The Aborigines of the Upper and Middle Finke River: Their Habits and Customs, with Introductory Notes on the Physical and Natural-history Features of the Country.

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(Communicated by the Honorary Secretary.)

TRANSLATED FROM THE GERMAN MANUSCRIPT BY J. G. O. TEPPER.

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CONTENTS.

I. The Country.

1. Physical Features and Soil.
2. Climate.
3. Natural Products—
   a. Minerals.
   b. Plants.
   c. Animals.

II. The Aborigines.

1. Physique and Diseases.
2. Mental Capacity.
3. Character.
4. Social Life—
   a. The Eight-class System.
   b. Tribal Marks or Totems.
   c. Arts.
   d. Dress.
   e. Ornaments.
   f. Dwellings.
   g. Food.
   h. Visiting.
   i. Sorcerers.
   k. Gesticulation.
   l. Vows or Oaths.
   m. Murderers.
5. Family Life.
6. Government.
7. Religion.
8. Superstition and Witchcraft.

I. THE COUNTRY.

1. Physical Features and Soil.

The basin of the upper and middle River Finke is situated between the 23° and 25° S. lat. and 132°-134° E. long. It is an undulating plateau, gradually rising from north to south, and crossed by two main ridge-like ranges. There are several minor ones as well as isolated mountains, as, for example, the Waterhouse Ranges in the east, the Gosse Ranges in the west, &c., but which are virtually offshoots of the main chains. The northern range, called *Merena* by the natives, is the more lofty, its highest peak being said to be 3,800 feet above sea-level. At a distance, when viewed from the south, it presents a majestic appearance, but on a nearer approach this impression vanishes, owing to the gradual elevation of the intervening country. This range forms

the watershed of the interior of Australia, the streams flowing north on one side and south on the other. The River Finke, with a mainly south-easterly course, together with its tributaries—namely, Rudall-Creek, Ellery-Creek, the Hugh, the Todd, &c.—take their rise here, but not from springs. Though there are a few springs in this range as well as in the southern chain, they do not produce an overflow, but form swamps or ponds. Even when in winter the water does commence to run, the stream, after a course of a few hundred yards, is absorbed in the sand. It requires heavy continuous rain to produce a steady flow. Dry sandy water-courses are the prevailing characteristics, studded with Eucalypts or shrubs. The waterholes after a flood offer a welcome change, but these in time gradually dwindle and disappear during long-prevailing droughts. At these localities, however, water may be obtained by digging. The tall Eucalypts furnish the clearest indication of a water-course, both as to its channel and overflow; for this latter may be up to half a mile wide, or over a mile at some places, and is always overgrown with these trees. They are generally at a distance from one another, but in a few places form a close forest.

The southern chain, or Krichauff Range, here usually called the James Range, and by the natives *Ulamba*, is much broken in some localities, like the northern one, the highest point rising to a height of about 1,500 feet. It is crossed by the Finke River and several of its tributaries descending from the MacDonnell Ranges to the northward. Its own waters run into the Finke River in larger and smaller river-beds. The largest of these is the Palmer, with its tributaries descending on the southern flank with a south-easterly direction. On the largest of the latter, the Walker, a few miles above its junction, is situated the cattle station Tempe Downs. Where the Finke River enters the range is the Mission station—Herrmannsburg. Some 40 miles east, at the entrance of the Hugh River into the Waterhouse Range, is the Owen Springs Station, and in the eastern part of the MacDonnell Ranges, on the River Todd, are the well-known Alice Springs.

The scenery in the MacDonnell, as well as the Krichauff Ranges, is at some places most striking and picturesque. The finest of these is along the course of the Palmer River in the Krichauff Range, about 10 miles from the mission station, Herrmannsburg, where there are hundreds of Fan-palms, whose slender stems, a foot in diameter, rising straight and tall, bear aloft a beautiful, globular crown of leaves, some 30 feet in diameter. Within both Ranges are plains, overgrown with bushes like those of the elevations and outer plains around. After heavy rains good grass grows in places, but most of it is

covered with Porcupine Grass, *Triodia irritans*, or other species, which is feared by all creatures. In places the Porcupine Grass extends for miles, resembling in appearance a waving field of corn. The soil is chiefly a red-colored loose sand, blown into hills and even chains of hills, between which extend plains of dark-grey loamy soil. Extensive limestone rises are also seen. The soil is passable, but the rainfall is too scanty. After rain herbage grows upon the red sand and the limestone hills, wherever the Porcupine Grass will allow it. The plains, however, are the most fertile.

2. Climate.

A clear sky, bright sunshine, very great heat, and long-continued droughts usually prevail. The idea of the four seasons in equal proportions is scarcely applicable here, for both spring and autumn may be very hot. The hottest months are December, January, and February, the last two being the worst, as the heat then continues day and night with hardly any intermission for two or three weeks. The temperature rises usually to 112 deg. F. in the shade of our reed-thatched verandah, exceptionally even to 115 deg. F., and sinks often scarcely below 90 deg. F. in the morning. After sunrise it again rises rapidly, and is frequently above 100 deg. F. at 9 a.m., and the same at sunset. In the spring months, viz., October and November, the heat is often as high as 110 deg. F., but lasts only three days, being produced by the north-west winds. The pleasant south-east wind then prevails for several days until again overpowered by the former. The north-westerly wind usually fills the air with dense clouds of dust, making things invisible at a hundred yards distance. The south-easterly wind acts frequently in the same way, but minus the excessive heat. In April and May the same winds prevail, but are not as strong.

The pleasantest months are May, June, July and August, which may be termed the winter months. If it begins to be chilly in May, the two last months are usually mild and warm, but if the cold sets in during July, this month and August are the coldest. The thermometer sinks then at night to a few degrees below 30 deg. F., as low as 20 deg. F. occurs rarely. The thin ice formed at night begins to melt soon after sunrise, but remains frequently till noon in shady places. The south-east wind is often raw and disagreeable at this period, even by day. Snow is not known to have occurred here, but hoar-frost is sometimes observed in calm weather. Excessive perspiration day and night during the long-continued heat renders the body weak and sensitive, so that the cool or cold weather is felt very severely. Catarrh prevails at this season, although it is the time for recouping the exhausted system enervated by heat. The natives also divide the time into four seasons, not according to months, but simply as regards the temperature prevailing. The cold period they call *lurba* and *lurbaka*; the next following *mballagata*; the hottest season is termed *mballaka* and *albolbuka*, and the succeeding one *lurbagata*. Rain is the rarest phenomenon, not pertaining to any particular season. The usual signs are illusionary, or frequently it seems as if a downpour was about to take place, but a few drops may only fall, most of the turmoil consisting of wind and dust accompanied with flaming flashes of lightning and crashing thunder-claps. During the 14 years of our residence here, soaking rain, causing the water to flow, and also droughts have occurred in each season, but the summer months are mostly the wet months. There have been also summers without any, not counting passing showers, which are of little use in this country; they neither add to the water supply, nor produce feed, simply cooling the air for a few days. Rains from the south lower the temperature, being followed by cool south-east winds for some time. These, in winter, are certainly often disagreeable. Only the heavy showers during the warm and hottest seasons produce any growth of grass, especially, if followed by lesser showers at comparatively short intervals. Without these latter, the growth of grass remains poor and scanty, and occurrs only in protected localities. Should the rains fall during the months of April, May, June and July, as, for example, in the year 1889, nothing will grow after them, however copious they may have been. Rain scarcely ever occurs but as showers during thunderstorms.

The duration of the flow of the water in the river-beds depends upon the magnitude and duration, and quick succession of the floods; a single flooding soon passes off, notably in the middle of summer, whilst another soon following, the flow is more continuous, especially in winter. The longer the drought lasts, the salter and more bitter becomes the water in the waterholes of the River Finke. While the water of our wells remained fairly good for many years, it became quite bitter and undrinkable after the winter-floods in 1889. It was also useless for watering the gardens, so that few plants remained alive, and even moderately large almond-trees succumbed.

Whirlwinds are common. At the change of the wind many, and some even of colossal magnitude, may be seen rising high-aloft, whirling upwards all loose grass and brush together that is encountered in their path. On the other hand, mirage is a rare phenomenon, visible only at a few localities, and not nearly as marked as further south upon the large saltbush plains about Farina, Hergott, &c.

3. Natural Products.

a. minerals.

How rich or poor in minerals this region may be the near future will show. For several years past they have been eagerly searched for, especially in the MacDonnell Ranges, and thousands of pounds have been spent in this pursuit. The Krichauff Range does not appear to contain anything but red sandstone and iron-ore. In the eastern part of the MacDonnell Ranges there are already a large number of gold-diggers, and some fine nuggets are said to have been picked up. A few years ago there was much excitement about the discovery of rubies, but they proved to be garnets. At present the mica of this region engages the attention of prospectors on account of the large size of the plates procurable.

b. plants.

In consequence of the scanty rainfall and the ever-recurring continued droughts the vegetation is meagre, but after copious rains the display of flowers of the herbs and shrubs is magnificent. It is only a pity that it occurs so seldom. There is a large variety of plants, but few of great size or luxurious aspect, and only a few trees. The most common of these latter is Red-gum (*Eucalyptus rostrata*), growing in the river-beds, where it attains all sizes up to a hundred feet high, and six feet in diameter, but giving little shade on account of the sparse foliage. Many of them are crooked or hollow, but some are straight and sound. Their timber is more or less durable, according to age and position. A less common tree is the Beefwood (*Grevillea striata*), which occurs either singly or in small groups. It may attain a size of fifty or sixty feet in height and two feet in diameter. The bark is rough, with immense cracks, mostly black; the leaves are a quarter of an inch broad by a foot long; the wood resembles beef in aspect, hence its name—*beefwood*. The majority are sound and healthy. The Desert Oak (*Casuarina Decaisneana*) has mostly a slender, straight stem about twenty feet high and one and a half feet in diameter; the bark is rough and cracked; the branches, with their cord-like twigs some ten inches long, form generally a pretty round top, but do not afford much shade. The main or tap-root appears to descend as deep into the ground as the tree ascends above it—at least, this is the case with the small trees. It grows either singly or in groups, and forms occasionally forests on the sandhills in a few localities. The wood is white outside and brown within; it splits easily, and while fresh is easily worked, but when dry becomes very hard. In water it lasts better than *Eucalyptus rostrata*. With it all the wells have been timbered, and it was found very suitable for

