the forest, complete to all appearance, but the faggot must have been too large, and that is the reason why the stool of the Ant Bear is so formless as to suggest someone has thrown down a calabashful of ant skeletons, and it also accounts for the Ant Bear always carrying his tail bent up and resting along his back,"

"The animals in the glade were being added to every few moments and they were all joking and laughing when there appeared walking down from God's house, the largest animal they had as yet seen and they were filled with consternation as to what he might do to them. It proved to be the Tapir (by far the largest animal in the Amazon forest). They were suddenly all silent with fear; some sidled for shelter and safety behind some bushes and the monkey sprang aloft in the branches of a low tree, but he appeared harmless, so someone plucked up courage to ask, "What do you eat?" "Eat?" replied the tapir, "what do you mean?" At once everyone started saying, "You must eat something or you will die. Did God not tell you what your food was to be?" "No, I was not told anything", he replied, whereupon they all advised

him to go back to God to enquire. The monkey had been sitting silently listening to everything and now he had a proposal to make. "The Tapir has just been made and his limbs are much too soft for him to climb up that steep path to where God is working. Now I was made early this morning. Look how strong and nimble I am, so just rest a little and I will run to ask". No sooner said than done, and the monkey was off his perch to disappear at top speed round some bushes. He reappeared in a few moments puffing and blowing with the speed at which he had been running and swung himself up on to his perch just over the heads of the other animals. "Your food has to be grass and fruit and leaves", he said, and at once, the Tapir began to nibble the succulent tops of some grass down by the edge of the creek. Meanwhile the monkey had closed both eyes tight and screwed his face into a grimace, with his mouth twisted away round almost under one ear. (The monkey is always supposed to shut both eyes and make a face when he is pretending to be innocent after some devilment, and incidentally it is very rare that a primitive Indian can close one eye, or in other words "wink". I have always found winking a source of great amusement, and most Indians can only do it at first by carefully and laboriously closing one eye with the fingers while looking with the other.) The monkey sat motionless and silent until he heard the crash of the Tapir's foot in the distant forest, when he woke to bounce up and down on his branch in excitement and a fit of laughter. "Did I ask God what the Tapir was to eat?" he asked glaring round at the bewildered animals. "No fear, where would you silly stupid people have been if the Tapir had asked God what he was to eat, and he had been told to eat flesh?"

"One day the Tamandua (the Greater Ant Bear) met the Jaguar in the forest. At once the Jaguar began growling and said, "I am going to kill and eat you". "But why should you do that?" enquired the Tamandua. "Because I am bigger and stronger than anyone else in the forests", replied the Jaguar, "I have killed and eaten the Tapir, I have caught the running deer in his stride and I have cracked the shell of the land turtle as the Macaw can crack a nut with

powerful jaws. That is why!", and as he finished speaking he sprang at the back of the Tamandua and sank his teeth deep in his prey. To his complete astonishment and dismay, the Jaguar found himself sprawling amongst the leaves and broken branches on the ground, with only a tuft of long, irritating hair in his mouth. The Tamandua was standing a few feet away, apparently not the least bit injured or even afraid. The Jaguar did not know that the Tamandua possessed an enormous, long and bushy tail, the hairs of which are as long as the forearm of a man, nor that ever since Tuminikar (God, the "Maker") had ordered him to lift his tail so that the Tamandua could be completed, he had carried this great tail along his back, the hairs of which just touched his body. It was the Tamandua's bushy tail on which the Jaguar had alighted, the hairs of which he had grasped in his mouth. "Listen to me", said the Tamandua as the Jaguar scrambled to his feet, "Why should you quarrel? I touch none of the game in the forests such as you eat. My food is only the tiny ants under the ground, which are far beneath your notice". "That is all very well", said the Jaguar, "but I am hungry and intend to eat you". "If you do", retorted the Tamandua, "the ants that I eat will become so numerous that they will bite you night and day and you will never be able to lie down and sleep in peace. I quite agree you are the strongest in the forest, but there are many other tests we could try since you are determined to quarrel, and I would suggest that we both sit down right now and see who can void the largest stool". The Jaguar agreed to this so they selected their respective sites and sat down. A few moments later, the Jaguar asked, "Are you not finished yet?" "I am just beginning", said the Tamandua. The Jaguar then looked over his shoulder to see what was afoot, and to his horror saw a great heap of dung, and the Tamandua moving off to a fresh place. The Jaguar then strained and strained and strained until he was beginning to grow weak and tired. When he could do no more he stood up to find the Tamandua had three great heaps of dung, each of which was greater than his own effort. For a little while, the Jaguar stood gazing in admiration at the Tamandua's achievement, then snorting a gruff, "Goodbye", he stalked off into the forest, his

