Economy and Material Culture

I. Standard of Living and Sustenance

1. Division of Labor

In olden times, the Nigurts did nearly all the work for the nobles. In particular they cultivated the soil for their masters and fished. If noblemen fished, it only happened as a pastime. Only in war did they paddle the canoes themselves. Besides they received the agricultural products which the free tenants owed them as tribute for their land fief. Nevertheless, certain jobs were considered honorable: house and canoe building, the making of ornaments, the twisting of coconut fiber, the procuring of banana fiber and the manufacture of the various colors.

The women manage the household. Where the men themselves clear the land, motomot, and cultivate it—generally together with their kinsmen—the women also help outside, when the man wants them to. Cooking was once performed by the Nigurts. Now the women do it. Moreover they once made the bark cloth. Then as today they do plaiting. Weaving is forgotten. Baskets, grass skirts, belts, sailing clothes, roof mats are the products of their diligence. As a special task, they apply themselves to manufacture of the highly valued fish perfume. They also have the duty of filling the water calabashes and to build and to maintain the earth ovens.

2. Nutrition

Food is abundant. The dense settlement of the coastal strips compels the natives to sedentariness and to residence in the immediate vicinity of their dwelling houses. Yams, breadfruit, bananas and coconut are so plentiful, and above all, the abundance of the first two named is so great, that a comfortable
lift is assured them. When planting kava and yams, these two plants enjoy the greatest care. They observe abstinence from women and from meat of all kind, as they also let a general fast precede it. With reference to the cultivation, the native relates:

On the Cultivation

Early in the morning the land around the house is cleared and also the bush, as far as necessary. A yam is dug up and cut into pieces; the ground is cleared and the pieces of the yam (the tops) are planted. As soon as the yams grow upward, they set out and cut hibiscus. The hibiscus must dry. Then they cut the hibiscus into pieces and the yam shoots are drawn upward on it. When the yam has ripened, they fetch it, cook and eat it.

When the people of Ponape plant bananas, they fetch shoots of banana shrubs, carry them to the fields, make holes and plant them in them and let them grow until they are ripe. Then they pick them, carry them home and hang them up for three days for after-ripening. Then they cook and eat them.

Coconut palms are planted in the following manner. They fetch ripe, old nuts carry them on the field and let them bud, then they plant them, and keep the place weeded, until the palm bears fruit. Then they climb the palm in order to get nuts for eating, and let the ripe nuts fall to the ground. They cut up the ripe coconuts for copra, sell them to the whites and get money, in order to buy beautiful things.

In general they eat only light food and even this only in limited quantities. The chief meal is in the evening. Meat is a festival food and then only a side dish. The dishes are prepared in cookhouses and there completely made in earth ovens. There is something particular about this fire hearth, the um. He
who has no um does not count in the circle o- companions. "With every hide originating in the time of the ancestore, likewise as a title, the right must be also connected to possessing a firsplace in the community house, or at least to taking part in one such. The liege lord, for his part, measures his authority according to the number of fireplaces. Um tapa? "How many fireplaces are here or do you call your own," is a common question. The higher the prince ranks, the greater the honor of the um. There are two descriptions of the preparation of food:

Of the Earth Oven

Thus they used to cook food on Ponape. First we fetch firewood, then we pile it up in the pit. When it is breadfruit season, we fetch a long stick and go to pick breadfruit, until there is enough for the meal. We also gather leaves from bananas and breadfruit trees and put them in a pile. When everything is cooked, we open the oven. Then we bring the fruits to our wife and our children, so that they can eat. The next morning we do not cook; only when little food is left, do we cook again, but when there is food present, we do not cook. When there is no breadfruit, when it is isol, we still prepare our ovens. Then we cut a mangrove cudgel, go to the field with it and dig yams. We always get the one which is ripe for cooking; we prepare our meal with it. Now there is a yam meal which is called itiz. We get firewood, put it down, and then get a yam which is suitable for itiz.

When we have it on the spot, we put it in water and peel the skin off with a knife. Then we put it in a basket; next we fetch ripe coconuts. We put them down; then we prepare the oven; one man grates the coconut and another grates the yam. When they are finished, we sprinkle the grated coconut over the yam; then we add water to the grated coconut and wring it out over the itiz. When this is done, we fetch young taro leaves, wrap the itiz cakes in them and tie them with hibiscus
fiber threads. Next we spread the burnt wooden logs in the earth oven and cover them (with the cakes) with leaves. When the cakes are done, then we open the oven. We take the cakes to our home. We give them to our wives and children and also eat some ourselves.

The Earth Oven

Thus an earth oven was made on Manape'i. Some fetch wood, others arrange the hearth stones. When they come back, they split wood. When there is much wood, collected, then it is kindled on the hearth stones. Now the pile of wood is brought forward and covered with stones. Leaves for the oven are sought and about a hundred breadfruits are gathered together. A pig that weighs 128 lbs., is also killed. The skin is removed; then the food is placed around the oven and all the breadfruit wrapped in leaves. Then the standard is fetched. It is fastened. Pokers are fetched, the oven is pulled down and the stones are spread out. All the breadfruit is cut into pieces and put in the earth oven. They take fire tongs and put stones over the dishes. Some take pokers and distribute the pieces of breadfruit evenly. Then the pig is fetched and put on the oven. Now the whole is covered, first with breadfruit, then with banana leaves; then dry grass and leaves are added and large stones are put on top. Some people bring palm fronds, cut them in pieces and make approximately 80 baskets of them.

Now they sit down and wait until the dishes are ready, then they break the oven open. The pig is put into three baskets and carried to the gallery of the meeting house, where the nobles sit. They also bring the whole contents of the oven and all the baskets to the gallery. Now they take the pig and carve it, a little piece of it is hung up with hibiscus fiber at the residence of the nobles. Then the pig is distributed. After that the baskets with breadfruit are distributed. Then the baskets with bananas are distributed, probably about 50 baskets. When this is finished, the festival drink is brought; about 100
kava shrubs are distributed on six stone pounding tables. Now they pound, then the final strokes are beaten and the first beakers are filled to be brought to the gallery. After this has occurred four times, they begin to sing. All people feast and drink until the evening; some go with the Lap to his house and there go on drinking kava until midnight. We do not know when it ended.

Breadfruit dishes are especially popular. When the fruit ripens faster than it can be eaten fresh, it is gathered, cut into slices and buried in the earth. But first the shell and pits must be removed. It keeps here for several months, turns sour and in this state is preferred to fresh breadfruit. Two native descriptions for this:

The Preparation of the Fermented Breadfruit

The earth oven is prepared; a portion of the fermented breadfruit is fetched from the pit. Then it is kneaded on flat stones until it is smooth. We then fetch grated ripe coconut and add it; then we take fermented breadfruit and banana leaves and wrap it in them, and also make some flat cakes. Next we level the cooking stones of the oven; then we put the dish in and cover it. When it is done, we open the oven. Then we put the dish into baskets and carry it home. Then we eat it.

Preparation of the Fermented Breadfruit

Thus they make fermented breadfruit on Ponape. In the breadfruit harvesting season we pick many breadfruits, one or two hundred. We gather them together, tie them together with hibiscus fiber and take them to the place where the fermented breadfruit is supposed to be made. The place is called Kalip'. We remove the receptacle and prick the fruit. Then it is covered. The next day we fetch banana leaves. We also pour water into wooden bowls. Now we peel the fruits,
wash them and put them down until we are ready. Now the leaves for the fermented
dish are fetched and the fermentation pit is cleaned. The leaves are laid into
the fermentation pit. Now the breadfruits are cut into pieces. Then we pour
them into the pit and roll large stones on top. For two weeks we continue thus
to pick breadfruits. They are brought to the place, the receptacle is taken out,
they are pricked and also counted. The next day we fetch water, and banana leaves
and peel them. We fetch fermented breadfruit from the pits, cut the fruits into
pieces and add them to the others. When this is finished, they are put into the
pit and stones rolled over it.

Another breadfruit dish whose preparation and eating is associated with great
ceremony is the lili dish, a gift of tribute from the people to the chiefs.

The Preparation of the lili dish

We make lili, a dish made from breadfruit, in the following manner. Today
we soften the breadfruit, and tomorrow we make lili of it. On the morning of the
next day, we gather firewood and put the oven in order, but it is not kindled yet.
We put all the breadfruit on the oven. Several people fetch ripe coconuts and
others, water, others, plantain leaves, one fetches palm fronds. The Sau lili
rises, spreads the fronds and cuts them. Then they are plaited and are called
"puats" (ilail). Others grate the ripe coconuts. Then the oven is lit. Now
leaves are spread on the places where the stones are to lie. The stones are
washed and put in their places. The Sau lili sits down on a stone and has his
pounder and a basin full of water next to him. Water is also kept at hand when
the lili is prepared. Now we gird ourselves with banana leaves, put on an ornament
of coconut fronds, which is called setei. All who take part in the preparation
of lili wear the setei ornament on their heads, their shoulders, their arms,
and banana leaves on the apron. Meanwhile the breadfruits are done. Two men
take them and peel them, then they give them to the Sau lili. Then they are pounded. When they are mashed, one takes two banana leaves, puts the mass in, and again hands it to the Sau lili. The Sau lili takes them and passes it to the Sau en piaya. He pours coconut milk over the lili and wraps it. Then he carries it to the gallery, before the princes. The prince takes it and distributes it to the surrounding followers. Two little packages are sent to the prince's wife. All the finished lili is brought to the gallery. And one man distributes it to those present.

Something else we did before we grated the coconuts; a taro leaf was fetched and the puats mass was put in, then a nut was broken on it and the water poured into this leaf beaker. Then the coconut halves were surrounded with the puats mass. This dish is called puta mei. It was taken to the chief; then the preparation of the lili dish began.

Besides kava, they greatly appreciate palm wine. It seems that they enjoy it fresh and fermented. They are supposed to have learnt this from the people of the Gilberts in the Seventies. Palm wine is considered to be a remedy for kava hangover.

Preparation of the Palm Wine

Thus they make palm wine on Ponape. They select a palm, which is well suited in order to make palm wine. They begin by cutting into the blossom panicle. For four days then cut it. Then it is tied up and bent every day until it is straight. A calabash is fetched and hung up on the blossom stalk. Then we wrap two pieces of coconut fiber around it, so that the rain does not spoil anything. Then it is cut again and again, three times a day. And thus we get down palm juice daily. We fill many flasks with it. We also know how to make the sugar juice ferment, in order to make a foaming "kava" from it.
Fishing, details of which can be found on p. 320, is less favorable inside the lagoon, according to Kubary. The enclosed water is obstructed by the numerous rivers and is only conducive for the coral life and sea animal life at its outermost edge.

The plague of rats, against which they hardly did anything in O'Connell's day, is great. Occasionally they caught the very bold rodent with traps, but more for pleasure and sometimes they also ate them.
Footnotes

German page  Number

256  1  Three days; plantains are buried.

257  1  Hahl, Ethnologisches Notizblatt III, p. 96.

259  1  The standard of the paramount chief consists of two taro leaves, which are always tied to the posts where the paramount chief sits. Cf. Illustration 5, p. 19.

2  For the spirit Isobau.

260  1  Lap en Palikir has to drink the first beaker at every pounding table.

2  O'Connell, Chapter 16.

261  1  Fermentation pit.

263  1  The dishes had their own name and were counted. 1. lili = mon lili; 2. lili = kariapot; 3. lili = kasilipot; 4. lili = kapaupot, etc.

264  1  The sweet juice is also boiled down in iron cauldrons.

2  Kubary, p. 131.

3  O'Connell, Chapter 16.
II. Care of the Body and Body Fashions, Clothing and Decoration

by P. Hambruch

1. Care of the Body

The inhabitants probably belong to the cleanest people which one meets in the South Seas. Since olden times, not through the influence of the Boston Mission, which rather has the opposite effect. Because the compulsion, if possible to put on European dress is only detrimental to hygiene and cleanliness and has had, in part, bad results. The wish for bodily cleanliness is innate, and because its fulfillment is not difficult, for that reason, it is carried out wherever possible. Fresh water baths are appreciated. There are no lack of opportunities for bathing because of the wealth of large and small, deep and shallow water courses. They bathe at all times of the day, preferable in rapids. Men and women have separate bathing places, also the nobles. It is considered indecent to want to spy on people bathing. Also, not all articles of clothing are taken off in the water. Tutu means to bathe. Upon entering the house, care is always taken that a sponge, tim, is at hand with which the body, especially the legs, is cleaned. After the meal, servants wash the master's mouth with a sponge.

Nature is eased secretly, less from propriety than from the fear of somehow becoming a victim of black magic.

After the bath, anointing oil is abundantly used. Either they use freshly grated old coconut, which is squeezed out on the body, or cosmetic articles are made in advance. These oils are treated as a professional secret. They appear to be not only cosmetics but, at the same time, to replace certain uini, medicines. There are many of them. Their scent is not always inspiring to our noses. But recipes of the production of oil could not be obtained, with one exception.
Because finally, the ingredients vary, the main point of my opinion is the foundation of the salve, thus the detailed description of an anointing oil with the addition of fish oil may suffice here.

Preparation of Anointing Oil

The people gather twenty to thirty coconuts and husk them. Then they fetch taro leaves, and put them down. They then break the meat from the fresh nuts, then take a heart shell and grate it. They fetch coconut fiber, put the scrapings in and wring it out into a wooden bowl. Then they kindle a pile of wood, and put stones in, until these are hot. Before they add the stones, they chew to pieces the heads of many fish and add these to it. Then they throw stones in until the liquid is done, scoop it out with a coconut shell, put it into a hollow coconut or gourd calabash. They hand it up in their houses until the time of festivals and dance comes; then they rub it into their heads and anoint their skins. Then they put on the ornaments and to go the festival. Thus they are proud of their ornaments and their beautiful appearance before the others.