beams. The Pine (*Callitris verrucosa*) grows here and there in the ranges, and remains low and small, on which account it is unsuitable for timber. The Fan-palm (*Livistonia Mariæ*) only occurs in the Krichauff Range, and at one locality some eight to ten square miles in extent, where it grows in the beds of the Finke River and some smaller water-courses coming from the north-west. It overtops all other trees. The wood is stringy, like straws compacted lengthwise, and is very light when dry. The fruits are of the size and form of bullets, and as hard as stone. Most of the interior consists of endocarp, covered with a thin skin. They form an immense grape-like cluster, which springs from between the leaf-stalks, and hangs down like a mistletoe. The leaves consist of a flat stalk ten to twelve feet long and some two inches wide, with short spines on both sides, and bearing at its extremity a fan of leaflets some five to six feet long. The Grass-tree (*Xanthorrhœa*) grows at a few places on the sandhills, its trunk attaining a height of about six feet and a diameter of one foot. The cord-like but quadrangular leaves of about three feet in length grow from the summit and hang down like long hair, a cylindrical fruiting-scape rising from their midst to about seven feet and about one inch thick. The bristly head of leaves, with the solitary black scape rising above it, give to these trees a weird, fairy-like aspect in the midst of fields of the forbidding Porcupine-grass, especially when seen for the first time at night. All other ligneous plants growing on the sandhills, plains, water-courses, or in the ranges form only low or moderately-tall shrubs, with the exception of the Mulga (*Acacia aneura*), which attains to the size of small trees. At some places the thickets formed by the shrubs are so dense that they can scarcely be penetrated. Formerly bush-fires occurred frequently, but since the introduced stock has fed off the grass they have become less prevalent. Of fruit-bearing trees and shrubs there are none according to European ideas or taste, but many from the native point of view. All these fruits have either too much of the stone and scarcely any fleshy part, or else possess a too-acrid or acidulous taste. Of cultivated plants, figs grow fairly well; all others will not flourish. The Date-palms also grow very well, but how they will fruit time alone will tell. Various culinary vegetables thrive indifferently, but cauliflower excellently. The reason for the ill-success of the gardening efforts is to be sought for more in the bad water of the Finke River than in the climate. After rain many plants grow well, even during the hot season.

c. animals.

All domestic animals, such as horses, cattle, sheep, goats, pigs, dogs, fowls, &c., have been introduced by Europeans, and do very

well. During the long-continued droughts many of them die through want of feed. The dryness, and consequent poverty of the country, is also evidenced by the indigenous fauna. There are no large representations of it besides Kangaroos and Emus. Of marsupials, the largest is the Kangaroo, called *Arira* by the natives; the second in size is the Uro, with the native name *Aringa;* the third is the Rock Wallaby, or *Aroa* of the aborigines. Besides these there are others known by the following native names:—*Inmora, Kwalba, Iwuta, Kweba, Tnunka, Putaia, Mota, Antina* (the common Opossum), *Tjilba, Gurra* (probably the Long-nosed Pouched Badger, *Parameles nasuta*), *Tatja, Ruartja, Tokia* (certainly the Garden Dormouse, *Myoxus nitella*), *Lukura, Inalinga* (the Ant-eater). There is besides the marsupials the Native Jackal, commonly called "Wild Dog," but by the natives *Knulja;* and a kind of cat, termed *Lukaringa* by them.

Of reptiles, the Lizards and Snakes are represented in fairly large numbers. The natives have names for at least nine different kinds of lizards, of which the largest, *Tjunba*, is about eight feet long, and 22 inches wide from one foot to the other. The others are called *Loatjira, Ntjira, Baliaka, Irbanta, Takinjara, Rena, Ngenäurbarana, Ntarita.* Snakes, called *Apma* by the natives, exist here in great numbers, of various colors, and of considerable sizes, up to the thickness of an arm and a length of eight or nine feet. The natives have names for 22 kinds, viz., *Laltacalbula, Ilumpalatnina, Lanjararintunana, Njuritja, Kapiltaringa, Menkaltarina, Latuara, Renina, Ulpopana, Warankula, Ilparolea, Lalpalanana, Erulangalanana, Baraloatjira, Gulaia, Gnaringa, Rata, Ilbaraba, Rumburunga, Putamanina, Erakurkargina, Ntadirka.* Most of these are venomous.

The voice of frogs is heard very rarely, still more rarely are they to be seen. They live in the sand, and only appear above ground after rain, and then exclusively at night. Their voice resembles more the bleating of a sheep than the croaking of European frogs, and many new-comers are deceived by it.

The fishes are called *Irbunga* by the natives, who name nine different kinds, viz., *Antabikua* (as large as a herring), *Longulbara, Ntamantana, Arumunta, Babababa, Renginga, Ltemba, Raltaralta, Kwalbila*, and *Ltjauma*, the last being really crayfish, but which they do not eat.

Birds of great variety, of all sizes and colors, are to be met with here, especially after continued rain and subsequent floods. The largest bird is the Emu, called *Ilia* by the natives. There are also some wild Turkeys, which the natives call *Itoa*, and a few Pheasants, for which the native name is *Ngamara*, While the Emus and Turkeys lay their eggs upon the ground, the

Pheasants place theirs deep in the sand, for which purpose a hole is scratched out and two eggs deposited, and covered over; a little distance away it does the same, and so forth until finished, the sun effecting the hatching. The young ones appear in pairs above ground, and at once commence to search for their food. The Emu hen gets her eggs also hatched by the sun, but she takes a good deal of care of them, and when hatched takes the young under her protection, and they follow her about. The Turkey acts in the same manner, but appears only to lay one egg; the young one she takes about with her by carrying it upon her back. The food of the Turkey is gum secreted by various trees and shrubs, and caterpillars of the nest-building kinds; the Pheasants eat snakes, &c. Pigeons of various sizes occur almost everywhere; and the red-legged Water-Hen is also found here and there, besides Ducks, Pelicans, Spoonbill-Geese, Snipes, &c. Black and white Cockatoos are not wanting either, and fill the air with their discordant cries. Most plentiful of all are, perhaps, the various parrot and sparrow-like birds. For all of these the natives have names, amounting to about 43 kinds in all, among which are several Hawks. Nor must we forget the Crow, which can endure frost and heat. There are also a considerable number of night-birds, such as Owls.

Caterpillars of various kinds sometimes infest the country, especially after rain. A peculiar kind, called *Weba*, is a favorite article of diet with the natives. There are also various species of beetles and other insects. One species is a favorite food of the natives, who call it *Alknenera.* Wherever *Eucalyptus rostrata* occurs, the latter (a species of cicada) come out of the ground, have leathery wings, and are larger than cockchafers. The males have a sort of drum on each side, connected by a channel across the underside, the whole being covered by a valve, through the opening of which they produce a continuous, shrilly vibrating noise.

The flies here are very bold and importunate, like angry bees, and can scarcely be kept off, especially attacking the eyes.

The mosquitoes are also sometimes a great nuisance; and spiders, centipedes, scorpions, ants, &c., abound, but their venom does not appear to act fatally, although causing great pain.

II. THE ABORIGINES.

1. Physique and Diseases.

There is probably scarcely a country where the aborigines are so few in number as in Central Australia. Sometimes one may travel for days without meeting a single one. During our resi-

dence here they have become considerably reduced in number. The causes are various, as for example, the incessant murders for the sake of revenge, few births, and being shot down. Of the last, several cases came to our knowledge in years gone by, and we have also been told by white people, and especially by the natives themselves. Latterly nothing of the kind has occurred.

Their hair is not woolly, like that of Negroes, but straight; in a few cases the ends are slightly curled; it is dark-colored, and but rarely fair. In a state of nature it hangs down uncombed and confusedly, hence their repulsive appearance. Usually they tie it up into a top-knot with string made of the hair of rats, so that it forms a sort of a short thick queue. Being anointed with grease, covered with dust, and unkempt, their hair gets matted into ball-like masses. A few have fine beards and whiskers, but the latter is generally the best developed. As though under some solemn vow, they will allow no razor to touch their beards. The moustache is cut, but formerly, whilst this was being done, they held fast their hair and beard with both hands. The mouth is wide, the jaws somewhat prominent, but not the chin; the lips are certainly thick, but not nearly so protruding as those of the Negroes; the forehead rather recedes backwards; the upper part of the nose is depressed, causing the lower forehead to project, whilst the tip is broad and thick, and the round nostrils are widely separated. The cheek-bones are prominent, and the eyes are sunken, the white parts being dull and of a bluish tinge. The body on the whole is slender and well built, although there are a few who are stout and broad.

Blind and half-blind persons are numerous, caused by eye-diseases, which prevail at the change of the season after the great heat. The halt, and the deaf and the dumb, are also to be found. A kind of climatic fever prevails usually at the end of the summer, which prostrates one after another. The scars on the faces of some afford evidence that smallpox affected them some 16 or 18 years ago. They call the disease "*Pania.*" Some are said to have died of it. Little children are often subject to diseases of the throat, which prove occasionally fatal. The worst disease among the natives is syphilis, with which everyone is more or less tainted. From the first we have had to treat this disease, and several of the natives have died of it. The disease appears to be becoming more prevalent, due probably to general prostitution. Owing to this disease few children are either born or are then so delicate, that when grown up they have not the stamina of the white inhabitants, though the latter are exotics to the climate. There is certainly no great future for this people.

2. Mental Capacity.

The mental capacity of these aborigines is not in any way equal to their physical development. Indolence and laziness are their greatest faults, and the cause of many others. This is due partly to the poverty of their country, which, by causing tillage of the soil to be an impossibility, forces the natives to depend upon the wild and precarious life of the chase. Rightly a German proverb says, "Fishing and bird-catching spoil many a fine youth." Such hunting and rambling about in the bush kills all mental activity, and lowers man to the level of the beasts. These aborigines have mental capacities, but they are lying dormant. It is only necessary to develop these, and to show them the use and advantage of so doing, but, unfortunately, there is nothing on which they can exercise their talents. What advantage can it be for a youth to learn if he has no prospect of obtaining a position corresponding to his attainments? No, he must remain as he was! Must not this produce indifference? One finds, therefore, their talents weakly developed because unused throughout their life. To reflection they are quite unaccustomed. To train them to reflect, or to habituate them to think, requires a great deal of trouble. This we have especially experienced in our linguistic labors and in the literary work now in hand. The concrete is comparatively easy to them, but as soon as the abstract is touched upon it is impossible to keep their attention even with the greatest patience and effort, for they deviate in all directions. Asked for the reasons of their social and religious customs, their final reply is "*Wara*"—*i.e.*, "Our habit; nothing else." To such habit their whole rites have been degraded, so that they themselves do not know rightly why they do it, and are incapable of explaining. This is also the reason of the difficulty of discovering their motives, and caused the investigation of their social regulation in respect of their Eight-class system to be so troublesome. Information can only be obtained by accumulating many examples from their actual life, and then directing their attention to them. For such mental work they have no inclination, and would much rather do some hard bodily work. They take the greatest pleasure in riding horses. It is rather difficult for them to comprehend arithmetic, yet we have advanced several scholars so far that they can do the four rules of arithmetic without error, an indication that they are capable of some mental culture.