black tufted tail lashing the branches on either side in anger at his defeat."

"In the far, far distant days when Tuminikar (God) and Duid (the Devil or worthless brother of God) still lived with the few children of the first man and woman, they all ate their food in a raw state. One family had however found some fire with which they cooked some food, and their dishes were much more agreeable and tasty. There was one very old lady who was the guardian of this fire and who would neither give the others any nor allow them to even touch it. Duid had tried several stratagems to secure some of the fire, but the old lady always outwitted him. Very often she would squat over the fire and draw it up into her vagina which was also the place she kept it when going to or from the fields or on any journey. At length Tuminikar and Duid made a strong solution from the poisonous Haiarri Liano and they forcibly held the old woman down while they gave her a thorough douching with the solution. At first, she only passed a quantity of bad fishes, the perais of various species and others that bite with no provocation, but eventually, she expelled a ball of fire which they carried away to God's house and carefully kept alight for cooking purposes. It was now Duid's special duty to guard the precious fire at all times, to see it never went out and that no one had a chance to steal it. Some extra work was in progress at a distant field, which required the attendance of everyone and Duid was installed on the banks of a small lake to do the cooking, and guard the fire while the others worked. One day when Tuminikar returned from work he found Duid lying sound asleep. Tuminikar roughly kicked him awake demanding, "Where is the fire you were left to guard?" Duid jumped up and ran hither and thither, but had at last to admit it had been lost and most probably had been stolen. Everyone at once began to scatter out in the forest to search, but Tuminikar knew this was no ordinary thief so he called up all the little birds and asked if they knew who the culprit could have been. Soon a little white headed bird came flitting from branch to branch along the margin of the lake and said, "I saw the Alligator steal it

when Duid was asleep and he has carried it away to his house at the other end of the lake". They all rushed off through the forest to the alligator's house to demand the fire. They found him lying in pain with his mouth wide open but in answer to their demands, he was able to say, "The fire burned my tongue and I spat it out on the sandbank over yonder". Away they rushed to the sandbank, but there was no fire to be seen. Soon another little bird said, "I saw the Bush Turkey pick up something red which he probably thought was a fruit." Off they rushed again into the forest in search of the Bush Turkey whom they discovered sitting in a tall tree with his wife attending to his burned mouth, whilst on the ground at the foot of the tree lay the precious ball of fire, which was recovered and carefully guarded in the future."

The Indian then explains that that is the reason why the Alligator has no tongue. It was burned out, as his punishment for stealing, and it accounts why the Bush Turkey to this day has bright red cheeks, neck and wattles without a single feather growing on them.

I have often heard the elderly Indians warning the youths under their control. "My sons ! it is true when woman was douched with the Haiarri poison, many bad, fierce, biting fish were expelled, still there may have been some left as we of experience know to be true, Go not therefore to the hammock of the woman with the roving eye, or the stranger who wanders in amongst us from the tribes beyond our boundaries, alone and unattached and with the artificial smile and swing of the body, for you may be bitten and suffer much pain for many moons. Especially, beware of the bold woman of the gay appearance you will meet in the towns ye may visit from time to time."

Of course these stories vary in detail in every village and also by the different raconteurs of any single village. Oral tradition is rarely verbatim and varies slightly from father to son according to the mood of the storyteller at a given moment, as also to modification of customs and outside knowledge from generation to generation, but I have given the stories as I remember them when I first made contact with the Indians years ago before civilization had

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affected them much.

There's some exceptions, man and woman,
But such is Injin life in common,

- The End -