Christian writes in addition: The manufacturing procedure begins with picking many ripe coconuts and scraping their kernel. The implement used is a wooden block, which the native holds with his leg. It is furnished with a wedge-shaped piece of wood, which is toothed on its broad end. A piece of nut is pressed against these teeth, and a quick, twirling movement of the hands produces shavings as fine as feathers. In this way, the "ungitete" is made. It is then poured into a "kachak" or a low, longish vessel of reddish-brown wood, pointed at the ends and shaped like a whale boat. Then a number of the dried fishheads, which are put on a cord, are taken down from the hut rook, where they have become moldy for weeks in clouds of flies and mosquitoes, in order to get into first class condition. The names of the fish most sought for this purpose are pakach, toik,
tomarak, Mak, and wakap, names which sound as sweet as they smell. Without any
sign of uneasiness, these ghostly remains of fish are carefully chewed little by
little by those venerable ladies and spit into the vessel with the coconut shavings.
They sit ceremonially chewing, peacefully like cows ruminating in a pasture, and
the horrible mass of decaying fish heads grows and grows.

When the difficult work of reducing them to little bits is finished, the
whole unappetizing mass is squeezed and kneaded so that the grated nuts and minced
fish heads displays its most effectiveness. The mass is taken out and put into
the sun for a few days before the oil coming out is squeezed into small calabashes
or glass bottles, where it is kept ready for use. It is probably not necessary
to say that many hungry dogs, birds, and cats follow all these events with the
same deep interest as a starving person follows the banquet of the Lord Mayor.
But not one little bit of the fragrant stockfish, not one silvery coconut flake
reaches their salivating mouths. The workers watch over their disgusting mixture
like witches. For the fish oil of Kiti, like the mats of Chokack, the mushrooms
of Palikar, and the yams of Matolenim, is too valuable a produce of the country
to allow it to be wasted frivolously. According to Pereiro, the touch of a native
anointed with it is sufficient to cause a white man to change his clothes and
take a bath.

2. Bodily Fashions

Hairstyles. The native is civilized. The old hair style has been given up.
It was preserved by the priests the longest. For the old hair style was the same
for both sexes: long and flowing. Already in the Fifties and Sixties cutting of
hair began which then gained acceptance for both parties. Hair combs and hair
ornaments seem to have been unknown on Ponape. They were never observed or reported.
Body Hair. Body hair is not valued. Where it shows, it is destroyed. They pluck it out either with the finger tips, with tweezers of tortoise shell, small, sharp shells (cardium) or fish scales. Only in the last fifty years, under the influence of the missions, they have tried to let a beard grow in imitation of Europeans. Usually they are only pitiful things.

Body painting was once customary. On festive occasions, especially in heathen Palikir, it can still be found occasionally, and by chance. An orange-red preparation of ginger root, the reng of the Central Carolines, kis en iori on Ponape, served as the coloring matter which was rubbed with coconut oil. Either the body was rubbed uniformly with it, or it was laid on in stripes and spots, like a paste. Similarly bask fiber cloth, aprons and the like were dyed with this stuff as illustrated, for example, in illustration 12 in Hernsheim's book, Südseeerinnerungen.

Mutilation of the body. Cf. in addition, vol. I, pp. 371-373. In addition, there is the increasingly fashionable bad habit among young people of both sexes of letting themselves be tattooed with ugly European designs of song and of letters of the alphabet, and for others also of taking pleasure in scarification, kitel, which is burnt in with little glowing pieces of wood or carved in with knives.

3. Tattooing

We have received from O'Connell probably few but unambiguous explanations, concerning tattooing, which still flourishes on Ponape, in spite of the influence against it by the Boston Mission. Cf. vol. I, p. 33ff. The native speaks unwillingly of it although he is very proud of the decoration itself. It is of divine origin. A demon (Nalik a rak en lan) devised tattooing to preserve tradition. Some people were informed of it. In particular, the powerful
and often named sorcerer Lapona learned of it; he judged it good ans spread it. Whether the ceremony, which formerly began at age four, ended with the eleventh or twelfth year eludes my certain knowledge. Reports about it vary. In older times tattooing could only be practiced after war; it was then also customary to tattoo the glabella. Such tattooing appears similar and unvaried to the fleeting glance of an unbiased person. This is not the case. It varies according to sibs, families, sub-divisions, according to rank and class, and had to be different. Cf. O'Connell, vol. I, p. 34. Furthermore, tattooing, like singing, is necessary to arrive in the other world, to Paset. Formerly the old people ol laut, ol likei lap, were tattooed at a very old age on the inside of their limbs:

- nuku men in auia on the lower leg
- peli an kapir on the upper leg
- uniu on the upper arm

In order to record the tattooing completely, it would have been necessary to get representatives of both sexes, of all sibs, to copy and explain the drawings. It was already very difficult to hire three individuals at high pay, with all possible precautionary measures. The sense of shame more prudish has rarely been produced than under the Protestant missionary influence. My own interpreter refused very energetically. I owe it alone to the persuasions of Catholic missionaries that finally had a small measure of success!

The persons won over were Aunepon en Tamara (f.), also called Cecilia of the sib of Tip en man tontol; Limuar, (f.) of the sib of Tip u lap (oldest sib of Ponape); Japetan (m.), old priest in Tsokes, of the sib of Tip en pepe,
Tattooing

Thus the people of Ponape used to tattoo. First they prepared the color. Then thorns were fetched and a tattooing rake was made; the thorns were put next to the other; then we put a little resin at the end of the reed stalk, and tie them fast to it. The hammer is made from the node piece of sugar cane. When some one is supposed to be tattooed, we put the color into a coconut shell, add water and stir it until it is right. Then we fetch coconut leaf ribs. Now the drawing begins. First the man to be tattooed is supposed to bathe. When he returns, he lies down. The Katin intin (female tattoo expert) sits on him, and two women stretch the skin. Then the hammering is begun. When they are finished, they repeat it twice; then it is finished. Two tattoo patterns are made first: takatoka sou and par untei kil. The next day the other side of the penis is tattooed, on the next day the pattern por o tak; the day afterwards, the other half. The next day, the pattern pontep is made. On the next day, the other half. Then the tattooing of the man is finished. Also formerly the pelikomut was done. And the next day, the other half. Here too, they hammered. The shoulders were tattooed with a small pattern. That happened. And when a long time had passed, they also thought to tattoo rings, luon, on the body.

The color was made in the following manner. Fruits of the tsakon tree fall to the ground. When the flesh has disappeared, they are gathered in a basket, roasted in the earth oven, then they are mixed with water. (Tattooing is begun on the right side of the body.

The Tattooing Implements

The text 172 gives sufficient information about the tattooing implements. For the various patterns, respective rakes, kaliz, come into question. For the
most part, they are made fresh from citron thorns as needed, fastened on reed sections, alek, or wood with thin threads, or pandanus root fibers. In addition, rakes carved from bones are in use. For hammering, kai, fresh sections of sugar cane, tseu are used. Tattooing color, leneir, is obtained from the oil-containing nuts of Aleurites triloba, tsakon, whose soot is caught and mixed with coconut oil to a fine paste, or is roasted and ground, giving a coarser ink. It is put on the skin with thin, small stick-fine ribs of coconut palm fronds, nok, and inserted into the skin by means of hammers and rakes.

The tattooing of the men. In his book on pp. 74-98, W. Joest has an original report by J.S. Kubary with many illustrations: The Tattooing in Micronesia, in particular in the Carolines. Pages 87-90 are dedicated to tattooing on Ponape. Unfortunately Kubary did not write down the names of the family members whose tattoo he recorded and reproduced in the illustrations on pp. 88-90. At first glance it may seem to be a uniform tattooing. A closer examination reveals the differences. Even the patterns of the single limbs differ from each other.

For the man, tattooing is limited to the upper and lower arms, upper and lower legs. Occasionally arbitrary patterns, (Illustration 50) which are, for example, borrowed from writing, catalogues, cotton patterns, and are scattered over arm and breast, can be seen on men and women. The tattooing of the woman is richer. Besides the extremities, also the body, hips and seat are decorated with patterns.

Japetan's hands. The right and left hand have different patterns. The left hand has a special tattooing of the fingers of single short small strokes, which are arranged in groups of three, pel sen. Up to the wrist the surface of the hand is divided into seven fields, which are separated from each other by narrow strips, which remain untattooed. The first patterns, turned near the
fingers, begin with toothed border, nini, then a partially filled striped pattern follows, then strips, komu tsin pei; these are the same on both hands. The subsequent four patterns, however are different. The right hand shows a zigzag pattern, kis en tsin, then a striped pattern, komu tsin pei, then a pattern of little lines, kan en ua en uot, and, further, a stripe pattern like the second. The left hand, however, has stripe patterns like the second, then a mirror pattern in addition, a zigzag pattern and a pattern with thick stripes. Both hand patterns conclude with an ornamental stripe, popu tsik on the little finger side of the palm. On the right hand there is a toothed border, under it a pattern stripe of the width of the stripe on the back of the hand in the shape of a broad ladder, maneman. On the left hand, however, next to the toothed border, the shape of a zigzag pattern is shown. All around the wrist is a broad strip, luou, whose field is divided by a pattern. Its outside is formed by a toothed strip, nini, its inside either by a thick strip, or two thin lines, lep in nok.

The tattooing continues to the lower arm; at the ulnar and radius sides (visible in figures 49 and 51 once in the pattern of the ulnar or rather radius side), two long stretched out ornamental patterns, al e pe are drawn upward, which separate widely on the underside of the arm (in Kubary, see above, p. 89, they are closed) and on the upper side are decorated by rings, luou, with which those already known from the hand patterns, yet different ornamental rings are decorated for both arms and hands.

Japtan's leg. The legs are tattooed. On the outside the drawing extends to the upper and lower leg; and on the inner side, it is only carried up to just over the hollow of the knees. The lower, ring-shaped border, obligatory in the tattooing of women, is not always found in the tattooing of men. This tattooing is always divided into four fields. The outer line of all four is drawn up to
the upper legs and terminates on top with a broad ornamental border. But while the first, front field is only completely filled out up to just below the knee, fields no. 2 and 3 are filled out up to the upper leg, and the fourth field, to the middle of the bend of the knee. These tattooings are called: first field (in front): taketake sou; second field: por in tei kil; third field (the broadest): por i lek; fourth field: por o tuk. Field 2 is terminated above by a toothed strip, nini; field 3, by a line strip with parts of a toothed strip above it. This strip is called salan, ear. All four fields are crowned with a termination; two lined ornamental bands, papu tsik, having between them a broad strip which is divided into rectangular fields by vertical lines. Every second field is filled with an ornamental zigzag line. The field is called kanin uan i os, the zigzag line, lap en pa'n uot, (taro leaf stem). Over the upper popu tsik strip rise four pairs of flaming nok en pon tep, consisting of vertical lines with zigzag lines between them reaching half-way up.

The names of these fields, even in varied filling patterns, are always the same.

The Tattooing of Women

The tattooing of women is formed incomparably richer than that of men, although many ornamental patterns are common to both sexes in type and execution. "A girl without tattooing would be missing her chief decoration and become an object of mockery." (J. Kubary in Joest, p. 89). Thus tattooing was still practiced in 1910, although the Protestant missionaries vigorously opposed it. In spite of all this, "Christian parents" let their children, especially when they were girls, undergo the painful tattooing.

Limuar's hand (f.) This young girl had originally offered to let all her tattooing be drawn. The presence of some members of her sex, which could not be
avoided, aroused such a sense of shame in the candidate that only the copying of the tattooing on one hand was permitted! The upper surface of the hand is divided into four separate, ornamental patterned strips up to the wrist. The opening toothed strip is lacking. The first strip has a broad zigzag band, whose teeth touch the bordering field line and thereby, at times cut off little triangles which are filled out evenly by four short lines: karin e kim. The second patterned strip consists of big, "s" shaped letters, whose empty fields cover short ornamental stripes: tu. The third ornamental patterned strip repeats the pattern of the first without the filling of the triangles: manaman. The fourth ornamental striped pattern has rhombus touching each other and have small rhombus at the connecting angles: kap in an uas. The wrist joint is surrounded by wide rings, luou, which in the middle shows the fields of the lep in nok together with both the flanking toothed strips, nini, which however, are not filled out. The both luou form the termination (of ornamental patterns on the ulna and radius which is no longer visible which include another ornamental pattern, a striped pattern: kan en uan uot. Underneath the little finger, ornamental pattern no. 3 becomes visible as the terminating patters: manaman.

The right arm of Aunepo en Tomara (f.). The comparison of both Illustrations 54 and 55 reveal how fundamentally different the tattoo patterns are in detail and in the articulation of the whole. The upper side is covered with innumerable single patterns, called collectively pel un pe. They consist of single ornaments, in particular "crosses," stars and points, which owe their existence, not to the inventiveness of the natives, but to chance. Here the "collection" is put together from catalogues, particularly from patterns of coconut mat as the owner very proudly informed me. The left upper arm, in addition, is "beautified" in the same way with similar patterns. The reproduction has not been done. Up to the
wrist no differences are revealed in the male and female tattooing if one disregards the single patterns. Toward the fingers, there is first the toothed strip, nini, then an ornamental band of triangles follows that fasten in each other, sin serak, (triangular sails?) and then an ornamental band of triangles with narrow apexes, sin sin serak, and then, an ornamental band in a zigzag line with solid triangles, ki sin tin, then an ornamental band like no. 2.; a sixth band, painted simply oblique, komu tsin en pe, concludes the ornamental surface of the upper side of the hand. A broad ring, luou, which surrounds the wrist extends the tattooing upward. In its fields it ah's the already familiar lep in nok pattern with accompanying toothed strips, nini. The ornamental band pattern painted oblique, komu tsin en pe, concludes the broad ring upward, and forms at the same time, the lower termination of the tattooing that extends over the whole lower arm. It is divided--here closed, in many tattooings, with open ornamental bands--in the two large ornamental bands running the length of the arm, el e pe (broad) and ko u pe (narrow) and the arm rings luou crossing them at right angles, whose two middle rings bear the name, lupe pe. The horizontal upper ornamental bands consist of the ornamental patterns, nini, sin sorak and kar in ekin. The names of the vertical ornamental bands can be gathered from those already named.

The left arm of Aunepon en Tomara (f.). The arrangement of the pattern of arm tattooing is the same, but in the ornamental patterns themselves one band differs from the other in pattern. Not that they are entirely different, but symmetrical repetitions for both arms is precluded. The toothed strip ending at the finger side is lacking which otherwise borders the ornamental bands. In the luou of the wrist, the lep en nok pattern is laid out very broad. It should be noted that the fingers--like those of Japetan's left hand--bear the fine lined pattern, pel i sen arranged in groups of three.
The tattooing of the abdomen, buttocks and upper leg of Aunepon en Tomara (f.)