In their own language they can count to four only, viz., One, *ninta;* two, *tera;* three, *tera ma ninta;* four, *tera ma tera.* After these they have *urbutja*, some; *njara* and *knira*, many; and finally, *kniranjara* or *hyaraknira*, very many. The number of their own fingers they cannot count accurately, and they have quite a different idea of numbers and things to ourselves. If

they have seen 10 emus, for example, or 15 or 20 strangers approaching, they say in either case "*njara knira bitjiririma*," "very many are coming." This is quite natural under the circumstances. Many contradictory elements are found in their religious views and habits. It never occurs to them to reflect about this. If their attention is directed to them, they smile complacently, and continue to adhere tenaciously to that which is customary. In their domestic affairs their want of reflection is also exhibited. The saying "Take not thought for the morrow, &c.," is unnecessary advice to give them. At times grain is plentiful, but to store any for the future never enters their minds, or that a bad season will follow a good one. Similarly the idea of a life after death gives them no trouble, owing to the abeyance of their reflective faculties. Many a time we have warned them not to kill cattle, and yet they could not resist the temptation, ignoring the consequences. Many a time have we also warned them against the murders for revenge, and showed them that ultimately they must fall themselves as victims, but with a similar result. The word of God alone can produce a change here, as we have with some, who placed themselves under its rule; no external culture can do it. Therefore more mission-stations should be founded, and the native induced to reside there; that alone can save them bodily and spiritually. Hours, even days, they can sit stolidly in the shade of a tree, or lie there, without getting tired, humming at times to themselves. To explain spiritual matters to them is not easy, especially as there are not words to express the ideas, and will have to be coined for the purpose. To learn the meaning of these they find exceedingly difficult, and only a few can master it with effort. Their memory is good, and exceeds that of many white people. They are quick at learning by rote, and retain anything they have heard, learnt, or experienced. For music and singing they have a good ear, and they easily pick up a tune. Some have also good voices, and use them, but others are too lazy to exert themselves to sing. Their aboriginal songs are very monotonous and monosyllabic. To learn and sing them requires neither trouble nor application. Perhaps this explains their liking for extending their singing performances till late into the night; even children thus sing at their games. Usually they beat time to it with their hands, or slapping their bare legs, or with their *tnuma* (short stick) upon a trough. The tone moves from quinte to quinte monotonously. If, for example, they have repeated the stanza several times in the high *d*, they sing it again several times in *g*, after this in low *c*, and then begin again at the high note, and so *ad libitum*. The whole stanza consists of three to five words, which are endlessly repeated until they change it for another to the same tune. The burden of

these stanzas or verses is either a prayer to save them from some disease, as "*Antaba tarta potinga!*" *i.e.*, "Headache quiet become!" or, "*Aralba pananaia!*" *i.e.*, "Dry up smallpox!" or a prayer for "*tjurunga*," or food substance, or some such object. Popular songs they have none, for the simple reason that they are deficient in popular sentiment; nor heroic songs, because there are no heroes among them. Their perception is, like that of all children of nature, of no mean order. To describe an object according to its external form, color, and properties is easy for them, and they can mimic speech, actions, and other peculiarity. Their *tjurunga*, corroborees, are mostly animal-*tjurunga* (feasts?); thus at an Emu-*tjurunga* they imitate exactly an Emu in all its movements. The paintings of their bodies also represent mostly animals, such as snakes, frogs, &c. Although only able to count up to four, they can individualise large herds of cattle or horses, and can tell at once if one is missing, and which, and what its color or appearance may be. In tracking they are great experts, perhaps equalled by few. They can tell fairly well how old the track is; and distinguish that of every man and animal from that of others. Where nothing is apparent to us they follow without hesitation. The imagination is largely developed. Not only by night do they fancy they see and hear all sorts of things and sounds, but even by day—the offspring of fear. Thus they tell of nocturnal spies, which one or the other fancies to have seen or heard. If requested to show the tracks, they say that these walk without touching the ground. They will even name those they fancy to have perceived. It has happened several times in broad daylight that they have come to report that yonder were *tnenka*—*i.e.*, enemies! These proved to be either animals or only bushes. They can make fanciful comparisons, as, for example, the names given to several heavenly constellations. The Southern Cross they call "*Eritjinka*"—*i.e.*, eagle or hawk's claw. The Milky Way they term "*Ulbaia*"—*i.e.*, water-course. The sun is for them a woman with a great firestick; when she puts on much wood the fire blazes up tremendously, and begets the excessive summer heat. In the evening the sun-woman passes under the arm of an old woman, and becomes invisible. Her nourishment consists of grubs feeding in timber. The moon is an unsexed male, and called "*Atua*." As the new moon, or young man, they view it rejoicingly, and call each other's attention to its appearance. He feeds on opossums, which causes him to get so round and full. Then he gets old, becomes attenuated, and disappears in the ground. The stars are distant fires.

3. Character.

The natives are deficient in courage, and commit their revenge —murders only—by stratagem, waiting and spying till they can

surprise their enemy alone at night. They are afraid to engage in open combat, or if they do, they must feel themselves superior in strength. The most innocent sounds may be productive of fear and trembling, through their imagination. They are easily roused to great anger, when they will scold and abuse each other for days, or even beat and wound with spears, but the latter only by piercing into the thick muscles of the thighs. To prevent such a quarrel ending fatally, the rest interfere, when necessary, armed with their spears. At other times they will sit comfortably together and tell tales. They consider the aged, sick, and infirm members to a certain extent, and supply them with food and drink if not requiring too careful and tender treatment; but otherwise they may precipitate the end by their inconsiderate action during outbursts of sorrow and grief.

They can also take pleasure in being extremely cruel. They may beat some at times to death. Their enemies they spear in places where the wound is not speedily fatal, break off the shaft, and push the barbed end still deeper into the body; they then scorch the wound and adjacent parts with a firestick, to induce people to think the person had been killed by falling into the fire. They can also be tender and kind, carrying wounded comrades, &c., carefully in their arms or on their backs.

The natives are also hospitable. When visitors arrive in camp they give whatever they have. Everything conducive to sociability and amusement they cultivate and practice as much as they are able. They do not care to be much alone, but sit together for hours and days, chattering about nothing in particular, or lewdly, even in the presence of children, without a thought or a care. They are fond of numerous visitors, and of returning their visits.

Courtesy is not unknown among them. They salute each other by striking the thigh several times with the palm of the hand. When strangers pay a visit they do not enter the "*tmaruna*," camp, at once, but sit down at some distance and wait till someone comes and takes them in; if there be no man at home, the oldest woman performs the ceremony. If a larger number arrive in company, the whole "*tmara*," camp, becomes agitated. In solemn procession they go to meet them, with their weapons in their hands, approaching in serpentine curves, and performing all sorts of bodily motions, while the visitors stand still, the spears placed before them, the point directed upwards. After saluting each other they sit down and chat.

In regard to living, the natives are quite thoughtless, never heeding the future. If they have something to eat, they feed until it is finished. Some can devour three-fourths of a sheep at

a sitting, and drink in proportion. On the other hand, they can fast for a considerable time, and only when hunger compels will they leave the camp for a fresh supply, and if they cannot get anything else, are satisfied with the toughest roots.

They are heedless, and cannot be depended upon. If not constantly supervised something is sure to be done wrongly, left behind, lost, or wasted. If scolded they laugh, and do not understand the value of time or things; if their huts burn down they make merry over it.

The laziness of the natives is great. To get them to work is difficult; and still more to keep them at it. Directly one's back is turned they either sit or lie down, or disappear altogether. They consider it a great favor to give the smallest aid. To beg they are not ashamed, but annoyed if they do not get what they want, calling the person a miser.

Lying, cheating, envy, bearing illwill, having ambition, and being conceited, are by no means unknown emotions amongst them, but they lack generosity and nobility of mind. Their rule is, "Eye for eye," &c., and if one only employs a chiding word, or gently strikes the unmannerly child of another, it is resented at once, and paid back with interest.

The natives respect an oath or solemn promise. They have a certain idea of adorning themselves, but their tastes differ from ours. To beautify themselves they rub their bodies with grease to make the skin shine, and try to ornament it by painting, and the application of tufts and cords. Nor do they take equally to all, hence arise connubial quarrels.

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4. Social Life.

a. The eight-class system.

The social as well as the family life of this people is largely governed by a system of eight castes (classes), which forms the basis of all degrees of relationship among them, and they, therefore, adhere with great tenacity to it. That there should be any deviation or change in this is quite incomprehensible to them, as that would force them out of the old routine into a new and strange course, which is entirely beyond their horizon. All the eight classes are co-ordinated among each other, neither more nor less privilege appertaining to any. With respect of marriage, this is always between a prescribed pair, thus forming four pairs of classes by prescription, although eight by name. The following synopsis shows which classes may intermarry, and to what class the children of the four pairs belong:—

Males.		Females.		Children.
Beltara	...	Gomara	...	Bunanka, Knuraia
Pungata	...	Mbutjana	...	Knuraia
Gomara	...	Beltara	...	Purula, Ngala
Mbutjana	...	Pungata	...	Ngala
Bunanka	...	Purula	...	Beltara, Pungata
Knuraia	...	Ngala	...	Pungata
Purula	...	Bunanka	...	Gomara, Mbutjana
Ngala	...	Knuraia	...	Mbutjana

The rule is that those who stand on the same line marry first, but under certain circumstances marriages in a diagonal line are permitted to take place, for example, a *Beltara* may marry a *Mbutjana*, and a *Pungata* a *Gomara*. But whether the *Beltara* has a *Gomara* or a *Mbutjana* for his wife is immaterial to the classification of the children, who are *Bunanka* according to paternal descent. The same rule applies to the other classes. That two classes have the right of intermarriage, I think may be accounted for in the following way, viz., that formerly this people had been more numerous, when class intermarriage was not allowed. But when subsequently it became much reduced in number, one class may have contained only a few men, and the other a few women, they then resorted to this relaxation of the rule to avoid extinction, and permitted intermarriage between two definite classes. At present their numbers are so reduced that, even with this, marriages can scarcely take place within the prescribed limit, especially as many white people attach to themselves native women. Polygamy makes wives still scarcer, as some men acquire two or three. A bachelor has, therefore, to wait until he is lucky enough to get a wife, *i.e.*, until some *rendera* or *gamena* gives him his daughter. The *gamena* can only do this when the aspirant is not the brother of his mother. For if his mother is not from the direct line, but the indirect one, he calls her brothers also *gamena*, and may not marry her daughters.