Appearing like a delicate, dark-blue, openwork silken fabric, a peculiar tattooing covers the woman's body from the navel down to the ankles. With its symmetrical arrangement, and brought, by the limbs themselves, into a rhythm that pleases our taste too, this tattooing satisfies our aesthetic sensibility as well as that of the natives. From innate vanity the woman does not, therefore, luckily, abandon tattooing.

The tattooing of the abdomen is divided into three main parts: the trapeze-like shield divided in various ornamental patterns from the navel down to the mons veneris, the triangular mons veneris itself and the bipartite tattooing of hips, waist and buttocks.

The trapeze-like abdominal shield, au tu pup, is terminated above by the toothed stripe, nini; next is an ornamental band of a zigzag line with completely filled-in triangular fields, kar in kim; a broader ornamental band of smooth and indented lines that cross each other irregularly, nok a lap concludes and is concluded below by a toothed stripe, nini. An ornamental band of single interrupted lines, kanek in lap in uot, separates the shield part of the tattooing from the other part, which is divided into three equally large bands, men in puar and into three delicate wavy lines, nok a lap, which are rhythmically divided and interrupted by similar wavy lines running diagonally. On the two long sides this tattooing is set off from the bipartite waist, hip and buttocks tattooing by the diagonally-running single line, mono mon en men puar. It gleams a dark blue and gives the effect of a belt, through a narrow, bright strip of skin left free. The hip tattooing is called men in katsekats, the buttocks tattooing, men in katsekats en pa. The waist tattooing is named pualinta. The mons veneris is decorated with a full, dark triangle, retit pauue, which is bordered by a broad ornamental band, mon o mon en men in puar on both sides.
The tattooing of the upper legs is magnificent. It is divided into various divisions: the outer side, likin tab, with the large fields that look like woven strips; the long sides, each of two finely streaked bands, puk, with whose middle is consisted of two wavy double lines, kan en en nok a lap, while the separation of the fields represented in linen binding by corresponding ornamental bands of a wavy line, nok a lap. The inner side, puk u puk, consists, similarly, of ornamental stripes comparable to woven strips, in linen binding, which form separate fields, autepe. Each field is filled in with five wavy lines running parallel. Comparable to a garter, a circular band, monemon, separates the tattooing of the upper and lower leg.

The leg tattooing of Aunepon en Tomara (f.). A part of this tattooing has just been presented in the patterning of the upper leg. To be added is the dark blue appearing tattooing in the upper half of the "garter" beneath the likintab, in the corner, brought to the puk en puk, reaching to the hollow of the knee. The tattooing of the lower leg offers a very changing picture according to the point of view, from the front, the side or the back. Seen from the front, the broad tattooed stripes are noticeable right and left of the kneecap, men in likin nia. They begin at the ornamental band, monemon and are terminated below, just above the ankle, by a ring-like tattooing consisting of three parts, manaman. Seen from the side, the patterning is dominated by the braidlike tattooing which begins at the monemon and ends at the manaman. In front of the "braid," a little back toward the front side of the knee, the narrow, small ornamental pattern kasikisik is visible at the monemon, while behind the braid, the bipartite ornamental surfaces of the tattooing at the back of the leg are recognizable. This tattooing is divided into two main parts, one from the upper part of two isosceles triangles and a rectangular lower part; the two are connected by two wide blue bands. The upper part is formed by the triangular ornamental band with
"h" shaped ornaments, *kis en kan en puse en kitar*, whose triangular surface is filled with delicate wavy lines, *kin en salen*. An ornamental band called *poputsik* closes it from the braid. The bandage-like, thickly tattooed lines that connect the upper and lower parts of the lower leg tattooing are called *tep en i men*. The lower part of the tattooing, with its broad fields filled with dark blue, is distinguished as *men en pan pugos*. They are separated from each other by the bright *puria* band in the middle. The *puria* band has in its middle, the delicate wavy line, *nok en puria*. This tattooing forms the greatest ornament of the women. This apron or bark-cloth dress, today displaced by the calico short skirt, is worn so that the lower edge of the clothing ends precisely to a hair with the upper edge of the *men en pan pugos* tattooing. Feminine coquetry demands showing off this tattooing this way.

**Clothing**

O'Connell, p. 45ff, Lütke, pp. 88-89, Kittlitz, pp. 92-93, Michelen y Rojas, pp. 126-127, Cheyne, p. 136, Mitteilung der "Eugenie," p. 146 and Gulick, p. 183, reported about the original, own dress of the natives (see half-volume I). The best illustration, which gives a good presentation of old dress, is the drawing of Postel in the Lütke Atlas, Plate 24: canoe in Mutok harbor (cf. half-volume I, Plate I, 2).

The male and female apron clothing show no great differences. The bark cloth appears only to be used for women's clothing. Men make only forehead ornaments from it. The decline began early with the introduction of European cotton goods. The artistic weaving, especially of the belts and dress mats (cf. Kittlitz, p. 92) from banana fibers disappeared early. In 1910 a single old woman in Uona still knew something of weaving. The influence of the Boston mission had a disastrous
effect, among the men through blue or striped flannel shirts, later through black or white European suits; among the women, through colorful, patterned cotton, closed, hanging dresses—disfiguring clothing and highly detrimental to health, but profitable to the mission’s cash box.

The men value the maro, the G string, uaiuai loi, for everyday and work clothing. It was predominantly woven from banana fibers, was about 20 cm. broad and somewhat over a meter long. Occasionally bark cloth was used instead. It was wrapped around the hips, covering scrotum and penis, pulled through between the legs. The end hung down on the back side like a little tail (Cf. Illustration 50a,b in Sarfert-Damm: Luangiua and Nukumanu, half-volume I, p. 91). On top of it, the apron, kaol, was worn during festivals or when at rest. This apron, which both men and women wore, because it was airy and comfortable, finally remained alone as the only article of clothing beside the belt, tor, occasionally worn and was still generally worn in 1910. Text 347 describes how it is made from the two customary materials, coconut fronds or hibiscus fiber strips, besides reeds and grass.

The Making of the Apron

Occasionally the people remember to make their skirts. Then they go and fetch young coconut leaf fronds; they bring them here and cut them up into four parts and split the rib open. Then they put them in the cooking pit, cover them until all are finished cooking. Then they put them into the ashes, between the stones, until they are dry. Then they take them out, split them and lay them in water for a day. The next morning they spread them out in the sun to dry; then they bundle the strips and divide these among the women so that they may fold them. They finish them and bring them back again. A woman now takes the plaited strips, fastens them on a band of hibiscus and plaits banana fibers around
them, until they all hang on it. Then they buy red cotton and cover the belt strip with it, that is called al en mots. Now they tie the skirt around themselves and go for a walk with it.

The Hibiscus Apron

The people go out and cut down young hibiscus trees. Then they peel the bark off, bundle them and lay them in water for eight days. Then they fetch them out of the water. Next, they scrape them off with shells until they are good and spread them out in the sun to dry. When they are dry, they are knotted at the ends and plaited in order to become aprons. Some who like them yellow, fetch ginger roots. They rub it with them and let it dry. When it is dry, they put it on. Some also look for roots of a tree called ue'ipul and take some burnt lime to it in order to color it red. Then they fold the strips, put the band on and walk about in it.

These five men's aprons all have different meanings. Illustration 61 is the most elegant (cf. Plates 1, 3), Illustration 62 the most common, which, however, is now gladly substituted by Illustration 59 (cf. Table I, 2) because the boil = to cook them very quickly to make the desired raw materials for production. The other three kaol have their special meaning. Thus the lili kaol or losit (Illustration 60) is only used at festivals of lili, the splendid colored kaol kis in i an for festival used, which are beginning to die out. They have also forgotten to make "ginger color" ="kis in i an." The gorgeous skirt kaol iros always remains valuable; it must be worn by the nobles and many admire who may not wear it. To make it takes great effort because every thread must be folded with a shell. All kaol are made the same way: for the supporting bands, a twisted hibiscus band, the strips of hibiscus or the prepared coconut frond ribs.
These prepared fibers are all folded around the future small supporting bands, firmly pressed on it, and then drawn closer to it with a small double supporting cord, thinner than the first. After that, the single strands are twisted around the fibers in an alternating shape so that the band shows in front and the remaining fiber in the back can be cut off over the strands. In many fiber skirts, it used to be that embroidered strips are bordered with red, red coloring is always preferred, furnished with pompoms, pearls, beautiful binding cords, or in the case of the simple kaols, the bands in front are decorated above the hibiscus cord with cross-stitch in red, black, white, yellow, etc., while the usual binding cord suffices in the rear.

Bark cloth no longer exists. Only very old people remember how it was formerly made and what an important role it played in the native household. Only the breadfruit tree, which is very common in Ponape, is used.

Others are allegedly not used. The island is not very rich in varieties of Ficus. Old Saulik en Tsokola speaks of what was produced, painted in many colors and also patterned: the apron, likau; the square, poncho-like upper garment, pe'ien, the covers, te ni puainak (of three parts) sewn together with coconut thread, which then played an important part as mosquito covering, te i'masul, before European goods were bought from the merchant.

The Bark Cloth Preparation

This is the way which the material of Ponape, bark cloth is prepared. First, when they wanted to make bark cloth, we fetched a branch of the ni tree. We took a piece of it and gave it four sides, this is called making it even. Then we go to the reef and look for a shell, pitika; with it we serrate the sides. Now we call it the fiber beater. Now we seek young breadfruit trees,
which are suitable for making bark cloth. They are obtained and allowed to lie in the house for three days. Now a tree called maratsu is fetched. One goes again to the reef and fetches a small mother-of-pearl shell, and takes it on land. With it, the bark of the breadfruit trees is peeled off. It is taken off the tree. It is put on a piece of wood called kaile, the anvil. It is beaten there until it is finished, then it is put in fresh water and washed out. Then it is beaten again until it is really good. Then it is again put in fresh water and the fiber pieces are united by beating and then hung up to dry for four days. Then they get the mangrove bark and beat it until it is fine-fibered. It is wrung out in a wooden bowl. Then the fiber cloth is put in. Then it is taken out again and hung up until it is quite dry. Now it is distributed in the family in order to make aprons or coats, and some make only covers of it. When one wants to make covers, one puts two to three pieces on top of each other, takes coconut thread and threads it through needles, which are made of the bones of hens or doves. Now they are sewn together and a mat is made. It is pulled over when sleeping, because then the mosquitos do not sting. When they are sewn together thusly, they are also provided with black and yellow colored stripes.

Nothing could any longer be learned about the magnificent belts, the tor. Sporadically, people came who still had some, in order to sell them for a large amount of monty (20-150 Marks); but no one in pagan Polikir, for example, could or wanted to say anything about the meaning of the patterns which were different on all belts and sometimes reminiscent of the tattooing (cf. Table I, 1 and 6). Christian is the only one who gives some detail, on p. 123: "The chiefs and important people of the community used to wear belts (tor, tur) of banana fiber, which were very carefully made from it and were decorated with rows of pink, white and grey shell ornaments. There were two kinds--those of Christian are
some of his impossible "inventions," the ones furnished with the rectangular Spondylus ornament, and the others, usually with the round, polished grey or white snails. In Ponape, just as in Hawaii, it was a serious, capital crime for a commoner to put on a belt: "Ina hume ke Kanek ai ko ke alii malo, e make noia." "If a common man puts on the belt of a chief, he shall die for it."

The Leipzig collection unfortunately do not show the definition of the correct color shades. Nevertheless, they can be of value for their interesting patterns, especially in Illustration 72, but for the rest, the Hamburg collection is preferable as it also describes the remarkable and noteworthy differences in color. For patterns and colors belonged to individual families and were not permitted to be imitated. Formerly the wearer could be recognized by it. Today all is forgotten.

Illustration 93 shows the single sections 1-8 of which a belt is composed, and will be taken into consideration when setting up the warp. A piece is never made as a whole, but of about 1-8 or rather, 4 parts. The number is aligned with the uncolored and red colored motifs. Some reminds one of Kusaie, although the technic is quite different. The various types of warp combinations for the obtainment of color effects, white, black, yellow are shown in Illustrations 75 and 82.

Today the man of Ponape is clothed substantially different, although, as the pictures in Plate I show thoroughly, it still frequently exists that the old clothing is not scorned, especially in the regions where the Boston mission society did not have such a great influence. What Cabeza Pereiro describes in detail in his book, is valid even today. Some I will add from my own observations. He writes on p. 116 of his book: "Since the arrival of the Methodists they already wear more conventional suits, and when they go to the colony nowadays, the upper
class dress themselves following European example. Some even wear socks and shoes of complete leather." In my time (1910) it was customary to dress faultlessly like a European for going to church. Even if no value was set upon this for the work days. A hat, collar, necktie, starched linen were worn wherever possible. In addition, white or blue material of a good-, blue naval cloth, more seldomly, khaki was worn. Perhaps it was difficult to get. The socks were important, and most of all, boots shouls creak vigorously, otherwise they were refused. The Jaluit Company had to have a mechanism put into all their shoes in Hamburg, beacuse otherwise they would not have gotten rid of a pair. "The others, however, generally put on only a jacket or a vest and kept the loin-cloth without putting on pants.

Once the women wore a loin-cloth similar to that of the men, of breadfruit bark (as in the Philippines). Only that it was much longer, for it extended halfway down the leg, and they wore it crossed, fastened over one shoulder, and under the armpit of the other. Today it has disappeared, and only a few women use it when they go fishing. At present they wear a piece of calico at home, that is belted at the waist and reaches to the knee. When they leave the house or go visiting, the most modest (they are otherwise not at all shameful) fix themselves a piece of square calico, similar to a short chasuble, that has a hole in the middle, in order to stick the head through and to cover the breasts.

Unfortunately, the Methodists have also accustomed them to wear a type of ugly morning-dress, without a waist, of colored or white cloth, which is actually only a woman's shirt with a high neck, closed and with long and narrow sleeves."

5. Ornaments

The people of Ponape are not rich in ornaments. Perhaps it was different formerly, at least the many and large findings at Nan Matol, which was plundered
by many people over a period of seventy years indicate this. The shell amulet and the ear-plugs of coconut must be counted among these old ornaments. The very young nuts in Illustration 95, No. Mi 2492 (a and b) are filled with red wool; small chains of little European glass beads lie around the upper edge. The nuts in Illustration 96 have the same purpose, only the filling is absent. They are worn by men during the dance. Richer, more unique than those of Tahiti and Hawaii are the head wreaths, the different "al." Every al consists of specially chosen blossoms and has its meaning. In so far as I was informed of them, I allow it to follow:

**al en botobot**: For mutual allurement; the position of the knots has the effect of a sign language so that one can know in which part of the bush the individual lovers want to retire; every single one, to a certain extent, transmits a special code in flower language.

**al en kokon**: Worn during festivals, feasts and dances.

**al en tsalepene**: Gives a good odor.

**al en mpok**: During festival times.

**al en masal**: Festival wreath.

**al en kitou**: Wild ginger blossoms, for noblemen only.

**al en kitou pitepit**: Green wreath for the preparation of a rendezvous.

**al en likau**: Wreath of white, red and blue calico strips.

**al en unan man**: Wreath of feathers.

**al en seir**: Blossom wreath of Fagraea. When the knot is worn in front, its position, whether right or left, indicates the place where one wants to meet in order to have sexual intercourse.
The great nobles of Ponape had the custom of laying various forehead bands around their heads, which had long fringes in back. The bands consisted either of breadfruit tapa, bleached snowy-white, with a clean red or black drawing (Illustration 108), or were plaited from pandanus, differently decorated and furnished with long fringes. Every forehead band again belonged to a certain family.
<table>
<thead>
<tr>
<th>German page</th>
<th>Number</th>
<th>Footnotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>266</td>
<td>1</td>
<td>Christian, p. 195.</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Pereiro, p. 117.</td>
</tr>
<tr>
<td>268</td>
<td>1</td>
<td>Cabeza y Pereiro writes on p. 128 of his book: &quot;Because this operation is rather painful, it is carried out over a period of two or three weeks with interruptions of several days. In the case of the women, in general a piece is done every year; in the case of the men, because there are fewer drawings, it is quicker. While the operation is being carried out the people in question do not bathe. If the pattern becomes colorless over time, color is put on anew in the same lines. (Probably an error of Cabezas, because a neat execution is technically impossible and moreover, the tattooing never fades). They begin to carry out the tattooing of boys at the age of eight and of girls at age ten to eleven. In the case of the girls, it must be finished before the beginning of menstruation, because otherwise they would be ashamed to appear before their companions. As the patterns must be made from time to time and extended according to the body's growth in length and breadth, and certain parts fade in the course of time (? see above) they must be renewed; therefore it can be said that tattooing is carried out throughout the whole life.&quot;</td>
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<tr>
<td>269</td>
<td>1</td>
<td>For the drawing of the pattern.</td>
</tr>
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269  2  Penis tattooing
     3  Aleurites triloba.

270  1  Cabeza y Pereiro writes on p. 128 of his book: La Isla de Ponape "of the preparation of tattooing color: they remove
     the shell and wrap the fleshy kernel fruit in a cloth bag
     which is hung over the hearth fire for at least two months.
     When the contents are dry, they roast them until they are
     as hard as stone; then they are pounded and ground, water is
     poured in, and thus an ink made of it."

270  2  Joest: Tätowieren, Narbenzeichnen und Körperbemalen, Berlin
     1887. (Tattooing, Scarification and Body Painting).

273  1  Ring
     2  Coconut frond rib.
     3  Kubary names in Joest: Tattooing of the fields: 1. par en
     takataka jou.  2. par en coy kil.  3. par e lik.  4. par cuk.

275  1  An "s" has slipped under the thumb.

278  1  By mistake, the line which goes through, dividing the belt
     into two parts, was omitted in the light belt tattooing.

280  1  In four parts. The leaf sections of a coconut frond are laid
     with their edges on top of each other, then the frond ribs
     are separated with a wooden splinter and the leaf sections
     are divided into strips lengthwise, about 1 cm. wide.

281  1  Morinda citrifolia. Wood and root possess a yellow colored
     juice, which is red-colored with the addition of burnt limestone.

284  1  Metrosideros
     2  Dysoxylum
Made from spondylus and from white and gray, tiny, polished shells.

Note of Hambruch's.

These pieces belong in the Godeffroy Collection, brought together by Kubary, where they had the numbers 3156a, b and 841a, b, respectively.

Pereiro, p. 117: Both sexes pierce their earlobes and constantly enlarge the opening, in order to hang earrings and other objects in it. One of the most remarkable is a quite small coconut, which they cut exactly in the middle and in whose circle they put a piece of mirror. The men put on chicken feathers, also pierce the inner part of the ear and fasten tassels and little balls of red woolen yarn here. They also wear rings of silver and tortoise shell, occasionally on all fingers.

Here Hambruch's presentation ends.
III. The House

1. House Construction

House building, which is considered a very honorable occupation, is the occasion for all kinds of festivals. The first takes place when the foundation is laid, the second when the posts are set up and the third at the consecration of the finished building by the priest. The house consecration lasts about three to four hours. The priest murmurs prayers, sings in a monotonous voice and carries out all sorts of conjurations. The following also belong to these prayers, which are spoken when the posts are set up:

Charm during the Building of a House

Beams here, beams there,
Beams from here, beams from there
I try once, twice, three times,
I try four times, five times, six times,
I try seven times, eight times, nine times,
I try it the tenth time!
May your foot adhere fast!
May your arm adhere fast!
Your whole body, may it adhere fast!

The consecration festival ends with a kava feast at which roast dog, dishes of yams and breadfruit are eaten. Frequently the district chief is present. Women, however, do not take part in it.

The building master is called nanuolosom. The relatives, saui, and friends help with the work. No one may refuse his assistance, and everyone has the right to demand it. The employer has to feed the helpers during the period of the work, generally for ten days.
2. Kinds of Houses

From olden times, different kinds of houses are distinguished; the festival house, *nas*, the boat house, the dwelling house, *im*, the cook house, *pari*, and various additional buildings, which also becomes apparent from the somewhat verbose native report.

About House Building

When a house is built in Ponape, there is not one shape but many.

One form is called "Large House;" the nobles, the sub-chiefs and also some common people live in this house.

Another house is called "King House"; only the Nanamariki may live in such a house.

And one form of house is called "Meeting House"; in this house the people give festivals for their Nanamariki. This is the place where they can always meet the Nanamariki, and hear what orders he gives them. Here too, the dances take place, the heroic songs and drum songs are sung; here also the Nanamariki and the high title holders meet and consult with each other, just as they consult with their subjects here.

Another form of house is the cookhouse; it is the place where the Ponape men prepare and cook the dishes. Cooking is done here for the nobles and also the common people, and the hearth is called *um en kaisak*. In the rak period, the people prepare the food tributes in the cookhouse; first puatsa mei, then mei ani, then paini, then kamunem, then mei muatan and lili, then sakelap, then umun lou *en mei*; and during the isol period: kotsekep', itiz and *um en pali en kep'*, then *um en kep' un*, then puka men puel, then pukalopun. The feasts which were celebrated in the meeting house are called: *garisimei*, then *irei isol*, then *takatak tip a nit*, then uat uanum and kaitisol.
Another type of house is called Court Servants' House. This house is always situated near the palace, for it is a house for the seat of the noble where his servants live in order to prepare here first the King's meal, then to hang up the provisions baskets and also to feed the fire with which the men cook the dishes. This house may also be entered by common people.

Still another type of house is the Boat Building House. In this house the people finish the canoe, after they felled a tree and have taken it there. The boat work which they carry out is called, one after the other: giving the shape, hollowing out, correcting the shape, boring holes, edging the hollow, examining the hollow, smoothing, painting and lacquering, making the binding for the boat, and the binding of the wooden outrigger pieces.

The dwelling house is described in detail in the next section. The cookhouse usually stands in the vicinity of the dwelling house and is a simpler, building open on all sides. The inferior purlins are replaced by blocks. Middle posts in the inside of the house are absent. Only the oblique, lower part of the gable, tisak, and the long sides are covered with palm leaves like the roofs of the dwelling houses.

The meeting house, nas, in which the great festivals are celebrated was already described in detail on p. 225. There, there is also an illustration the same as in vol. I, p. 22, the reproduction of the original drawing of O'Connell. Because of the basalt slabs kept inside for the preparation of kava, it also has, according to Christian, the name "im en takai" i.e., house of the stones.

3. Construction of the Dwelling House

Formerly every class had exact laws concerning the dimensions allowed for its dwellings. According to O'Connell, this was twenty by forty feet for nobles,
for common people or rather the Nigurts, six feet by ten feet and even less. Canoe houses measured one hundred by forty or fifty feet. The house always had a rectangular shape, and quite often even a square shape. If possible, it was built in the vicinity of water and under trees. The stone foundations are produced first. On the bottom they conform to the irregularities of the soil, above they are level. Outside, they consist of great basalt or limestone blocks, on the inside of small stones. The height measures roughly one meter to four feet. Above rises the superstructure, generally very carefully constructed. It begins with four-cornered beams about one foot thick, the interior purlins. The upper edge is called kai muan or kai man, i.e., man, the lower kai pen i.e., woman. At about five feet intervals, four-cornered \( \frac{15}{2} \) posts are set in these beams, on which these purlins rest. For this, katar, tree fern, breadfruit wood or any other of the numerous good kinds of wood are generally chosen. To support the roof-tree still some other posts are rammed in the middle of the house which tower at the height of the wall posts. The steep, high roof extends about a foot beyond the walls of the house. The sides and the tympanum are supported by purlins (neinei and tsapönen) and filled out with numerous rafters (ren) and latts (kuton). The lower part of the tympanum juts forward lean-to-shaped, while the upper part is vertical. This projecting part is called tisak. The roof is covered with palm leaves laid over each other like tiles. According to O'Connell they are coconut palm fronds, according to Pereiro, marfil palm, which Christian explains as identical to the sago palm. The walls are filled with a double layer of fine twigs, which are laid horizontally between the posts, cross-wise to them. According to Pereiro they take thin creepers, bajuco delgado, for this purpose, that is, Saccharum kaningdi in the thickness of the little finger. According to Christian, the layer consists of bundles of sedge or reeds of the thickness mentioned above, which are
laid beside each other with the greater regularity and bound in rows with coconut fiber. O'Connell lists bamboo sticks as filling, held together with sennit. The wrapping was most decoratively executed. In his time, they also decorated the middle posts with colored sennit and, as hardly any cooking was done in the dwelling houses, this wrapping also lost hardly any of its colored splendor. In 1910 this beautiful house decoration was completely forgotten. Scant remains of this art could be observed on Yap and Kusaie. The entrance is strikingly narrow, a narrow crack in the wall of the house, through which the person entering must twist. About three feet high, it is a window and door at the same time.

The interior is seldom divided. At most, there is a kind of compartment for valuables. The floor, like the walls, is either covered with lianas, etc. or covered from the understructure with latts. In the middle there is a free space, filled out with earth, measuring about four feet by five. Here a small fire is kept at night, which both warms one and drives off mosquitos. In O'Connell's day, a young girl would have her sleeping place beside it and must fan it when it burned down. The smoke escaped through the cracks. Dwelling houses of this kind are used by the whole family, also grown-up children and often already married children.

4. The House Furnishings

The house furnishings formerly consisted of sleeping mats, calabashes, beautifully polished coconut shells, baskets and all kinds of small equipment for handicrafts. The walls bore the woman's weaving equipment and the men's dance paddles and weapons. Already toward the end of the last century these things had been largely displaced by imported wares. In the houses one already saw chaise-lounges, simple tables, sewing machines and the beloved mouth harmonica. In 1910 old equipment could hardly be obtained. In view of this scarcity, the
objects collected and kept are better described in connection with the technology (cf. Section VII, p. 362).
Cf. for this O'Connell, Chapter 14, Pereiro, p. 123 and Christian, p. 140, on whose descriptions this section is based.

According to Christian, parra is less than far

1 m. according to Pereiro, 4 feet according to O'Connell.

According to Hambruch.
IV. The Boat

The old Ponape boats, uar, have been thoroughly described by O'Connell, Lütke and von Kittlitz, and these descriptions, together with illustrations, reproduced in vol. I. To supplement them, Pereiro's account may find a place here. "The hull, long and delicate is formed from the trunk of a hollowed-out tree. At both bows, the war canoes have high, very projecting, curved superstructure, which bestows upon them a very pleasing appearance. In the middle they have a platform which is called 'timp.' From the right isde, there projects a row of wooden strips, which are all connected one below the other by means of thinner strips and run to a longer, very light wood that lies parallel to the canoe and so attached that it plays the role of a float. This complicated apparatus constitutes the 'batanga' which is so completely different from the boat of the Philippine islanders.

They build the canoes from two kinds of wood: partly from 'ton' which is, I believe, Dipterocarpus polyspermus, a heavy wood, which however floats and withstands the sun excellently without becoming cracked. Others are built of the 'chatat,' D. Mayapis, a soft wood that floats very well. The large carved boats are called uarchap (decorated canoe), the war boats uar peik and the ordinary, uar. All boats have sails, of which some are of canvas and the others are made by the natives themselves by weaving together the fibers of the kepar leaf. The oars are of breadfruit tree wood and are called 'Patel.' The 'tiquines' (boat poles) are called 'katian' and they all carry a bail, which they call 'lin en llar.' The middle platform has a covering for rainy days, that is joined together by the leaves of the nipa palm.

The war canoes are the longest and are about 1½ meters in width. The seats consist of some cross-beams three fingers thick. They are about one ell apart from each other. In general, there are six of these seats in every canoe. Four
persons have room on them. The others go to the middle platform. The canoes have a edge, are painted red, black and white, the bows are shaped like swan's neck. They are decorated with rosettes, canvas or tapa in various colors. Sometimes they are even provided with bells. They also decorate the sides with canvas of various colors and drawings in square fields, similar to chessboards. The war canoes always carry their supply of stones with them, in order to destroy the enemy (in order to throw at the enemy). They even kill fish with the stones.

All these types of ships are extremely light. They travel with great speed and offer limited conceivable resistance to the water and go over shallows with ease. Their size varies considerable. They can carry between 40 and 50 men."