Among Christians the family is formed by the various degrees of consanguinity; among these natives it is constructed on the class system. The family is supported by it, or rather born out of it; for a youth has not the right to choose a bride for himself, but must take the one selected for him by some *rendera* or *gamena*, as stated above. He makes no demur at this. Such a marriage only gives rise to a few new degrees of relationship. Neither the man nor the woman assume any new title, the connubial relationship being only indicated by affixing the word *iltja* to the names, while the affinity of the class is denoted by the affix *lirra*. Thus *noa* means spouse or partner; *noa iltja*, real spouse, with whom he cohabits. Again, *kata* signifies the father of the class; *kata iltja*, sexual father. Ordinarily they leave out

the words *iltja* and *lirra*, and do not use them, because they all know among themselves who is personally related, and who is not. They are only used casually when conversing with strangers, to whom they wish to explain their family relationships. For the slightest difference in affinity the natives have distinctive names, which are also employed in the family. Thus all persons belonging to the same class (even if they, according to our ideas, have no consanguinity) call themselves *arumbinjara* and *itiinjara*, which means something like brothers and sisters. The younger one says *arumbinjara*, the elder *itiinjara*. If only two be present, the younger says *arumbananga*, "we both (are) brothers (sisters);" the elder *itiananga*, which means the same. The elder brother and sister call the younger brother and sister *itia*, while the younger brother and sister call the elder brother *kalja*, and the elder sister *kwaia;* besides this the younger brother calls the elder sister *arumba*, and the younger sister the elder *nkura*. The younger brother says, therefore, "*kananga*," (we are) two brothers, or "*kananganganga*," we (are) brothers; the elder says "*itiananga*," (we are) two brothers; or "*itiinjara*," (we are) brothers. Similarly the elder sister expresses herself in respect of the younger sister or sisters, but the younger one, on the contrary, says "*nkurananga*," or "*kwaiananga*," we two (are) sisters; or "*nkurinjara*," or "*kwaiinjara*," we (are) sisters. These examples will show how they indicate by separate names certain differences, which we cannot in our language without employing several explanatory words. Accordingly, their relationships are very complicated, so that even the cleverest among them are often unable to find the right answer. Only by instances from their own life can this be rightly inferred, and one must be, therefore, quite accurately informed before one can determine their family relationship.

In the following synopsis a *Bunanka* man and woman is taken as an example of the nomenclature of all the classes. The same terms are used by the other classes, but, of course, in their proper application, as will appear from the table:—

Bunanka-men call the

BUNANKA-men: the elder, *kalja;* the younger *itia;* the very old, *arenga* and *katatama;* and these the same, *arenga* and *katatama.*

Women: the elder, *kwaia* and *arumba;* the younger, *itia;* the very old, *lora* and *lorebmana;* and these the same, *ebmana* and *arenga.*

KNURAIA-men: the elder, *ebmana* and *kaljebmana;* the younger, *ebmana;* the very old, *arenga* and *katatama.*

Women: the elder, *kwaiebmana;* the younger, *ebmana;*

the very old, *ebmana* and *lorebmana ;* these the same, *ebmana.*

PURULA-men : each other, *mbana ;* when father's sisters' children, *i.e.*, if their father be a *gomara*—each other, *ankalla, kalja* or *itia ;* when a *Mbutjana—tjimia ;* the very old call each other *katatama.*

Women : each other, *noa ;* the very old, *lora* and *lora-balla ;* these the very young, *katatama.*

NGALA-men : each other, *mbana ;* when children of the father's sister, and he a *gomara—ankalla ;* if a *Mbutjana—tjimia ;* the very old, *katatama,* and these the young by the same name.

Women : each other, *noa.*

GOMARA men : *gamena ;* and he the others, *amba ;* also the father-in-law, *gamena ;* the son-in-law, *kniritjaknatja.*

Women : *maia,* these the other, *katja, amba ;* the son's wife and sisters—*nomara.*

MBUTJANA-men : *rendera ;* these the others, *gamena ;* also the father-in-law and his brothers, *rendera ;* the son-in-law and his brothers, *amba.*

Women : *kwaimba ;* these the other, *gamena.*

BELTARA-men : *kata, kniritja ;* these the other, *katjia, lirra.*

Women : *wunjinga ;* these the other, *katjia, lirra ;* the mother and sister of the wife, *mahra.*

PUNGATA-men : *kata, kniritja ;* these the other, *katjia, lirra.*

Women : *wunjinga ;* these the other, *lirra, katjia.*

Bunanka-women call the

BUNANKA-women : the elder, *kwaia ;* the younger, *itia.*

Men : the elder, *kalja ;* the younger, *itia ;* very old ones, *katatama ;* these them in return, *arenga.*

KNURAIA-women : the elder, *kwaia ;* the younger, *itia.*

Men : the elder, *ebmana ;* these them also, *ebmana* (therefore mutually).

PURULA-women : *kwaitjala,* and these them similarly ; the very old, *lora* (mutually).

Men : *noa,* and these similarly in return ; the children of the father's sister in direct line, *ankalla,* in indirect one, *tjimia* (also when the father of the mother).

NGALA-women : *kwaitjala,* these similarly in return.

Men : *noa ;* these similarly in return.

GOMARA-women : *maia,* these the others, *amba.*

Men : *gamena,* these the others, *amba ;* if the husband's father and brothers, or the brothers of the mother—*mbatjinga* and *kaljimba ;* these them in return, *nomara.*

MBUTJANA-women : *maia ;* these them, *amba.*

Men : *gamena ;* these them, *amba.*

BELTARA-women : *wunjinga ;* these them, *lirra, katjia ;* the mother and sisters of the husband, *kwaianirra ;* these the wife and sister of the son, *lirranirra.*

Men : *kata ;* these them, *lirra* or *katjia ;* the husband and brothers of the daughter, *wuiamahra.*

PUNGATA-women : *wunjinga ;* these them, *lirra, katjia.*

Men : *kata ;* these them, *lirra, katjia.*

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6. TRIBAL MARKS OR TOKENS.

The classes possess no class-marks, but the tribes living southerly and westerly from here, called *loritja,* have one in common with ours distinguishing them from those dwelling north and east, who are called *ulpma.* The mark of the latter consists of emu feathers worn on the forehead and upper part of the arm, while that of the former is made of small sticks scraped into little bunches of shavings, which they wear upon the head.

c. ARTS.

The arts of this people are not of much account. Still, it is astonishing how they can have produced some of their utensils with their rude tools, such as stone axes and knives. These consist of a kind of sharp flint, which is found south of the Krichauff Range, and which these natives barter for other things. To make an axe they take a piece of wood with a fork at one end, into which they fix the stone with resin. The latter they prepare by crushing it moderately fine between stones, sprinkling some water upon it, holding it over the fire until it melts, and then kneading it well together. The stone-knife is fixed to the handle of their *tmera,* and is more like a chisel than a knife. The *tmera* is a trough-shaped piece of wood hollowed out thinly, and about two feet long, somewhat bent together at both sides, straight and open at both ends. One end has a barb for throwing spears ; the other forms a flat handle with the stone-knife fastened to it. They fix the spear to the barb, grip the handle of the *tmera* and the spear with the same hand, throwing the latter only. The spears (*tjata*) are made of various kinds of wood suitable for the purpose, such as *Tecoma australis, Acacia aneura,* &c., and thinner at the hinder than at the anterior extremity, being respectively about the thickness of a thumb and of a little finger. The length varies from six feet to ten feet, according to the intended use. For fishing short ones are used, without barbs, and made out of one piece ; others have an extra piece, six to eight inches long at the point, made of hard wood (*Acacia*

Kempeana) as a headpiece, which is fixed with the sinews of marsupial rats to the shaft. Fastened to this is a small barb, a few inches distant from the end, which terminates flatly instead of cylindrically. If the shaft becomes too short, it is lengthened by another piece firmly fastened on with sinews. They are generally called by the name of the wood employed in their manufacture. For defence they have a shield, *ulkuta*, two to three feet long, and one foot wide, made of the wood of *Erythrina vespertilio*, of trough-like shape, and with a handle on the inner face. Various sized domestic utensils for food and water consist of hollowed wooden basins, made of different kinds of timber, which are used also as substitutes for cradles, &c. Wherever a mother goes she takes her baby with her, carrying it in one of the troughs under her arm and resting it on her hip.

A thick stick, five to seven feet long, serves as support to the old people, and is used by the women to dig out roots, worms, or rats. Frequently this stick is also used for chastising purposes even to the effusion of blood or stunning the culprit. The men have a shorter stick about two feet long, but do not employ it as frequently as the women, because they are obliged to go out hunting, and when quarrels arise they use their spears. From the skins of marsupials bags are made, but rags are beginning to be used instead. If they happen to pick up a piece of iron, they make a handle with rags and sharpen one end upon sandstone. For filling cracks in their basins, and for fixing the stones in their weapons, resin from a certain species of porcupine-grass is used.* They bruise this grass until the resin becomes fluid, and then knead it into a single lump. When they wish to plug up a crack, they soften the mass with heat, and then press it into the fissure. It resembles black sealing-wax, but is not quite as brittle. They call it *nurbma*. Of the hair of various kinds of marsupials they spin cords for ornamental purposes, and amulets, and charms. For the latter purpose they also use the hair of the dead. For spinning they bark a small stick, eight to ten inches long, form a slit, and put a short crosspiece through, so as to form a kind of cross. At the lower end it is pointed. When used it is placed upon the thigh, and with the hair rolled rapidly towards the knee, twisting the hairs together as it revolves. When the yarn has attained a length of two to three feet, it is wound up around the crosspiece. When quite full, the yarn is removed, being wound into two balls. It is converted into thread in the same manner, only that the motion is reversed.

The natives have also some knowledge of the use of drugs. They employ teas made of the leaves and bark of some shrubs

* Probably *Triodia Mitchelli*, or *T. pungens*, both of which have viscid leaf-sheaths [Ed.]

and the whole plant of others, which they drink. Thus they sue *Callitris verrucosa*, *Acacia sentis*, *A. strophiolata*, *Stemodia*, *Cynanchum floribundum*, &c.

d. DRESS.