According to the number of persons that the vessel can hold, the natives distinguish:

<table>
<thead>
<tr>
<th>Name</th>
<th>Length</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>kiaipapot</td>
<td>2 nap (fathoms)</td>
<td>1-2 people</td>
</tr>
<tr>
<td>kisinuar</td>
<td>2½ &quot;</td>
<td>3 people</td>
</tr>
<tr>
<td>pantsa</td>
<td>3-5 &quot;</td>
<td>4-6 people</td>
</tr>
<tr>
<td>uarasap</td>
<td>6-6½ &quot;</td>
<td>6-6½ people</td>
</tr>
<tr>
<td>kailon</td>
<td>7 &quot;</td>
<td>7 people</td>
</tr>
</tbody>
</table>

The boats prepared from one trunk, of which only bow and stern superstructure and the outrigger equipment are attached, are built, according to Hambruch, from the following types of wood:

- **ton** - according to Pereiro, p. 126, Dipterocarpus polyspermus and D. Mayapis
- **satak** - according to Christian, p. 330, Elaeocarpus
- **ueinal** - according to Christian, p. 346, Lumnitsera
- **mai** - breadfruit
- **pulok** - according to Christian, p. 344, Carape Moluccensis
- **kemar** - unknown variety of wood
- **pinepin** - according to Christian, p. 343, the same as pelak, counted among the gourd family and providing the natives with calabashes. It must therefore be
assumed that there is a mistake here.

kalau - according to Christian, hibiscus. According to Hambruch, the paddles are carved from this, which is certainly a mistake. They are generally of breadfruit wood.

kyup - according to O'Connell, the preferable used variety of wood and according to Christian, belongs to the lily plants. Here also, a mistake must have occurred by one or the other.

O'Connell's report of boat building is completely confirmed by the narrations of the native. At the suggestion of the chiefs and it addition, after the Nanamariki had given them permission, roughly every two years, a general new construction of canoes was initiated. The building was started by certain festivals and ceremonies, epen saraui, one, which are supposed to have taken place in the now-ruined city, Nan Matol. The leader was the sau pal, who also supervised the work. In later times these festivals had only local significance left, and the chiefs of the neighboring districts were invited to them. The felling of the large trees was done by 5-6 men. They were hollowed out where they fell in order to reduce their weight. For large boats, the trunk was left whole. For small boats, it was divided. Then it was dragged to the nearest waterway and brought to the boat house. The Nigurts formerly had to perform all these tasks. Only now the actual boat builders, often chiefs, or at least people of the two upper castes, started their honorable work. Four to five men were busy at it for about a week. Accompanied by song, as many people as possible helped as well. First the outside was worked, then the inside. Seats and outrigger were first attached after the canoe had received the coat of red paint, the lacquer overcoat and the polish. All the fastenings were, as they still are, of sennit. Formerly however, the seats were also decoratively wrapped with it. For caulking, coconut oil, lime and
Calophyllum resin (galip - nut) are used.

The Hollowing out of the Canoe

The boat is dragged down (from the bush). First the tops are taken off, then the branches are removed, until all branches are off. Now it is roughly hollowed out. After the hollowing out, the outside is cut. Then they hollow it out again and form the canoe. After shaping, the boat is smoothed, and after the smoothing, the float and the pieces of wood for the canoe are made. After that it is painted and lacquered. Then the boat is finished. It is then tested and it is taken to the water for the first fishing expedition. This fishing expedition is called katapeik.

Charm for Boat Building
(At first hollowing out the body of the boat)

My spirit rises above with the ax,
My spirit strikes down with the ax,
Hasten, make the canoe fly.
Oh, quick, quick, oh, my canoe.
Then slowly, and now quickly.
My two small children,
The one is called Sipe rou,
The other is called Sape rou,
My flyer lives, Main Tau Katar, Nan Selan.

During the felling of the tree still another charm is said, which however, is never given away because otherwise the person concerned would be killed.

The boat building festivals of ancient times, as O'Connell experienced them were also not quite forgotten in 1910. They could still tell the following about them:
Boat Building

In ancient times the chiefs organized the sacred boat building festival. It was a sacred festival, a tribal festival. They then informed all their sub-leaders to meet in order to decide when they wanted to begin building. The nobles ordered the sub-chiefs, the Naneken and all sub-leaders to go home and make preparations and to build for the boat building festival. They then went away. And every place then built only one boat, the "maintsap" for the Nanamariki and his chiefs and sub-leaders in their districts. All went into the bush in order to build, no one was allowed to remain at home and do nothing. They worked diligently and were not lazy. An unfinished festival canoe was abandoned and never finished. During the time of the canoe building they also practiced their games until all canoes were finished. Then they brought them to the Nanamariki, took them before the princes and likewise began to prepare for the game. When the game was over, they all let the Nanamariki have the canoes, the equipment, also the Nanamariki kept the paddles. The Nanamarikis received the canoes and selected three canoes to give them to the other Nanamarikis. The rest was given to the other title-holders. Then they sat down in the meeting house, celebrated with a meal and drank kava until they were drunk. Then all returned home and slept.

Report on a Sacred Ceremony

There was a sacred ceremony in Ponape, during the building of the canoes, called epen sarau. When they wanted to build canoes, one tribe conferred with the other, concerning at what time they wanted to begin building. Then they felled trees and worked simultaneously until they had finished. Then they made preparations, put their ornaments in order and took care to have beautiful paddles. On a certain day, called ran en puek uar, they launched the canoe. When it was so far, they pushed the canoe in the water. And if someone is not yet finished
with his canoe, he would launch it on that day so that it would be consecrated and no canoe in the district be forgotten. They put it in the water to float and let it float. They called it pus on epen, if the canoe is not yet finished. They make preparations on another day for the ran en pitakpene. They depart with all the canoes and meet in a small place. Then they prepare for the day, which is called ran en epen lap'. When the day of the ran en epen lap is there, they meet at that place, conduct sacred ceremonies in Pankat'ra and organize paddle dances at many places. When the sacred paddle dances are ended, they then hadn over all the boats to the Nanamariki. Then the Nanamariki distributes all the canoes among the people. Then all the people get new boats. Then they all return home and keep their boats. Thus canoes were made in ancient times, and a canoe was made at no other time, because they waited for an epen again, then canoes were made.

The life of the boats was rather short, in spite of the trouble taken over them. Generally they lasted only a few years. Older chiefs' boats were given to the Nigurts as work boats. As for the rest their canoes were built much worse and were smaller in size. The old kings' boats to a certain extent the state canoes, were never destroyed, but rather were lifted up in the festival houses. Ordinary boats lay on the beach when they were not used, often in the water.

They say a charm for protection:

Charm for Canoe Protection

Mother of the boat guard, father of the boat guard,
Watch and protect and protect the boat!
You can protect it from evil,
Here my canoe.
Thorns outside, thorns inside,
Thorns inside, thorns outside,
Remain a magic under mine,
Over everything looms my magic,
Mother of the boat guard, father of the boat guard,
Watch and protect and protect the boat!

Boat accessories are sails, paddles and bails. The knowledge of the sail is connected with a legend. It is related:

The Story of the Sail

Thus they think about the sail. In very ancient times, Nan Dzapue married two women in heaven. The two began to make a sail. They gathered many pandanus leaves and filled a house with them. But Nan Dzapue was dissatisfied with the storage. He took the pandanus leaves and threw them out of the house. Some pandanus leaves fell down from heaven on a small place in the state of U, called SelataX. The women were angry about this and cried. They went away from heaven, they were three sisters. As they roamed about, they arrived at SelataX and found their things there. One of them took her things and went to Langar, and the two others took their things and went to Na, finished the sail.

Thus the people of Ponape think about the sail, because before the two women appeared from heaven and made sails in Ponape, there were no sails in Ponape. The sails are called iepit. The Ponape people used these formerly until there was much material in Ponape. Then no iepit were made any more, but rather the sails were made from cotton material.

The sails are plaited by the women from pandanus leaves. This work also is carried on during the observation of ceremonies and makes the people taboo while they are occupied with it.
About the Making of the Sails

A sacred sail was also made which is called zeu kopun. The women meet and set a day, the ran en pits saraui. When the day comes, all the men and women, who travel in many canoes, go to the island, Na in Matolenim. They meet on Na. There they carry out a sacred ceremony which is called Se'inpen. Then they begin with the plaiting of the sails and leaves called te'ip' are used for this. The sails are made from this tree. When it is finished, they bring it to the Nanamariki; the Nanamariki keeps it. Then all the people who participated in making the sail are no longer taboo, for the sacred sail is finished.

The two long edges of the triangular sail are tied to a vertical loose boom and a horizontal spanker boom. A mast is lacking. It is replaced by a pole which supports the corner of the sail which projects in the air. The sail in Illustration 121 and Lukre's sketch are different from each other in this respect. In the former, this pole is somewhat below the beginning of the last third of the vertical boom. This pole, which takes the place of the mast, is held by a men and erected on the one or the other ends of the boat according to the direction in which the boat is to travel. They say a charm while hoisting the sail:

Charm During the Hoisting of the Sail

I tie the yards in Kapinsolap,
I make a loop, I make the loop on top,
I make a loop, I make a loop at the bottom
I put the yards in at Tauak,
the float goes up high,
Yards and mast, remain strong, yard and mast,
Remain strong, yes strong!
The paddles used, *patil en uar*, were also painted red, according to O'Connell. Otherwise they were plain, in contrast to the dance paddles (cf. p. 204). Those shown here are of different shapes. The Hamburg paddle has a broader blade almost set at right angles. The Stuttgart one, moreover, shows cord ornamentation and a thickened point. A comparison with the dance paddles shows a great correspondence in the shape with the Hamburg piece.

The bails are either longish vessels crudely carved from wood, or only coconut shells. The former are called *pinale*, the latter, *limerikerik*.

Names for the Canoe and its Parts. According to Hambruch.

<table>
<thead>
<tr>
<th>Name</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Space inside the canoe</td>
<td>liulongies</td>
</tr>
<tr>
<td>2. float</td>
<td>li en tamara</td>
</tr>
<tr>
<td>3. bow</td>
<td>tip en mo</td>
</tr>
<tr>
<td>4. stern</td>
<td>tip en mur</td>
</tr>
<tr>
<td>5. keel</td>
<td>kapin uar</td>
</tr>
<tr>
<td>6. gunwals</td>
<td>au en uar</td>
</tr>
<tr>
<td>7. rower's seat</td>
<td>lo en uar</td>
</tr>
<tr>
<td>8. seat board</td>
<td>parisamet</td>
</tr>
<tr>
<td>9. long outrigger</td>
<td>kiai en luk</td>
</tr>
<tr>
<td>10. diagonal outrigger</td>
<td>tak uar</td>
</tr>
<tr>
<td>11. tiller supports</td>
<td>kiai</td>
</tr>
<tr>
<td>12. straight connecting boards</td>
<td>aubat</td>
</tr>
<tr>
<td></td>
<td>to the platform (outrigger bridge)</td>
</tr>
<tr>
<td>13. fork</td>
<td>apis</td>
</tr>
<tr>
<td>14. stay for rigging</td>
<td>katumenk</td>
</tr>
<tr>
<td>15. mast</td>
<td>ke u</td>
</tr>
<tr>
<td>16. sheet (for hoisting)</td>
<td>akalap</td>
</tr>
<tr>
<td>17. sheet (for holding)</td>
<td>li</td>
</tr>
<tr>
<td>18. thrusting poles</td>
<td>pulinar, lateki</td>
</tr>
<tr>
<td>19. paddle</td>
<td><em>patil en uar</em></td>
</tr>
<tr>
<td>20. round bail of coconut</td>
<td><em>limerikerik</em></td>
</tr>
<tr>
<td>21. wooden bail</td>
<td><em>pinale, lim</em></td>
</tr>
</tbody>
</table>
Footnotes


308 1 Pereiro, loco cit. p. 126.

313 1 A canoe not finished on time.

317 1 O'Connell, Chap. 10 . . . The sails are triangular, such as are called in the sailor's vernacular, shoulder-of-mutton sails, and are platted (sic) by the women of split rushes. A yard and a boom at the foot secures two sides of the sail, and the third side has no leach rope, the strength of the material rendering it unnecessary. In putting about, it is only necessary to shift the craft end for end, and make that her bow which was before the stern, as the outrigger must of course, always be kept on the windward side . . . . .

cf. in addition, Lütke II, p. 27 . . . . The long side BC and the hypotenuse BD are attached to poles bound at B but in such a way that they can move freely. The side CD is free. To direct the sail, the corner A is attached to the end of the boat when one wishes to go forward; the corner C is raised in the air by means of a long pole to which it is attached; the corner D is also held by a pole. The sail is folded in the twinkling of an eye by rolling it on the poles. To turn about, one also folds the sail and the corner A is shifted to the other end of the canoe. All that is done very quickly. They generally show a great deal
of skill and rapidity in maneuvering their canoes. Because of
the shape and the arrangement of the sail, it is impossible
to make it bigger, and that is probably the reason why the
canoes of the Ponape people do not travel with the same speed
as the canoes of the inhabitants of the low islands.
V. Hunting

1. Fishing

The ocean supplies a very substantial part of the food, and the natives are eager and efficient fishermen. A successful fisherman has also the certain prospect of a good marriage and is gladly taken into every family. Formerly, the Nigurts supplied the amount of fish necessary for the table of their masters, and were amazingly skillful in treading water. Nobles occupied themselves with spear fishing only as a sport. In this manner, they also killed the shark, which they partly ate. Nowadays everyone fishes. Also the women carry out small fishing on beach and reef.

The most important kinds of fish for the natives are the following:

<table>
<thead>
<tr>
<th>The Names of the Fish</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. kame'ik.</td>
</tr>
<tr>
<td>3. tsep'</td>
</tr>
<tr>
<td>5. e'iuel</td>
</tr>
<tr>
<td>7. saui</td>
</tr>
<tr>
<td>9. mome'i</td>
</tr>
<tr>
<td>11. pakas</td>
</tr>
<tr>
<td>13. pulal</td>
</tr>
<tr>
<td>15. epil</td>
</tr>
<tr>
<td>17. litoi'i</td>
</tr>
<tr>
<td>19. mar</td>
</tr>
<tr>
<td>21. lierpuatser</td>
</tr>
<tr>
<td>23. letsepuil</td>
</tr>
<tr>
<td>25. ikimuon</td>
</tr>
<tr>
<td>27. ikem</td>
</tr>
<tr>
<td>29. poros</td>
</tr>
<tr>
<td>31. kauele</td>
</tr>
<tr>
<td>33. senisen</td>
</tr>
</tbody>
</table>
From time to time they organize large, communal fishing expeditions, which end with tributary gifts to the chiefs and with a festival for the people.