These aborigines are absolutely nude. They practise a certain decorum, which decrees that the two sexes keep 10 to 15 paces apart when they meet, and if necessity compels a closer approach they keep their backs towards one another, or the women step quickly aside. But during quarrels, or in the event of sickness or death, all modesty is thrown aside, and they mix indiscriminately together. In winter they remain between the fires until the sun shines warmly. If they have to go away, they take a fire-stick with them for warmth or to rekindle another if necessary. If they have none they make fire by means of two sticks, which they rub together, holding finely-scraped shavings to the rubbed place. Usually they employ their shield, which is of soft wood, for this purpose, together with the *tmera*, which is of harder wood.

European clothing they like very well. If they can get hold of any old rag they put it on, even if it be only a stocking, boot, hat, or waistcoat, often presenting a ludicrous appearance. Such an article of clothing will circulate among them, one wearing it to-day, another to-morrow. But they have no idea of taking care of clothing, which speedily becomes destroyed.

e. ORNAMENTS.

In ornamenting their bodies the natives devote much time and care, especially the men, which includes anointing it with fat to make it shine. Tattooing is also practised, which they call *urbmalilama;* it is performed on the chest and upper arm, and consists of longitudinal and transverse lines. Usually the son adopts the pattern of his father, but sometimes chooses one according to his own taste. Both sexes tattoo themselves. It is done during childhood, either by themselves or by others for them. Some of the natives have a great number of scars on the chest and arm, produced by scratching the skin lightly with their *irgalla*, or stone knife, or else with a small piece of wood, *ntjala*, or with the shinbone of a kangaroo, about six inches long, and pointed at one end, and then applying powdered charcoal to the wounds, which causes thick rounded scars. Their hair is intertwined with string dyed white with clay, and ornamented with a tuft of white feathers, called *ndualja*. Sometimes they wear three tufts of rats' tails, viz., one in front of the forehead, and one on each side; these they call *albeta*. Through the septum of the nose they bore a hole, quite near the point, through which the *lalkara* is worn. This ornament is made of the wingbone of

a vulture (?) or the Spoonbill Goose, being pointed at one end, blunt at the other, and about six inches long. Besides the above they wear tufts of white feathers attached to the upper arm. The principal adornment, however, consists in the *ulbelalama*, *i.e.*, the painting of the body with yellow, red, and white clay, ochre, &c., into various patterns. They have, however, certain rules and a certain order for this, to which they adhere. The usual decoration consists—besides the ornaments mentioned above—of a semicircular red or white streak above the nose and on the cheeks, the convexity upwards; red or white dots on the forehead; and several elongated curved red streaks on the chest and abdomen, which gradually lengthen, so that one ring-segment overlaps and encloses the other.

A messenger, however, wears red strings in his hair; four tufts formed of finely-split and scraped sticks some five to seven inches long, fixed upon the head, and called *lilinba;* a thick black dot or broad streak painted on the forehead; and a semi-circular one of red paint over the nose. Besides the concentric oval red streaks on the chest and abdomen mentioned above, two red and black ones of semicircular form, and turned upwards, are placed above the former. On both sides elongated red streaks are made, which look like bundles of sticks. Upon the back the messenger has a sort of red disk, formed of concentric rings, with four half-round disks, also consisting of concentric curves. Other figures are painted for their *tjurunga*, corroborees, of which more will be said hereafter.

f. HABITATIONS.

The natives do not expend much labor upon their dwellings. In half an hour they can erect a shelter. They gather bushes or branches, which they stick into the ground in a circle of five to seven feet in diameter, the largest first, with the tops touching; the gaps are then filled up with smaller branches, and the dwelling is finished, an entrance being left on one side. If rain threatens, grass or anything they can get hold of is heaped upon the "wurley," making it look like a rubbish-heap. Inside the ground is loosened, and the earth pushed against the walls, so that the floor resembles a shallow bowl. The locality for a settlement is usually decided by the elders. They are not at all particular, building in river-beds, on elevations, &c., the principal consideration being the proximity of water, and that the soil be not too hard. Each one erects his hut wherever it suits him. This work is chiefly done by the women. Separate places are assigned for the unmarried men and for the single females respectively, the latter being called *lukara*, and the former *nkanja*. If a married couple cannot agree, one or the other of the couple withdraws to one of them. Sometimes it happens that the husband goes to the *lukara* with a stick, and fetches his wife back again, which rarely passes off without much turmoil. The pregnant women also live in the *lukara*, and build themselves one or more huts, from which the young men usually keep away. By day the young natives sit in the shade (*bunja*) of a tree, and by night sleep in the open-air; if it rains, they see where they can get a lodging. A village is called *tmara*, a single hut *lunga*—*i.e.*, shade, the only purpose it is intended for. Wherever the shadow falls, there they sit or lie, in the morning on the western, in the evening on the eastern side, at mid-day inside, or under a tree, the fire being close by. At night all sleep outside, even during the cold winter, arranging themselves between the fires. It is only during rainy weather that they go inside their huts. When a member of the family dies, the hut is burnt down, and the whole village shifted to some distant place. A council-hut is not built. If the men desire to discuss anything, they sit aside in the shade of a tree, or under the open sky.

g. FOOD.

Although the country is but poor, the natives have a number of articles of food, many of them not of a choice or very digestible nature. They divide these nominally into four classes, viz., (1) *garra*, meat; (2) *ntjaba*, worms and beetles; (3) *mana*, plants, vegetables; (4) *unkuala*, sweets.

1. *Garra.* Their meat consists of marsupials, *tanatana*; birds, *deba;* fishes, *irbunga;* lizards, *loatjira;* snakes, *apma.*

The natives hunt all kinds of marsupials with the greatest zest, from the largest kangaroo down to the smallest mouse-like animal, or dig them out of the ground. The larger the animal the better pleased they are, but they refuse none. The hunting of these is the privilege of the men, accompanied by the bigger boys. They leave in the morning, taking with them their spears, *tmera*, and sticks, usually going in pairs, or several together. They like windy or stormy weather best. On such occasions they hasten away, for the game is confused, and remains crouching, or hiding the head in a bush. The hunters advance against the wind, or sideways to it, in order that they may be neither heard nor scented, and in this way they usually secure abundant booty. They often light extensive fires to confuse the animals, and make it easy for them to spear them. They employ all sorts of decoys. Espying some game at a distance, one of them endeavors to attract its attention by various movements, while the other approaches unseen from behind to spear it. They also go out hunting in bright moonlight. The women are allowed to dig out the animals which burrow.

Lizards or snakes are captured by means of spears, sticks, or

stones, both by the men and the women. All the large or moderately-sized lizards and non-venomous snakes are esteemed as tit-bits. Their success in capturing birds is but slight; turkeys and pheasants but rarely, and emus only at their drinking places. For this purpose a hiding place of bushes is constructed quite near to the water, whence they spear them. They also put bushes of *Duboisia Hopwoodi* into the water, which intoxicates the birds, making them easy to spear. But other animals become poisoned, only escaping to die subsequently, so it is said. Young birds, especially parrots, when these are almost fledged, fall an easy prey to them. Sometimes they capture whole basins full of young birds. The eggs, especially those of emus, turkeys, and pheasants, are much prized.

Fish of large size are speared by men and boys, and eaten. When the water in the holes shrinks, they construct a barrier of bushes at one end across the water, and which is thus pushed slowly towards the other end, thus driving the fishes forward into shallows, or causing them to become entangled in the branches, when they are easily caught. This work is done by men as well as women. Crayfish are not eaten.

All the above animals are roasted in hot ashes and eaten, even to the entrails, the coarser contents only being shaken out.

2. *Njaba.* In this class of food are included insects, caterpillars, and all kinds of wood-grubs. In summer a kind of insect (Cicada sp.) comes out of the ground wherever *Eucalyptus rostrata* occurs. This the natives call *alknenera.* The males produce an incessant strident noise by means of two chambers, one on each side, united by a transverse channel across the underside. A somewhat smaller kind occurs where *Acacia aneura* grows. Of these insects the natives collect whole basinfuls, roast, and eat them. A peculiar kind of caterpillar (*weba*) appears usually in immense numbers after rain in summer. These they eat also with relish when roasted. Most of the woody plants, especially in the roots, contain grubs, the largest being about as long and as thick as a finger. Whilst all these are considered delicacies, they will not eat locusts.

3. *Mana,* vegetable food. This food the women are obliged to provide. Several kinds of yams (*woritja*) grow here, one attaining to the size of a man's head or more, but all very fibrous. Under the term *angna* the natives include the various larger and smaller fruits of capers, cucumbers, convolvuli, nightshades, mistletoes, and those of some shrubs whose berries resemble bilberries. The taste of the latter is not unpleasant, but the interior is almost all stone, as with the fruits of *Santalum acuminatum.* All the other fruits have a harsh, sharp taste, and consist almost entirely of seeds. They are eaten either raw or

roasted. The natives also collect the ripe seeds of various species of Acacia, first roast, and then grind them with water upon stones to a kind of paste, which they at once eat. Of these seeds they might at times collect large quantities and store them, the bushes bearing most profusely, but it never occurs to them to do this. *Ntanga* are seeds of various grasses and herbs which are collected by them in their trough-like basins, then ground down with water into a paste, and poured into hot ashes and baked. This is their *egalla—i.e.*, bread. Unfortunately, they have it only rarely, and but little at a time. A few kinds of herbs, inclusive of wild cress, they pick and stew green in the following way:—First, they light a large fire on the sand, remove this, and scrape the hot sand aside, so that a shallow depression is formed. Into this they place flat stones, spread the moistened cress upon them, and cover it over with other flat stones. The heated sand is heaped over the lot. After a while this is carefully swept aside, and the cress or other herb is found to be nicely stewed; it tastes best of all their *mana.* When nothing else is to be had, the roots of various grasses and shrubs are collected, as, for example, those of the common reeds, &c. These are roasted and pounded with stones to soften them somewhat and make them less fibrous. They are swallowed in pieces, for chewing has no effect, as they remain wood-like. A real "bread of misery." The young roots of the reed are the best, but they do not long remain fresh. Sometimes after rain pea-like bulbs are found in large numbers, which have a nice, nut-like taste. These bulbs are partly eaten raw, and partly roasted.

4. *Unkuala,* sweetmeats. These comprise honey, the nectar of flowers, and the exudations of several trees and shrubs (resin, gum), and even one species of ant. There are two kinds of bees here, viz., a dark-colored one, which builds in hollow trees, and a light-colored, greenish species, that nests in the ground. The former sting a little, the latter not at all. The getting of the honey is a privilege of the men. With their stone axes (now they use tomahawks) they cut a hole down to the honey. While eating the honey, a few wings, legs, or even entire bees may be swallowed in their greedy haste. After rains in spring the blossoms of some plants are so full of nectar that it drops out, especially from those of *Grevillea juncifolia.* The natives collect such flowers in their basins, pour water upon them, knead well, and then drink the water, or else they put a handful of flowers in the mouth and suck the nectar, wholly indifferent to the vermin infesting them. The exudations of shrubs and trees from trunk and leaves serve as bonbons for the natives. The ants mentioned are as large as peas, clear as glass, pale-colored, and viscid.*

* Doubtlessly the honey-secreting individuals of *Camponotus inflatus, Melophorus Bagoti,* Lubbock, or undescribed species.—[Ed.]

The natives eat anywhere, most frequently, of course, on the shady or sheltered side of their hut. They eat when hungry, and whatever is handy, even in the middle of the night the pounding of the roots being often heard. The principal meal is generally taken toward evening, when returning from the hunt and the *mana*-gathering. The women collect the fuel, carrying their *mana* and little children in troughs under the arms, while the bigger ones trot along beside them. When the food is ready it is eaten, and the duration of the meal is determined by the quantity of food available. The father tears up the meat, or cuts it with his stone knife, and throws a piece to each one—wife, children, &c. When the father has brought home any big game, onlookers in number appear, and also get a piece each. Certain of the women remain at home in turn to take care of the children, and are also supplied. There is often squabbling as to who shall act nurse, because they like best to stay at home. The natives eat of their stock as long as it lasts, and are gluttonous; but the meat must be well cooked, for they will not eat it underdone, and still less raw.

The natives to the south eat human flesh. It is said that they engage in regular human-hunting parties for this purpose. The father and a brother of one of our converts are said to have fallen victims to this practice, whilst the mother had a narrow escape. It is even said that they roast and eat their own infants, if they succeed each other too quickly. Only last year a woman not far from here did it, and when she was reproved for so doing, by means of an interpreter (for they speak a different language), she was surprised at being found fault with, as she considered the roasting and eating of her own child as something quite natural!

h. VISITING.

The natives are fond of visiting. The meeting place is usually the *tmara nkanja* for the men, *i.e.*, the bachelors' camp; whilst the women go to the *tmara lukara*, or women's quarter. They are extremely fond of narratives, or any news. When strangers arrive they become quite animated, receive them in style, and treat them as well as they are able, introducing them to those in the camp. The reception ceremonies have already been described, when treating of courtesy. When these are over they sit down together and begin to converse, the men congregating at one place the women at another. The latter have no household cares to divert their attention. They offer their guests just whatever they have handy; if they have nothing the guests get nothing, and take it as a matter of course, for it is as they would act themselves. The rule is that the *Beltara* treats *Beltara*, *Gomara* the *Gomara*, &c. Strangers usually sleep together at a separate

place. Next day the visitors stay in the camp while the hosts go hunting to obtain provisions for all. The following day the visitors also go out for that purpose, and usually, all together, after having eaten. Presents are always given to the visitors, such as a spear, *ulkuta*, or other thing. Something uncommon is preferred, such as a knife, pipe, tobacco, tomahawk, or even the shirt off their backs. They would rather go naked than allow their visitors to depart without a present, especially when they know that a certain article was much coveted. When taking leave invitations to return the visit are given, which are accepted and carried out, unless a murder in the meantime prevents it. For it occurs occasionally that spies mix with the visitors in order to gain information to allow of the execution of a pre-determined vengeance. The rejoicing is then converted into the most bitter grief, and friendship into deadly enmity.

i. SORCERERS.

According to their views all serious diseases are produced by demons, or by means of sorcery, and may be counteracted by various performances. These consist almost exclusively in sucking. The medicine- or *ngankara*-man applies his mouth to the affected part, sucks it, and then pretends to have extracted charcoal or other matter that had been inserted by sorcerers or demons. After each sucking, the *ngankara* goes a few paces aside, and spits it out with various ceremonies, putting his hand to the mouth and pretending to take out something, and to throw it away. Almost all the old or middle-aged men are such *ngankara*. According to their own account, they become such when they feel pain in the ears by night, pretending, and perhaps believing, that thus they have acquired the power. All the others believe it implicitly, and try to secure their assistance in all diseases. Usually they visit the sick without being specially called, and render their services gratuitously, being satisfied with the honor. If taxed with the deception practised, they look embarrassed, but find it difficult to discontinue the practice. In difficulties men are apt to look for visible and tangible aid; and others to pose as capable of helping.

k. GESTICULATION.

The gestures and pantomimic expressions of the natives are highly developed. They can express a great deal by means of most varied motions of the hand, and thus communicate with another.

l. VOWS OR OATHS.

Our natives have ceremonies by which they consider themselves bound. As an illustration the following anecdote will serve:—A few years ago they approached us anxiously and in great agita-

tion, and shouted "*tnenka bitjirirama*"—*i.e.*, enemies are coming. At first we would not believe it, until we espied a small troup of natives approaching. We now took up our weapons and went to meet them, whilst the others remained behind, though fully armed. Both parties were requested to lay down their arms, which they finally did, and we exhorted them to settle their differences in peace. After a long discussion some of either side sat down, embraced, and then cut small wounds into each other's backs, so that they bled. The four who did this were the intended victims out of revenge, and the avengers or intended murderers. No evil has befallen these four since.

m. MURDERERS.

These are looked up to as heroes, notwithstanding their cowardice and cunning; and death by spearing is counted as honorable, although they are so terribly afraid of it.

5. Family Life.

The family life of the natives is intimately connected with the social eight-class system. A youth cannot select a bride for himself, or a girl her bridegroom. The betrothal is solely and absolutely arranged by the father of the girl. He promises and contracts his daughter, within the limits of the class, to whomsoever he pleases, either to a *gamena* or *rendera*. The betrothal is often made by the father soon after the girl is born from mercenary motives, for it is seemly that the son-in-law prove himself grateful by frequently handing over to his father-in-law and his bride part of his hunting booty, and helping thus to provide for him in his old age. The bridegroom, *noatjinga*, is thus usually several, often many, years older than his bride, *kurkibana*, and cohabits with her sometimes when she is only seven or eight years old, and still a mere child. As soon as she attains puberty, he claims, and takes her away as his wife, without any initial ceremonies. He may, perhaps, present his bride with a *gulatja*, *i.e.*, necklace of rat-tails, her father with a spear, &c., and her mother with something else. The young woman builds a hut, and they live together afterwards as man and wife, no special festivities taking place. At most, the bridegroom may try to capture some game on their way to his camp, which they, if he be successful, consume together. If the young wife does not like her husband—a by-no-means unusual thing—she soon runs away from him; he follows her, and when caught gives her a beating to make her behave better in the future. Now, when the wife runs away, she goes to white people, and the husband does not venture to ill-use her, but has to wait until it pleases her to return of her own will, and then gladly enough receives her. Very often it happens that if the man has another, older, wife, she conceives a

grudge against the younger, and beats her. The husband attempts to maintain an armed neutrality with his stick. This sometimes causes the elder one to leave, which the husband allows, until he wants her, when he goes for her. This is usually when the younger one is far advanced in pregnancy, and is residing mostly at the *lukara*. As long as the husband does not reclaim her, the wife is considered to be a widow. Some married couples agree very well together, live frequently quite alone in solitude, and together provide for their wants. If a man has two or three wives, and one of them is troublesome, he will present her to one of his friends who belongs to the same class.

These natives believe that the souls of the infants dwell in the foliage of the trees, and that they are carried there by the good mountain spirits, *tuanjiraka*, and their wives, *melbata*. The nearest tree to a woman when she feels the first pain of parturition, she calls *ngirra*, as they are under the impression that the *guruna*, or soul, has then entered from it into the child. Such a tree is left untouched, as they believe that whoever should happen to break off even a single branch would become sick. But if the tree should be injured or broken down by winds or floods, that person would get ill whose *ngirra* the tree was.

When the infant is about to be born, the mother usually goes aside into the bushes, away from the hut. Her mother and sisters go to see her there from time to time, but especially the children, who are very inquisitive. The latter are not ordered off, and are often the only human beings present. When the babe is born, the mother cuts off the placental cord by means of two stones, at a length of several inches, rubs a little dirt on to it, and puts the infant in a trough beside herself. Water is never applied, and only the grossest impurities removed with some sand. Usually deliveries are easy; no fatal cases have ever been reported to us. As soon as the woman feels herself sufficiently recovered, perhaps in an hour or two, she gets up and walks about with the child in the trough under her arm. If twins be born of the same sex the youngest is killed, but if not, the boy is spared. Miscarriages occur very rarely. The mother waits several days before showing the father the child, by which time it has become somewhat dusky in color. Mothers suckle their children often until the third or fourth year, and if she is absent, another suckles it for her.

Of a proper training of the children they have no idea at all. They allow them to grow up wild. If the children are unruly, the mothers try to quiet them with fair words, or may scold them a little, or even slap them gently, but never take any extreme means. If children quarrel, and one mother ventures to strike the child of another ever so slightly, there is sure to arise a

disturbance between the two, followed by blows and the effusion of blood. When a child gets hurt, either by falling from a tree, or into the fire, &c., the women set up a terrible howling at once. The children show no affection for their parents, and sometimes leave them as early as at six years of age to rove about with others. Such a vagabond kind of life they love dearly, and, for this reason, delight much in riding about on horseback with white people. The girls are hard to train to domestic work, and the boys to any occupation binding them to a certain place.