And the following nopui is organized for the chiefs on the occasion of the consecration of fishing instruments. The people make drag nets of hand nets, and for four days give their catch of fish to the chiefs. Then it is finished; and they are allowed to fish for themselves, and eat. In this manner, the Ponape people show their respect to their chiefs; thus there are some fish in the sea which no one is allowed to eat before the chiefs have eaten of them. And they give some to the common people, so that they may then eat with them. Such fish are: tortoise, flying fish, bonito, merer; the large flying fish called mauot, ripuirip and tikila. These fish are not allowed to be eaten by the common man, because he would die, through (the long distance magic of) the chief.

Eating Festival from gifts of the land and the ocean.

When the people of Ponape want to fish, they prepare their small drag nets.
The day is set when they want to go to the reef. Then they meet. The nets are tried out. When this is done, they divide the people, those who are supposed to go on the reef and those who are supposed to stay on the land in order to cook the meals. The fishermen set out all together, the rest gather and discuss what they should do. They now fetch the meals and also provide for kava. Together they carry all this in the meeting house, pile it up, fetch kava and distribute it on the flat stones. They wait for the return of the fishermen, and the women grate coconuts, add gingerroot. They also prepare the ornaments, especially the flower wreaths. There they sit next to each other in the meeting house and wait for the fishermen. Finally there is high tide. Now the fishermen come back, blow the conch shell and sing songs. All people on the land pound kava. When the fishermen are near the shore, they jump out of the canoes and drag the whole catch with them to the meeting house to the nobles. These are very pleased. They put the catch down, then they sit down, they then finish making kava and hand it to the chief. One of the sub-chiefs takes the kava beakers and hands them to the high fishing master and some of his people. Some women and men rise and anoint all fishermen with oil and give them the ornaments which they have prepared. When they are finished, they sit down. One man, however, the Tsou e nene, then stands up, goes to the pile of food, lifts the carrying strap of a basket of food high and says the Kate ria incantations.

This is the conjuration:

"I take away the evil magic and bring it away the evil magic,
Evil magic down here, evil magic up here, away you evil magic,
Because we want to live, we want to be healthy.
Evil powers go away, good powers, come here,
Over these food heaps, your small ones, your large ones,
I lay my hand on the small heap, I lay my hand on the large heap,
Thus we are full, full, well satiated in our country,
Always satiated, Mistress Ilakelok, Lord Tsamol, ue!"

Afterwards all the baskets are lifted high and distributed to the fishermen. Then these rise and lift up the fish. They select the largest fish and hand them to the nobles and divide the rest among the people. Then they sit down and continue pounding kava. Then the shore dwellers go to the reef, and the inland dwellers cook, for four days. Then it is ended.

According to Hambruch, the fishing expedition with the large nets, the naikalap, that have a length of fifty spans, is preceded by a four day seclusion of the men taking part in it. They must also refrain from sexual intercourse and must not eat any bird's flesh. Then a charm is spoken (see text 128). The first catch is received by the Nanamariki, the second, by his wife, the third by the Nanekin. What is caught last is received by the other high title holders. For this they organize a great festival at which there is an abundance of kava. According to another description, all states take part in the Naikalap expedition. The Nanamariki receives only two fish, no matter what the size. This is followed by a general giving on both sides between men of high and low rank.

Some fish are taboo for the common man, either completely or partly, or rather, at certain times. Sometimes they are freed of this, after the chief has tasted them. As in all important undertakings, magic and counter-magic are also practiced during fishing.

Story from Mutok

A spirit, permanent since ancient times inhabited this Tol Takai; the spirit was a woman, who was called Likand Naluk. She sat on a stone house and watched the fishermen who were fishing here according to the lait en li technique. The
The party of fishermen always set out in Kapinpelan. Before their fishing expedition they made sacrifices; they brought small kava gifts. Four women had to do it, they sat down around the stone, two tsopeiti women and two seriso women. Here they brought the kava sacrifice. Thus they made the kava and wrung out the coconut fiber. They wrung it out in a stony shell. At the same time they prayed to the spirit woman. Thus they prayed:

"To you I dedicate the beaker Puiniu under your bosom Likand Naluk.
Likand Naluk tell it to Likand Lueteisap'.
Likand Lueteisap' tell it to Likand Likokasap'.
Likand Likokasap' tell it to Likand Limotie."

These four spirit women are yet more powerful than Likand Naluk. She lived on the Tol takai and the others on Tomé. When the sacrifice had ended, the fishing expedition was begun, in which all women of Mutok took part. All the fishing society wore ornaments of beautiful flowers and put them on their heads. Now when they go fishing, a woman carries a bundle of kava shrubs to the shore, the others follow her to the shore and to the kava. They cover a stone with this kava, the Saulik en Peikap. Then the fishing society hunt for two kinds of fish, which we call aron, and aa. When they have caught them, then they return here again. On the way home, they first visit a small place, Nin Tsein, pound kava and sacrifice to the place. Then they choose two women, a tsopeiti woman and a seriso woman, who are supposed to take the fish and the fisherwomen's ornaments to Alenian. When they arrive there, all the people who see the two must hide. When they are in the vicinity of Alenian, at the house Ngauliu, then the Nanamariki and his main people gather there, begin to celebrate, wait for the fishermen, because now they know that they are coming home. But the women do not appear at the gathering immediately. Both hide and first listen to a drum song which refers to their handing over of the fish and the ornaments. A priest comes, takes
the ornaments and also the fish. With gifts of food, as much as they can carry, 
they return to Mutok. The next day they do the same, and thus for four days, 
then the expedition is ended.

This fishing expedition only took place once a year, always in the same 
manner from ancient times to the year 1870, when it ceased.

Charm to Disturb the Fishing Haul

Some people have gone fishing, one has remained at home. He says a charm, 
so that they should not get any fish:
Lipali kiti, Li kai pela
Go, go, dive under with stones,
Come up with corals
Like the mountains, the mountains, the mountains
aaaaa huhuhuhu!

Charm during Fishing

I tread, tread, tread, a little on the sinkers,
I tread, tread, tread now harder on the sinkers.
May it come, may it come here,
Numerous, innumerable like mangrove leaves,
Numerous, innumerable like banana leaves,
The fish into the net.
I tread a little on the sinkers,
I now tread harder on the sinkers,
ue!

Charm while Catching with the Fixed Net

When three to four canoes fish together, the charm is said so that the fish 
go in the net:
Here I go,  
There I go,  
I dive down, a thousand fish come,  
I come up, a thousand fish come,  
In order to fetch a thousand fish,  
In order to fetch still more fish,  
And still more fish,  
Infinitely many fish,  
Still more, joho!  

Charm while fishing with the Large Net  

I lower the little forked wood,  
I lower the large forked wood,  
My foot moves, my arm moves,  
My whole body moves.  
Many fish are caught, caught, caught.  
The tails struggle, the tails struggle!  
Katin Kepira, Li aun Kepira,  
There is the path of the fish.  
Come, swim between the legs of Li aun Kepira,  
The tails struggle, the tails struggle, joho!  

The fishing methods practices on Ponape were described so clearly and thoroughly by the native, L. Kehoe, that he alone will be quoted here:  

Some Fishing Methods of Ponape  

1. Large fixed net  2. small fixed net  3. large hand net  4. small hand net  

839
These are the main types of fishing which the Ponape people use in order to catch fish.

In the following manner the large fixed net is used for three kinds of fishing. These are called:

1. Fishing at high tide 2. Deep-sea fishing 3. Night fishing. The ti-method with the large fixed net is used on some reefs, the kelik-method is used for fishing inside the breakers, and the kos-method is brought into use during the night on some reefs.


These are the fishing methods with the large hand net. 1. Hand net fishing. 2. Fish drives. 3. Fishing from the canoe. 4. Fishing in shallows. 5. Fishing by means of weirs and nets. 6. *Hand-net fishing. These are the names of the kinds of fishing with large hand-net.

These are the methods of fishing with the small hand-net. 1., 2., 3. At full moon on the reef. 4., 5.*, 6. Stone heap fishing. These are the names of the methods of fishing with the small hand net. This is the stake net fishing. They go out with three or four canoes and fish at night or during the day. They get out of the canoes and put the stake net out on the reef edge of a lagoon, then the canoes go up on the reef, then the fish are scared with poles and caught in the stake net. This method is called stake net fishing.
The pelik hand net is a net which requires two people to use; they go along
the reefs at night and thus catch all kinds of fish, small ones and large ones.

The double hand net is a net on which two pieces of wood are attached like
the yards of a sail. Ten to twenty men fish with it, they go along the edge of
the breakers with it.

The _______ is a kind of net. And these are the kinds of fishing which are
managed with it: 1. Fishing on the reef corals. 2. _______ fishing.
3. Fish drives. These are kinds of _______ fishing.

On the Fish Poison

Up is the root of the sal plant which creeps over the ground, which the people
 pound, then take and carry into the reef water. Now when large fish creep into
the holes under the stones, the people pound the root and put it under the stones
then fish are stunned like people drunk on kava, and come out from under the
stones and die.

Weighed Fishing

Weighed fish trap is a net which looks like a pouch; they go into the mangroves
with it, and climb up to a high location. Then some food is put into the weighed
fish trap and it is lowered into the water. Many fish gather in it and eat of the
food in the weighed fish trap and when the weighed fish trap is full, the weighed
fish trap which is filled with forty to fifty fish is pulled up.

Fishing with Torches

Torch fishing is a method in which dry coconut fronds or leaves of the ivory
palm are used. They are tied together and the people go to the reef at night.
Then they light it until it blazes and hold it over the water. The fish are
roused and blinded by the bright light. Then the people catch them with nets.
spear them or kill them with knives, a hundred fish and even many more are caught at a time.

Weir Fishing

They go on the reef and build long walls of stones, they also make numerous openings for about twenty to thirty people. Then they go home and remain there until it is dark; then they go again to the weir and settle down at the openings which they watch and close with the liem net. Then many fish are caught in the net pouch. They then wait until the water subsides and the reef is dry. Then the weir is filled with fish, 100-200. At times up to 1000 fish are caught thusly. (See the sketches on this page.)

Surf Fishing

Surf fishing is a method in which they go out in the canoe and take five to six tied nets out. A net is tied together so that it looks like a bag, then they go into the surf and put the fixed nets in the vicinity of the deep places. The bag net is in the middle of the other nets. Now the people pull the nets on their ends up close to the breakers. They sing, blow conch shells and throw stones, until the tide goes out; then they gather the nets in and fifty to sixty and up to a hundred fish in the net bag, full of fish.

Drag net Fishing in the Deep Water

The drag-ent fishing in the deep water is a fine method. They take two or three nets along. Then they put the nets out in a small lagoon which is surrounded on all sides by reefs. Then they arrange the nets in a line. Now they pull the nets up, first from the one side of the lagoon, and then from the other. Then they find the nets are filled with 100 to 200 fish. Then they take small hand nets and spears, and take the fish out of the nets with them.
Thus there are many, many kinds of fishing in Ponape. The varieties of fishing are called:

1. Fixed net fishing.
2. Fixed net fishing from the canoe.
3. Fishing by hand with a large net
4. Fishing by hand with a small net.
5. Drive fishing from the canoe.
6. Reef fishing
7. Reef channel fishing
8. Drag net fishing
9. Mangrove fishing
10. Surf fishing.
11. Weir fishing
12. Weir fishing
13. Weir fishing
14. Torch fishing
15. ?
16. Full moon fishing
17. Night fishing
18. Double hand net fishing
19. Oyster fishing
20. ?
21. Fishing with weirs and ents.
22. Spear fishing
23. Weighed net fishing
24. Eel capture
25. ______ net fishing
26. Fish poison
27. Fish grasping
28. ?
29. ?
30. Stone pile fishing
31. Channel fishing
32. Reef fishing in deep places
33. Stabbing fishing
34. Fixed net fishing with three nets
On Fish Driving

Fish driving is a beautiful method with which many fish are caught. Indeed, no large ones but they can catch only small ones. When there is fish driving, it takes about twenty people. About dawn, at high tide, they go into the sea, to the surf and make two or three piles of stones. Then they put nets around the stone piles and two to three fixed nets around the nets. From both sides of the fixed net the people form two lines up to the spot where the surf breaks thundering down. They carry cudgels and stones, beat in the water with them and throw the stones so that the fish do not slip through between the people. Because when the sun rises, the water runs off from the reef. Two people run along the edge of the reef, call, shout and stir up the water. Then all people stir the water up, shout and blow a conch shell. Thus they approach each other and pull the net together which they then find full of fish, as are the nets and the stone heaps. They seize the fish here. Afterwards the canoes are filled with fish. At times, more than a thousand fish are caught like this. This fish drive is also called pinepes.

Many kinds of fish are caught in this manner, large and small. They are: 1. Letsepuel 2. tainseu, 3. samui, 4. li er puatser 5. pulak 6. meti 7. epil 8. muatel. These are the kinds of fish which are caught by fish driving.

The Weir Basket

One kind of fishing is called weir fishing. The people fetch branches and threads, tie them and make a weir out of them. A weir is like a house or a
cupboard. They tie until they have finished. It is taken to a canoe and they go out on the reef. Then it is lowered to a hole in the reef which is not deep, but about two to three fathoms. They anchor it and go home until the next day. The fish swim in in order to settle down as if in a house. But they do not know how to get out again; it is difficult to get out again. The people go out early in the morning and then find the weir filled with fish. Two kinds of fish in particular are caught in the weir: maner and Murâna.

Fishing for Cuttle-Fish

Fishing for cuttle fish is a kind of fishing. The cuttle fish is caught by this method. They set out in a canoe and paddle over the reefs in order to find cuttle fish. They paddle until they notice cuttle fish, which usually sit in holes. They spear them and thus catch them, others however, are difficult to spear. Then they take a sea cucumber which is very bitter. The cuttle fish perceives the bitterness and comes out of the hole. Then they catch it. At times ten are caught like this.