When a child sickens, the mother takes it in her lap, and does not leave the spot, the father sitting near by; from time to time others join the group. If the illness becomes serious they begin to scream, and the women throw themselves over the patient, covering him with the upper part of their bodies, so that he is suffocated. The same is done with other persons when very seriously ill. But for this habit some might recover. An illustrative case came under our observation. The women having crowded over the patient as usual we drove them away, and gave the child some medicine. It got better, and is alive at the present day. Since then the natives have discontinued the practice, and always ask for advice in the illness of their children. When the patient has breathed his last the lamentations and mournings become accentuated. The eldest person in the camp shouts at intervals some five or six, long-drawn, mournful sounds in a deep bass voice, and with widely-open mouth. At the same time the others throw sand and ashes over each other, untie their hair so that it hangs in a dishevelled mass, the women lacerating their heads with their pointed sticks, and the men cutting each other's backs so that the blood flows. And why? They want to propitiate Death, so that he may not take them as well! There the majority crouch near the dead for a short while with the head hung low, while a few depart in haste to dig the grave. All persons present in the camp assemble at the place of mourning, the corpse still lying upon the lap of the mother or the wife or sister, and covered by the bodies of other women. The graves for men are dug by men only, those for women and children partly by men and partly by women, a sandy spot being selected for the purpose, situated at some considerable distance from the camp. The earth is loosened with the stick and thrown out with a trough, until the hole is four to five feet deep, and so wide that a man can work comfortably in it. Then an excavation is made at the bottom on the side toward their *tmara altjira—i.e.*, the place where the mother of the dead person was born—forming a lateral chamber. When the grave is finished the gravediggers step close up to the corpse, putting their long beards between their teeth, holding it firmly, and making the most grotesque

grimaces. Why? To frighten the ghost of the dead *ltana*, that he may not venture to injure them. Quickly the women are pushed aside, four persons seize the corpse and run with it to the grave, followed by the rest at some distance. On the way others relieve the first, proceeding rapidly onward. Arriving at the grave, one of the men jumps in, the bearers bend the limbs of the corpse against the belly, and hand it down to the man. The latter places it in the side chamber on its side, with the face directed towards the *tmara altjira;* the opening of the chamber is then closed with brushwood, and the grave filled up with earth. The body is placed in the side chamber so that no weight may oppress it, and induce the *ltana* to injure the relations, or remove itself quickly to the *tmara altjira.* Over the main hole of the grave a small mound is raised, and within a radius of several paces all bushes, wood, stones, and grass are most carefully removed. Why? That the ghost, *ltana*, may not find his way readily and hurry off to his *tmara altjira.* Everything is done in a furious haste, and when completed they return to their *tmara* and continue the lamentations. Soon after the hut of the departed is burnt down, with all his earthly possessions, that the *ltana* may not return and injure his kin or other persons. Moreover, the camp is shifted at once to another place for fear of the *ltana.* Next morning the nearest relations leave the camp for some weeks to forget their sorrow, or, perhaps, from fear. The next thing done is to smear the body with white earth—the women all over, the men only the face and chest—and to cut off the hair, in order to make themselves unrecognisable to the *ltana;* and is so effective that they are not readily recognisable at first. As long as the near relations are absent, little mourning and lamenting is indulged in, but as soon as they appear the mournful cries are renewed. Some days after, a number of the natives go to the grave very early in the morning to raise their lamentation there, place brushwood and bones upon it, and sprinkle it with water to satisfy *ltana*, and to induce him to consider that his dwelling, and inflict no evil. Finally white earth is placed upon or sprinkled over the grave that they may soon forget the dead one, whose name, indeed, is never mentioned again for fear he might hear it and do some injury. If others arrive from afar, they go first to the mourners and sit down with them, the women behind the men, the men behind the women, and those of the same sex beside or before each other, and show their sympathy with them by crying and lamenting for a while. When information is received that a man has been speared, or a man or a woman killed, &c., weeping, lamenting, and shouting at once begins. Such a dead person is buried by the finder, and the wife or wives are married by the brother next following in age. He does not assume an

additional burden by so doing, for they provide for themselves and their children. When he has something, he divides it with them, and in return receives his share of their *mana*. Orphans fare the worst, and usually the nearest relative looks after them, but does not assume a parent's position. Such children receive blows, and have to provide for themselves as best they can.

The avenging of a murder is the duty of the nearest relatives of the murdered person. But how do they know who committed the deed? This is an open secret, for all know the deplorable customs, and consequently each other's enemies. The murdered person and his relatives were perfectly aware whom he had killed, and the nearest relatives of the latter were his avengers, whom they knew well also, and, therefore, the murderer, *urana*. The practice of sorcery makes a slight difference, which will be explained hereafter. If the relatives of a murdered murderer considered that their father, brother, or son had deserved his violent death, all would be well, but this they do not by any means. They accordingly devise and plan how to inflict the same upon the *urana* of their own relation, or upon his next of kin, the *aruninja*. If it cannot be done at once—the brothers or children being, perhaps, yet too young—it is done in the course of time—being never forgotten. The most suitable opportunity is waited for; the murderer and his next of kin, perhaps, become careless, indifferent, or negligent; one of them lives, perhaps, alone for a time at a lonely place. If the avengers become aware of this, they leave at night, surprise, and kill him, for which purpose they paint the whole body a deep black. These avengers know perfectly well what fate awaits them, and that some day they will become its victims, and, therefore, there is no end to the feud. To this must be added the murders occasioned by their belief in sorcery. If the avengers—for almost always there are several, at least two, because no one ventures to go out alone upon a blood-hunt—succeed in obtaining the assistance of a number of abettors, and feel sufficiently confident of their overwhelming force, they attack their enemies by daylight, and are then called *tnenka*, on account of the open invasion; but *urana* if the deed is done secretly.

6. Government.

The natives around the mission station have a kind of government, being ruled by the aged men and medicine-men. It more often fails than not just where it ought to act, as, for example, in putting down the murders. On the contrary, these deeds are encouraged. This state of affairs arises from the fact that they form no nation, nationality, tribe, or triblets. Properly one can only speak of families among them, and these possess equal

rights as regards each other, only those families which are interrelated being more intimately united amongst themselves. But even among the related ones such murders may occur, as is shown by the following incident. There live here two distantly related families, the head of one of them having a second wife, who comes from the MacDonnell Ranges, who is rarely in this locality. Last year the old and solitary wife of the head of the other family went to the MacDonnell Ranges, as was her custom, and was beaten so severely by the other woman and her relations, that she succumbed to her wounds on her way back. For what reason? The daughter of the aggressor, by another long since deceased husband, had died shortly before. The old people and the sorcerers concluded that she had been killed by the son of this old woman by means of witchcraft. As this son was blind, and always stays here, they could not easily get hold of him, so the mother, or next of kin, had to suffer and die instead. The husband of this murderess is extremely irritated about it, and would like to go and punish his wife by beating her as severely. He has only abstained from doing this because we placed the consequences of such action clearly before him, namely, that he would beat her till she died, and then her relative would avenge her by killing him. It is a sad case where there is no proper government. It is only in a few instances that the authority of the aboriginal government can be perceived. Thus, when a new camp is to be pitched, or a settlement formed, the old people indicate the spot. Also, in the event of dissensions, an order or rule is obeyed preventing these from ending in murder, for under the influence of violent anger the natives have no self-control. Consequently as soon as two men become angry and proceed to high words, the others hasten to interpose themselves fully armed, to conciliate as much as possible, and even to part the disputants forcibly. As a result, the disturbance ends, usually in such cases, in the antagonists only inflicting wounds with knives or spears in the thick flesh of the thighs. Afterwards, the one who commenced using violent means, or, if it has not gone so far, the one who started the quarrel has to leave the place, and is practically exiled for a certain period. Knowing this rule, the guilty person starts voluntarily the following morning, without the least opposition, and when he returns everything is forgiven and forgotten.

There is also a law or rule in respect of widows. A widow must marry the younger brother of the deceased. The latter never objects, for men are always pleased to have as many wives as they can get, but it happens sometimes that the widow is not willing, and does not like the man. However, the *knirabata* and *ngankara*, old men and the sorcerers, try to enforce the rule by argument and persuasion, and, if this be ineffective, by scolds

and threats, the latter referring to their magic powers. These are the principal means whereby the aged and the sorcerers attempt to attain and retain respect and authority, and do gain it. The respect, which is paid them by the women and the younger members, is based on a belief that they do possess magic powers. Notwithstanding all this, it happens that widows do marry their favorites, and follow their own inclination, especially if the legitimate bridegroom does not possess the physical strength to compel compliance, such as being blind, lame, &c. Also, in arranging for feasts, the aged are priviliged, and are the principal organisators of such.

7. Religion.

The well-known festivals or dances of the natives, called by them *tjurunga* and *ildada*, are ordered and arranged by the old people. Each one of these has one or more of these *tjurunga* as his special privilege or monopoly. This right does not pass to his sons as an inheritance. When one of these ancients wishes to celebrate his *tjurunga* he consults with the others, and then messengers are sent by him to the neighbours, inviting them to attend at his *tjurunga*. The invitations are delivered by young men, who ornament themselves in the peculiar manner, explained above, and which renders them at once recognisable as messengers. In the meantime the men at home secretly prepare themselves suitably for the occasion, as no woman or child must see anything of it. The old man whose *tjurunga* it is orders everything to the best of his ability; he alone is supposed to possess the requisite knowledge or original inspiration. Thus one of them owns the *ilia tjurunga*, or emu festival; another the *jarimba tjurunga*, or fish festival, &c. These festivals are no mere pleasure-bouts, but serve another purpose, and have a religious significance. Their proper basis, I believe, is worship, or, more correctly, idolatrous service, and a consideration of the whole surroundings points to this conclusion. It must be mentioned here that the natives possess small disks of slate and wood, about as large as the hand, called *tjurunga arknanoa* (festival plates), which are secreted in caves, and which neither woman nor child must see. Upon these various markings are engraved, which the respective old man to whom they belong alone understands, describing the whole meaning of his *tjurunga*, as to its origin and purport. They pretend that these *tjurunga arknanoa* were *altjira*—that is, were not made —but I suspect, as they occasionally give some to white people, that the old men and sorcerers make them themselves. They also present some occasionally to the young men, and initiate them gradually into the whole secret meaning, and finally, I believe, into the whole system of deception. No one, however, ever reveals the fact, although one may read it in their faces. Why

not? They fear death; if discovered, it might cost them their life. If one attempts to deprecate the *tjurunga* of the old, it may happen one day that the traducer is killed for this offence, a case of the kind having occurred in the MacDonnell Ranges only a few years ago. The old one whose *tjurunga* it is explains its import and meaning to the uninitiated, and what is it? All the festivals refer exclusively to eating or to the supply of food, and it is pointed out whence the various objects as emu, fishes, &c., are derived; in what number and size they formerly existed, &c., which forms also the burden of their songs. These festivals serve as reminders, and extol the past, conjoined with prayers that these animals, &c., may again appear in the same numbers, of similar size, &c.

According to the nature of the *tjurunga* is the ornamentation of the body; thus for a fish festival the body is painted with fish-like figures, although the figures may be the same for several. The characteristic behaviour and cries of the respective animals is mimicked by the dancers, of which art they are really masters. Sometimes it happens that one or other does not celebrate his festival in his own district, but goes to another with his people, and holds it there that the other people may become acquainted with it. The preparation occupies them usually for days, sometimes for weeks, the chosen spot being cleared of all rubbish until it looks like a tennis-court. The head-dresses and the painting of the body requires also much time.

When everything is ready, the festival commences towards the evening. Women and children hurry towards the spot, and sit down together in a mass at one end of the arena, the men sitting in front of them. The chief old man and the festive dancers sit apart at a little distance. The singing, conducted by the onlookers, begins. One or two dancers then step forward and execute a dance, consisting in keeping time to the singing by vigorous stamping with the feet, endeavoring at the same time to imitate the peculiarities of the particular animal that lends its name to the festival. After a while a pause is made, succeeded by the performance of another, and thus it goes on throughout the whole night, and for three or four nights in succession, while they rest and sleep by day. During the day the women have to provide the food for eating, and on this account such festivals are always held at a season when some article of food is to be had in abundance and within the immediate neighbourhood.

The following are a few of the native songs to show their form and contents:—

1. "*Titjatitjana jala ramana!*"
   "Large Emu, many tracks!"

2. "*Magatjagatjana werilankana!*"
"Innumerable Emu have been here!"
3. "*Lambulambila laintjirbmana!*"
"The name of a bird is upon mountain-sized water!"
4. "*Galbmantalanta janian gatitjalanta janian!*"
"Honey much, Yes! yes! Very much; yes! yes!"

Most of the words of these songs are partly obsolete, and partly taken from other dialects. This explains why they are not understood by every one. One knows one song, another a different one, all being connected with the particular *tjurunga*, and derived from their ancestors. Their festivals of circumcision have not been seen by us. What I know of it is only by hearsay, hence I merely mention it. The youths are circumcised at puberty.

Respecting an after-life, the natives say that the souls of all go to *laia*. They cannot explain how this does not accord with the *tmara altjira*, and detailed when speaking about the burial.

By *laia* they understood a lake north from here, on whose shores the souls live, and eat the best of food, which, especially fruit, is found there in great abundance.

8. Superstition and Witchcraft.

The natives are very suspicious of impending evil, and have a great fear of death. Everything unusual or extraordinary in their opinion portends some danger. When an infant is born, its hair, and that of the mother, is cut off, so that both may recover quickly, and grow fat. The natives regard leanness almost as a disgrace, and on this account do all they can to become fat by taking care not to work too much, and lying about and sleeping, or strolling idly. To be able to eat much is accounted honorable, and he who can stow away the largest quantity is respected as a thorough man. Such a one boasts of it, and prides himself at being always hungry, and able to eat. The phrase "*jinga ngaiala nama*"—"I am hungry"—is used frequently, and with emphasis, even when a piece of meat of a pound weight or more has just been consumed. In order to get strong and fat, several cords of the hair of marsupial rats are worn about as thick as a finger, namely, a short, tight-fitting one around the neck, called *gulitja;* a longer one reaching down to the breast, called *matara;* and another, *gulitja*, around the upper arm. These cords serve likewise to fix the tufts of feathers.

The men sometimes cut off the hair of the dead, spin it, and make a kind of net of the thread, which is either worn around the neck, or in the bag under the belt over the hip. Great magic powers are ascribed to this *gururkna*, for he who has got one is always safe, and none can hurt or kill him. The greatest care is

taken of this charm; if lost, no pains are spared to find it again, and if not recovered, a feeling of insecurity remains. When about to set off on a journey they try earnestly to obtain one, or to borrow one for the occasion. For all that, however, it is astonishing how timid they are. If an unusual noise is heard at night they suspect enemies, even if it is only caused by a harmless animal; nay, when so alarmed, they often mistake trees, animals, &c., for enemies in the broad daylight. Their pernicious customs make this feeling of fear often only too well founded.

Twins portend evil, because uncommon, hence one of the infants has to die; it is said that some kill the boys derived from a white father.

If one falls sick or dies, the natives at once conclude he must have been bewitched, or bitten, or hurt by the devil—*eringa*. At the same time they think they can bewitch others, the old ones and the medicine-men especially fostering that belief. For this purpose they employ various magic agencies as charms, as the following:—

1. *Ngianja*, a stout, oblong piece of wood or bone, resembling a lead pencil, which, when of the latter substance, is made of the tibia, or big bone of the emu. At one end it is a little thicker and blunt, while the opposite extremity is thinner, and tapering to a point. This implement is thrown by the old men and sorcerers in the direction of their enemy to make him sick, or to kill him, as they imagine.
2. *Ntjala*, resembling the former in shape, but made of the shinbone of the kangaroo. The old man or sorcerer points with this at the enemy, who sits near his fire, at some distance, in order to sicken or kill him.
3. *Kwalja-kwalja*, a tuft of emu feathers, worn usually fixed under the belt at the back; it is supposed to protect them from their enemies, and to give the wearer strength to kill them.
4. *Dara*, a tuft of eagle feathers, serving the same purpose as the preceding.
5. *Lalkara*, a little implement about six inches long, and either of wood or bone, which is worn through the septum of the nose, and by means of which they also think they can hurt others.

Finally, in addition, they employ magic songs and spells.

Evil spirits and devils are combated in the same way as we have seen when describing the burial rites.

The following supplementary remarks may be added:—

If a person dies at night, men armed with spears place themselves near by to frighten *ltana* (the spirit), that it may bring no harm to them.

When eclipses of sun or moon take place they fancy that the devil (*erinja*) has placed himself in front of those bodies, and

throw their spears into the air in all directions, accompanied by great contortions of the body, in order to hunt *erinja* away.

The comets they consider are big men prognosticating ruin and death; these they bind by spells to one spot, so that they cannot get away, but must finally die.

When the Magellanic clouds are visible in the sky, they speak with a subdued voice, or not at all, for they are the poison-fangs of a gigantic snake. This is in order that the latter may not perceive them, else they might be seen, bitten, and die.

Even the whirlwinds are caused by the devil as he rushes through the air, and thereby stirs up the dirt, but they use no spells against them.

The innocent morning and evening stars are said to point out to the old men and sorcerers whom they are to bewitch.

Mongabarra are the souls of living people wandering about at night, seeking to withdraw the fat from the body of others, and to devour it. The mind of the natives being full of such thoughts, they frequently dream of them, and some pretend to have even seen such *mongabarra*. One native told us one morning a *mongabarra* had taken the soul of his granddaughter, but he had run after it, and recovered it again!

If it rains too long the old natives shout out their spells, and strike against the rain with their sticks to compel it to stop.

To the *albeta*—a tuft of tails of the marsupial rats which they wear upon the head—the old men ascribe the property of charming the boys so as to induce them to demand to be circumcised and be made men (*atua*). No doubt the magic force lies really in the open contempt shown towards these boys until they have been operated upon.

Geological Notes on the Upper Finke River Basin.

By Chas. Chewings, F.R.G.S.

[Communicated by Prof. R. Tate.]

[Read June 2nd, 1891.]

Plate X.

During the first three months of the present year I travelled in zig-zag fashion through and about the watershed of the Finke River, which takes its rise in the ranges near the centre of Australia; and such observations as I then made I now present to the Society, and in doing so, no one is so conscious as myself how incomplete and imperfect my efforts have been.

Pre-Silurian Rocks.

These are found freely distributed throughout the length and breadth of the MacDonnell Ranges. They extend to near the Western Australian boundary on the west, and to the Queensland boundary on the east. On the south the wall-like range, called the MacDonnell Range South, afterwards to be noticed, limits them in that direction; while to the north their extent is not yet known. Throughout they are highly crystalline in structure, distinctly stratified, with a dip in general to the north at a steep angle. Hornblendic rocks give the north side of the ranges and outlying hills a black appearance—on closer observation they weather into rounded masses, and crack in all directions, often circular. Mounts Hay and Chapple Ranges are composed of this rock. Feldspar (probably oligoclase) exists in the district, and I found garnets as well. Impure garnets form a constituent part of the hornblendic schist, which is closely compacted, massive, and intensely hard.

From the appearance of these rocks, the contour of the country, and the remarks made by the late W. C. Gosse and Mr. Charles Winnecke, F.R.G.S., on the Reynold's Range, situated some 90 miles to the north, and the late Colonel Warburton's remarks on the country to the westward and north-west, I am assured that the country now known as the Burt Plain, and from that to the Reynold's Range, has been denuded, and is now many thousands of feet lower than it originally was. It probably averages not less than 2,000 feet above sea-level. This land, which is now a

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1886. Nicolay, Rev. C. G., Fremantle, Western Australia.
1880. *Richards, Mrs. A., Beltana, South Australia.
1883. *Stirling, James, F.L.S., Assistant Geological Surveyor, Elsternwick, Victoria.

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1874. Angas, Hon. J. H., M.L.C., Adelaide, S.A.
1891. Ashby, Edwin, North Adelaide, S.A.
1887. Bagot, John, Adelaide, S.A.
1887. *Blackburn, Rev. Thomas, B.A., Woodville, South Australia.
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1887. Eyres, Thomas, Adelaide, S.A.
1886. Fleming, David, Adelaide, S.A.
1890. Fletcher, Alfred W., B.Sc., Kent Town, S.A.
1876. Fletcher, Rev. W. Roby, M.A., Kent Town, S.A.
1883. Foote, Henry, Burnside, S.A.
1882. Fowler, William, Kulpara, S.A.
1889. Fraser, J. C., Adelaide, S.A.
1882. Gardner, William, M.D., Ch.M., Lecturer on the Principles and Practice of Surgery and on Clinical Surgery University of Adelaide, Hon. Surgeon to the Adelaide Hospital, S.A.
1891. Gill, Walter, F.L.S., Conservator of Forests South Australia, Adelaide
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1890. Gray, Rev. William, Tanna, New Hebrides.
1887. Grasby, W. C., Editor *Garden and Field*, Adelaide, S.A.
1876. Harrold, A. L., Adelaide, S.A.
1861. Hay, Alexander, Adelaide, S.A.
1882. Henry, Alexander, M.D., Adelaide, S.A.
1891. Holtze, Maurice, F.L.S., Director Botanic Gardens, Adelaide (Corresponding Member, 1882), Adelaide, S.A.
1883. *Howchin, Walter, F.G.S., Goodwood, S.A.

1883. Hughes, H. White, Booyoolie, S.A.
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1874. *Magarey, Hon. S. J., M.D., M.L.C., Adelaide, S.A.
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1891. Selway, W. H., Jun., Adelaide, S.A.
1886. Scott, James L., Hyde Park, S.A.
1857. Smeaton, Thomas D., Blakiston, Little Hampton, S.A.
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