Description of the Sapuik capture method

With sapuik, a catching implement is used which looks like a net. The fishing implement is made; then two cudgels are tied to the two edges of the net. Then it is rolled up like a canoe sail and two ropes are pulled through the edges of the net, which are called rop'. Then they set out in two or three canoes. Many people take part in it, about twenty to thirty. Now they go to the breakers when the tide is going out. The net is brought to the shore where the surf breaks (ponlik); for here the catch occurs. Two people carry the net and two, the capture ropes. Some agile people go on the right side. Others hunt the fish in the net with the kenpuar cudgels. The third group hauls the gathering basket (kopou en gatau). The basket carriers remain on the left side, until the
catch is over. Other people have to look after the canoes; they are not allowed to eat until the fishermen return; then all eat. However, if the canoe people eat something, then the fishermen hurt their feet, and if the basket carriers take the basket to the other side, there will be only few fish. So they remain at the breakers and wait for the wave which carries the fish on the reef. When the wave rolls up then, they quickly hurry up with the net and stand still. The people carrying the catching rope shake the rope, those standing behind them do the same, and the drivers scare the fish into the net until the net is filled. Then they take up the net, draw it on the reef and shake it filling two to three baskets. They do this two or three times, so that about ten baskets are filled. Then the fishermen return home. This method of capture does not permit itself to be carried out everywhere, but only on a breaker reef.

The tsaup Method of Capture (with poison)

In the tsaup fishing the people use a net and a climbing plant (a kind of live rope) which is found in the bush and called up'. They get roots of up and a small net. With this they go out on the reef and look for a large stone which lies at the edge of a reef channel (lagoon), where many fish always stay. They now take the net, \(\frac{4}{5}\) and spread it out around the stone. Then the roots are pounded and with splashing, are shoved under the stone. Through this the fish are roused and dazed, like men who have drunk kava. They swim out under the stone and are caught in the net. By means of the tsaup method, many fish are caught.

Description of the tapatap' method

The tapatap method also belongs to the small fishing of Ponape. Four to six people pursue it at night, until the water begins to recede. They take small and large nets with them and go with them to the reef. The people with the large
net go to the end of the lagoon. The people with the small nets go to the places of the reef that run dry. They wait until the big net is stretched out. The people with the small nets now hunt fish out of seaweed and drive them into the beg net; but they catch some with the small nets. This method of fishing is called tapatap'.

Description of the taukol capture method.

This taukol belongs to the small fishing, in which one must wait for heavy rainfalls. If cloudbursts come at night, then during the day there are swollen torrents, the water flowing off then clouds the water in the reef. The fish are blinded by this and can no longer see. Then they take nets, go into the lagoon waters and practise taukol. The fish cannot be seen, because the water is cloudy; they move the nets to and fro and take them out again, two or three fish have then been caught in the net. And if one has dipped the net about ten times, ten to twenty fish are caught. That is the taukol method.

The tiati method

Tiati belongs to the small fishing which women like to pursue on dark evenings. Two to four women take small nets with them and go out in the evening, when the water is receding. They go toward the places where much olot seaweed grass grows until they find a lot of olot. Now they lower the nets into the water and, by tramping with their feet, they startle the fishs in the olot, who swim away frightened and are caught in the nets. By means of this method one catches many fish, but no big ones.

Description of the pikipat capture method

Pikipat is a secondary capture method in Ponape, which is pursued in the mangrove swamps and cannot be carried out everywhere on the reef. Pikipat is carried out on dark nights, as well as by moonlight. They wait until the water
recedes, then they go to the mangroves and carry nothing with them. One looks for the pools in which residue has remained. There they find a kind of fish, sepou and also crabs. They catch them. And this secondary fishing is called pikipat.

The catching of bonito is described by Nanapas en Kiti as follows:

The Catching of Bonito

This is the way in which the people of Ponape catch bonito. First, the matter was already discussed in Ponape; they met on Ant next in order to make preparations, for when the bonito would appear. Everyone remained on Ant and watched. Even when the other people still did not see anything, the Uasa iso began to shout. Then all the people hurried there. The fishing begins. They bring all the canoes. They go into the water in order to watch the fishing. After setting out, the canoes form a row and travel along the school, which swims the length of the land. Thus they travel beside it, rejoicing, singing and dancing. Then, when the fish become tired and exhausted, they approach the beach. Then they are surrounded in a semicircle by a large fixed net and a drag net. They catch all the fish and throw them on the beach. And even when three hundred fish lie on the beach, they do not die yet, but if one was not caught with them and it is caught later and added to the others, then they all die at the same time. Now all the people take the fish and bring them in the stone circle. The Sau en nene rises. They are distributed. People take their share, go away in order to arrange the hearth and to prepare the food. On the next day the oven is opened; people prepare square gratings of wood (grill) and keep a small fire under them. If the oven has been opened, they take some fish and put them on the grill. On the following day, they put them in the sun. When the bonito season had arrived, there was much to do on Ant, because every day they had to catch bonito and to prepare
Them, and at night there was no sleep.

In O'Connell's time, fishing with hooks enjoyed only moderate popularity, due to its limited productivity. More recently, the old hook of bone or wood, which was attached to a mother-of-pearl lure, has been completely displaced in favor of the very much sought after European iron hook. See vol. III, Finds in the Ruins.

The catching of turtles has special importance. The flesh is due to the Nanamariki. The person who catches it may keep the shell. They distinguish the loggerhead turtle, Caretta caretta, kalap, hawksbill turtle, Chelone imbricata, sapaka, green turtle, Chelone mydas, tartua.

The Capture of Turtles

The way in which they catch turtles is called kaik. In the morning four men travel in a canoe out to the high sea, in order to look for seaweed which floats around on the sea and is called rir. In such places they find many turtles. The man who sits in front at the bow, is called suapir; before he goes out on the sea he prepared a rope, the sal en pir. Such a rope is four fathoms long; besides they wait on the sea until they notice a turtle. When it is quite near, the saupir binds the rope around himself and orders the other men to paddle forward until they are quite close. Then the saupir rises and jumps out of the canoe. Then he tries to clasp it with his hands and feet. Another, the Sau en itimur, jumps after the Saupir and supports him; they both hold it tight. Another, the Sau en apisal, takes the rope and hauls it in. And the man, who sits at the stern, must pay attention and take care that the canoe does not capsize. Now the Sau en apisal pulls the other men and the turtle to him and into the canoe. They make a loop, put it around the flippers of the turtle and draw it tight. Then they let
the turtle drift next to the canoe. The men get in again and rest. And the turtle is allowed to struggle in the water by the canoe until it is tired. Then it is taken into the canoe and tied tight. They travel to land, because the turtle hunt has succeeded. Then they take it to Nanamariki, because if they eat it, the Nanamariki and all the nobles are enraged, take land from them and destroy their property.

This capture method is called, kaik, pir, lus, tau and urir; there are many names for turtle catching.

And in the following way they catch the turtle with a net. Two nets are carried in two canoes, then they go to hunt in the evening. That is called sepun. During the journey, two people with the net dive under the canoe, the other canoe does the same. Then they join the nets and pull them apart. And the canoes travel apart after the (free) ends of the nets and then head for each other again. If a turtle was there, it will try to escape and catch itself in the net. The net men then hurry there and hold the turtle tight. They bring it into the canoe. In this way they also catch fish, indeed many fish, which they are allowed to eat, the turtle however, they must bring to the Nanamariki. The catchers are not allowed to eat it.

The Killing and the Preparation of the Turtle

First they tie the turtle's arms and legs tight, then they cut all around the ventral shell and take out the intestines, the liver last. The intestines are carried out to the reef and the filth is removed; then they bring them back again. Now they put their hands into the turtle and hunt for two bands which are stuck in the neck of the turtle. They are torn, then the turtle is dead. Then they prepare the earth oven. When it is hot, the covering leaves are brought and spread out on the hearth. The turtle is laid in and the oven covered. When
it is cooked, it is taken out. It is brought to the nobles; then the carvers appear.

Two people squat down on either side of the turtle, one fetches water, both wash their hands, then they sharpen their knives and begin to carve the turtle. First they cut off the arms and put them on the ventral shell, then they cut off the feet and put them on the arms. Then they separate the ventral shield and lay it down in front of the turtle's head. Then they separate two little pieces of flesh, the utukamotj; after that two at the anus; then they detach the stomach muscular flesh at the side, then the two arm muscles, then the two back muscles, and after that, the pieces of flesh on the back, then the two muscles between the leg muscles and dorsal shell. All is laid down in front of the turtle's head; then the leg muscles are cut off, then the muscles which connect dorsal and ventral shell and finally, the flesh between the first and second ribs on the back.

After that, it is distributed: the Nanamariki receives an arm muscle, the Naneken likewise; the Likand receives the head, the Nalaim, a side muscle, the Uasai likewise; the Tauk receives a neck muscle, the Noz likewise; one connecting muscle between ventral and dorsal shell is received by the Nanapaz, the other, by the Nanaua; the rest is divided among the lesser title holders.

2. Bird Hunting

Already in O'Connell's time, the people of Ponape had chickens which are supposed to have come from a Spanish ship. They had a great horror of the flesh, as, at that time all birds seem to have been taboo. Yet they delighted in cock fights. In later times, however, they build chicken traps and catch doves. The Ponape dove is larger than the European. They hunt it in order to eat it. They practise the domestication of birds much less often than many of their island neighbors. At times one sees in the huts, in cages, blue herons, kaualik, or black and white sea birds, called chik. Dove snaring is carried out thusly:
Bird Hunting

This is the way that the people of Ponape catch birds, especially doves.

The people first of all go into the bush and look for the trees, where doves feed. They look until they have found them, because there are two trees on which doves feed, one is the aiau, the other, the coconut palm. When we have found an aiau, we ask five people to take part; four then provide us with the implements for catching birds. Then we fetch taro leaves and cut many breadfruit trees. The juice runs out, we collect it in leaves; then we fetch ripe coconuts, grate them and mix them with the breadfruit juice; we then fetch charcoal and add that, in order to make the substance black. We mix the whole thoroughly; then we put it in a coconut shell or gourd calabash. Then in the evening we climb the tree. We take some of the contents of the vessel and put this on the branches until the vessel is empty. Then we go back to the house. On the next morning we go and see. And if many birds are nesting on the tree, about fifty have fallen down. We collect them and take them away. In the afternoon we fetch others again, for there are even more than in the morning. We take them away and divide them among the families. Towards the evening we come again in order to get many more doves again, which have fallen down. We collect them and take them away, and do this every day until no fruit is on the tree. That is our Ponape rifle, which we call pui (bird lime).

The natives are skilled at setting traps. The general name for the simple trap of a wooden bow, a pole and cordage is "letip" or "litip," which, according to Christian, means "betrayal of a woman." They call other traps "katikatia mau," roughly translated as "good attack." They also transfer these names to European rat traps.

The chicken trap, litip, pictured here in Illustration 128, No. 540II, works in the following manner: the pole, which is nearly 2 m. long, is stuck into the
the ground. It is furnished with a long cord, en sor, at the top, which at the end has a toggle, ki and a piece behind this is tied to a snare, kainsok.

At an appropriate distance from the pole, a bent piece of wood, kolipe, is attached. The wood has been bent by steaming over the fire. A cross-piece, katsen, stiffens the bent piece and at the same time, offers support to the vertical toggle, which is loosely inserted between the bent piece of wood and the cross-bar and bends the pole downwards under a strong tension. The snare drags on the ground in this tensed condition of the capture implement and is furnished with a bait. If the chicken wants to eat it, and pulls the snare, or rather, the cord, the toggle falls out and the pole quickly moves up in the air, tearing the snare along with it at the same time. The animal hangs in it tightly by its foot, wing, or neck and is suspended in the air, caught.

The rat trap, kosuk, (No. 539 in Illustrations 129a and b) is supposed to crush the rat, which has been lured down by the bait, and falls in such a way that the grating of reeds tied together falls down on the animal with great force, partly due to the weight of the stone laid on it, still more due to the speed. A strong stick stuck vertically in the earth is notched on top and bears a moveable horizontal stick, pe en karon, of the same strength. This is provided with two strings, salipe en karon, at the back end, and at the front end, one string, kia. The former carry, in the snares, the ends of the sticks, otot, fastened to the grating pointing forward, diagonally downward. The front ends of the otot sticks lie on the reef grating, tit, which is weighed down with a stone, takai. The front cord, kia, is supplied with a toggle, kisikir en pauo, (Christian; kachik) of palm frond ribs. The last end of the cord (Illustration 129b) forms a small snare. When the trap is to be set, this string is drawn through the grating and places the toggle crosswise to the reed ribs of the grating, so that it prevents
the cord from passing through further. Under the grating is a peg, *pan en kisik*, stuck into the earth, to which the snare is very loosely attached. At the same time, it is provided with a bait of fermented breadfruit and other things. Even at the lightest touch the snare is freed from the peg or rather rips it out and now the weight of the stone comes into play. The grating is tipped backwards by the weight of the *sonte*, the three large horizontal sticks, *pe en karon* and *otot* hit in the air at the same time. Thus the grating falls down and crushes the rat.
<table>
<thead>
<tr>
<th>German page</th>
<th>Number</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>320</td>
<td>1</td>
<td>Christian, p. 126.</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>O'Connell reported extensively about fishing in Chapter 10.</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Cf. in addition Christian's list, <em>loc. cit.</em> p. 352 as well as Krämer's list in Palau IV and Truk, p. 435.</td>
</tr>
<tr>
<td>321</td>
<td>1</td>
<td>According to Christiansen, p. 354, a large, blue fish.</td>
</tr>
<tr>
<td>323</td>
<td>1</td>
<td>Master of Distribution</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td><em>ria</em> evil magical powers, which deny the gods. <em>Kate ria</em>, &quot;that which does not remain evil magical power.&quot;</td>
</tr>
<tr>
<td>324</td>
<td>1</td>
<td>Name for the property of the woman of the Nanamariki in Uona.</td>
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<tr>
<td></td>
<td>2</td>
<td>The words <em>kotalel inepal</em> = to wring out coconut fiber are only used in this function. <em>Hibiscus</em> fiber is usual instead of coconut fiber.</td>
</tr>
<tr>
<td>325</td>
<td>1</td>
<td>On Tamotam.</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Variety of bonito</td>
</tr>
<tr>
<td>327</td>
<td>1</td>
<td>Fish goddesses of Ponaulan.</td>
</tr>
<tr>
<td>328</td>
<td>1</td>
<td>All methods marked with a * are later described in detail.</td>
</tr>
<tr>
<td>335</td>
<td>1</td>
<td>Not the English word, rope.</td>
</tr>
<tr>
<td>339</td>
<td>1</td>
<td>ahahahahaa! etc.</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>In order to tire the fish.</td>
</tr>
<tr>
<td>341</td>
<td>1</td>
<td>Christian, p. 126.</td>
</tr>
<tr>
<td>343</td>
<td>1</td>
<td>Windpipe and esophagus.</td>
</tr>
<tr>
<td>344</td>
<td>1</td>
<td>On the neck cartilage.</td>
</tr>
<tr>
<td>345</td>
<td>1</td>
<td>O'Connell, Chapter 14.</td>
</tr>
<tr>
<td>346</td>
<td>1</td>
<td>The birds fly onto the lime and remain stuck; they try to fly</td>
</tr>
</tbody>
</table>
(cont.) away and, in so doing, touch the lime with their wings, which gums up their feathers, so that the birds remain sticking to the branches or fall down from the tree with gummed up wings.

Christian, p. 125.

Christian, p. 125 appears to assume, that the stone hits the animal directly and kills it.
VI. War and Weapons

1. Waging War

O'Connell has reported thoroughly and clearly about waging war, the causes, tactics, handling of prisoners and the conclusion of a peace treaty, in Chapter XVI of his book. He himself had to take part in a war and thus wrote from experience. The natives also still knew and told much about waging war in ancient times. In particular, this presentation is interesting with regard to the treatment of wounds.

About War

Thus the people of Ponape fought each other in olden times. The nobles advised all their leaders and commoners to assemble in order to organize an eating festival. They then come together. Then the nobles order them to go home and put their battle equipment in order, wooden spears, ray-sting spears and stone slings, in order to wage war on another state. They then go home and begin (to make) their equipment. Some carve spears, others repair the slings, some go to the reef and gather ray-stings, bring them home and fasten them on the spears. They also bundle the rays and fasten these on the spears, thus they finish the equipment and then inform the Nanamariki, that all is ready. He then orders them to make their war aprons. They get these ready. Now the Nanamariki orders them to assemble, because in four days the war feast is to take place. During this feast, great dances are held, heroic songs sung and the drum beaten day and night. When four days have passed, the canoes are put into the water and manned and the commoners and leaders go to the Nanamariki. The Nanamariki now chooses some great title holders to be the leaders of the battle. During the night they depart; they set out in order to kill some people of another state. While they fight then, a high commander orders a man to blow the
conch shell in order to stop the battle or in order to return home. Then they come again and bury the dead people or sub-leaders, and the wounded are taken to a special house, and people to care (for them) are given to them, because otherwise no one is allowed to enter the house. During the war, holders of great titles have the superior command, because they are strong and beautiful, the Uasai and the Naneken, and those lower in rank, and all others, have to obey these two. The two command the battle, so that not all people are taken prisoner or not all nobles are killed. Then when they have returned home, then the other state has begun and finished their battle equipment, and a man is sent in order to inform all leaders that they are beginning a war. The people also inform the Nanamariki of it and that they want to go to the field. And they set the day when the battle is supposed to begin. Then the people go home; and on the next day, a mighty fleet sets forth in the morning. Then the tribemembers take their arms in order to oppose the fleet; a great battle takes place, many people and some nobles are killed. They fight day and night, until the war leaders give the command to blow the conch in order to stop the fight. Then they stop and all withdraw, then the dead are buried and the wounded are handed over to the war leaders. They are friendly with each other again, because the blood vengeance of some families has been satisfied. Then the battle leaders choose one of their sub-leaders, who takes a kava shrub and goes to the Nanamariki of the other side with it, as an atonement in order to conclude peace. He carries it there and then returns. The Nanamariki of the other side likewise chooses someone who also delivers a kava shrub to the prince. Then peace is concluded.

Then it used to be that one of the Nanamariki has a great festival prepared and informs the other Nanamariki of it, so that the two can come together and also ask their subjects to participate in it, in order to show them, that they are
friends again and do not want to fight each other any more. Then the other
Nanamariki asks all his people together to renounce (fighting) with the other.
They sit down together, tell stories to each other and joke with one another.
Thus the feast is celebrated to its end, then they stand up, go home and feel
well in order not to begin an evil war again.

And thus it is used to be, that the other Nanamariki also arranges a festival in
return for the other. He also sends an invitation to the other. He then gathers
his people together in order to go to the other together; they sit down together
and are amiable toward each other. The prince then gives canoes, sails,
cordage, paddles and bails to the other. And this other one also gives him some
things and thus gives a gift in return to the Nanamariki for his present. Then
they go home, there is no longer discord between them, because they have
become reconciled.

The Boat War

Thus is the battle in boats between two states. When a state wants to go
to war, this is not concealed, but they inform the state and say to the other
state, that they will move out the next day in order to attack it. Then the people
of the other state arm themselves and place their armor in the canoes. Then they
go out on the reef, because they want to fight from the boats at high tide, the
next day. During the night they prepare, no one sleeps, all dance when day breaks.
They they get into the canoe in order to travel towards the enemy fleet which is
approaching. Then, before the fight begins, two canoes are chosen and two people,
who are very brave; they go into the space between the two fleets, they turn the
spear. And when this parade is over, the fight begins. Many people are hit and
fall into the water. These they take up and put them in the boats. Thus they
fight until the tide begins to recede. Then they jump out of the boats,
move towards each other and begin to fight. Then the stronger party pursues
the other party. Many are killed, many are wounded, they are also weakened,
because many are caught; then the victors blow the conch shell, so that the fight stops and the other party is not completely annihilated. Then they go home. All those fallen are buried, and the wounded are brought in a special house. Some people are appointed to be their helpers, because otherwise no one else is allowed to enter the place.

And thus do the people who are not dead but have many wounds: they take knives and cut the spear piece out of their flesh, or if there are ray-stings, they turn them until the flesh is loosened and they can be pulled out. They help the wounded until they are well again, then they determine to go to war again, which is called "exhibition of the wounded." Then they ask the other state to appear again in order to begin the battle anew. They come, and now a great battle follows, in which many are killed, many are wounded, more than the first time. Also many more are killed. Then the conch shell is blown. The battle ends. They return home, bury the dead and give aid to the wounded. These help until they are healthy again. Then the "kava of peace" is brought together in order not to fight any more. When peace has begun they celebrate great feasts. They sit down together. They eat together and joke with each other. When this is ended, all ornaments are gathered and presented to the other state. They go home and likewise arrange a festival as a return gift for the other state. They come, again sit down together, joke with each other and give back some things in payment, which they had received before from the others. Now all are satisfied, because the quarrel between them no longer exists. The people visit each other again, for now they do no more evil to each other.

If one compares O'Connell's description with these reports, what strikes one above all is how thoroughly the thoughts of the effect of the castes on the
waging of war has disappeared from the present generation. In his day, the members of the three castes fought completely separated against the corresponding castes of the enemy. The Montsap caste, the Tsopheiti, led the forces. While otherwise, paddling was the work of the lowest caste, only the nobles paddled the war vessels and even the chiefs lent a hand. The Seriso caste followed the first one, and the Nigurts formed the rear. Every caste had its own war canoes. Even in the hottest thick of battle no one attached a member of another caste. Nobles fought against nobles, serfs fought against serfs.

Despite the cruelty during the fight, in which no prisoners were taken on either side, a chivalrous trait in the warfare of the people of Ponape is unmistakable and their wars give the impression of an honorable duel. The reasons were often trifling. Generally they fought each other for the sake of honor, hardly for economic things. The feud in which O'Connell participated was begun on account of a broken promise of marriage between two head chiefs. Kubary says, "Ward which were now and then held for the retention of their acquired prestige were more shows than life-endangering undertakings . . ." In O'Connell's day the casualties were not insignificant, which can be traced back to the already mentioned custom of not taking any prisoners and the devastating effect of the weapons: he claims 300-400 killed on both sides.

War is ceremonially declared by messengers, after the paramount chief has conferred about it with his followers. The party challenged holds a council of war, on their side and then likewise informs the enemy of the time and place of the battle by me-sengers who are inviolable during the battle. Before this time they refrain from all violence. They prefer to choose an island situated conveniently for both parties. In O'Connell's case, the party attacked visited the attacker at the home harbor of the latter. In every case the battle is
started by the boat war described above. Attacks on land, O'Connell thinks, were not practical on account of the fear of the *animan*, which are thought to roam around everywhere, and the habit of "star gazing" of some people.

The wars were bitter and bloody. Everyone mustered as many troops as he could. All were ornamented with flowers and anointed with oil and turmeric. The combat began at high tide. The chiefs danced the war dance on the platform of their canoe among the notes of the conch shell. When they had come 30-40 meters apart, the stone slinging battle began. In doing so there were many dead and wounded and vessels destroyed. Then they continued the battle with spears and arrows. Finally the very bitter hand-to-hand combat with clubs and knives followed after the landing on the beach. The death of the leaders brought only a short interruption. Once landed, they killed everyone who still showed resistance. Women and children were also supposed to be massacred. In general, they will probably have fled into the bush, saving as many of their possessions as possible. The victors began to plunder the dwellings, above all they took weapons with them. Houses and boats were destroyed, but fruit trees and the land spared. Their destruction and devastation was considered brutality. After the battle no one else was killed. The withdrawing victors took their dead and wounded with them, as well as the bodies of the fallen leaders of the enemy. O'Connell reports that at the victory festival the chiefs allegedly had eaten the heart of the slain Uasai, while the body was burnt. The spoils were distributed according to the discretion of the Tsopeiti. The party who wants peace sends a messenger to the enemy, who offers a beaker of kava; if the hostile leader accepts it, thus the peace is considered to have been concluded. Presents are exchanged, they invite each other and do not bear a grudge. Once the land of the conquered was said to have been confiscated. According to Christian, the women had accompanied the
the men to war. O'Connell does not report anything of the sort, and in any case, it might not have been the rule. It probably was not an accompanying-the-men-to-war, but the last defensive battle in the conquered village, during which the women possibly do not all flee, but stand with their relatives and die with them.

History of the War between Kiti and Matolenim

Naneken en Kiti ruled in the state of Kiti; he travelled around everywhere in the country and celebrated festivals, until he was through with all. Then he went to Uona; from there he visited a place in Matolenim called Sapuerak. There he killed a person and returned to Uona. Now the Matolenim people went to Mutok and killed three people. Thereupon the Kiti people again went to Lot and killed some people. Then the Kiti people went over the mountains to Letau and murdered a person. And the people of Letau killed a Puoipuoi man for this. Afterwards the Kiti people went to Lot and killed a person. Thereupon, the Matolenim people destroyed some small islands. Then the Naneken became angry, made a message and sent it to Matolenim in order to inform the Isobau and his people they should come to an island outside of Lot, to Nalap en Lot in order to fight there with them. The Naneken thereupon gathered his people around him, by no means the whole Kiti tribe, but only his followers. They were Roi en Kiti, Puoipuoi, Kipar, Mant, Ore, Pok, Kapina, Panais and Nan palap. Only these districts left the state of Kiti in order to fight with Matolenim.

Thus they met on Nalap en Lot. A great battle broke out. The Naneken executed many people, and the tribe of Matolenim took to flight. He returned to Kiti; and he thought of continuing the war against Matolenim. He made many preparations for war, bought many guns from the whalers and powder, and distributed them among all the Kiti people. Then he went to Uona to the
Nanamariki. He again sent a letter to Matolenim, that they should come in order to fight with him. But the Isobau en Matolenim sent a message in order to inform the Naneken en Kiti that he had enough of fighting, because he had too few people. Then they stopped, no battle took place between Kiti and Matolenim even to this very day.

2. Weapons

The old weapons have been completely displaced by European ones in 1910, for which the Spaniards hold the Boston mission especially responsible. In addition, disarmament had been peacefully carried out in 1905 by the German Government. Formerly, slings, bow and arrows, spear and club were the most important weapons. The knife, too, was used in case of emergency. But shields and armor were unknown to the people of Ponape.

The sling, pai, they formerly used mainly in boat battles, when the opposing groups had come to within forty meters of each other. Each one was provided with a sling knotted from hibiscus fiber or coconut fiber. The bottom of the canoe was covered with the missiles, elliptically chipped stones (Illustration 130c) or merely suitably shaped broad pebbles. According to O'Connell, they seldom weighed less than one English pound and were hurled with almost uncanny accuracy.

The same observation is made by Pereiro, who saw them use the weapon as hunting equipment in bird capture. They used them in order to spare the expensive munitions, although they had numerous guns. According to Christian, the preference for this weapon also had the effect that they valued nothing in the Bible like the fight between David and Goliath, and therefore the name, "Tepit" was uncommonly popular among the Protestant inhabitants.

In contrast to the sling, bow and arrow have long since ceased to be used. The people of Ponape informed Christian that this was the weapon of the aboriginal
inhabitants, who were dwarf-like people of Tsokolai. The bow, katis or kasik, katiu or lukape, had a span of one cord. The bow-string, sal en kasik, was twisted of hibiscus fibers or of breadfruit fibers and tied fast in a notch, sorok. The arrow, kanaia en kasik, consisted of hibiscus wood or Alek, the sedge grass, ans was unfeathered, notchless and was armed with a spine of the ray. In shooting, the bow was held horizontally, the arrow held with thumb and forefinger of the right hand.

The spear, os, the favorite weapon for hand-to-hand combat, is kept in two varieties. Called after the type of wood used, the katin or katel spear was carved of spear palm or mangrove. The point, imui, was wrapped with sennit, simpam os, and set with the spines of the ray, tin tir en os, on the sides. The other kind was called kan mant, kalau, mai, according to whether hibiscus wood or breadfruit wood had been used. The point was only narrowed. Spines were missing. Remarkable, according to O'Connell, the spears were not hurled, but used only in hand-to-hand combat. The warriors tried to seize each other, to grasp each other by the hair and to inflict severe flesh wounds with the weapon or to pierce the opponent. In doing so, the attacker called: "uei lau el a mela:" i.e., Make way, death strikes you!" If the throw went aside, the man attacked replied: "tso men la, io kokoala." i.e., "No, it goes in there!" The spears shown in figs. 132 and 133 belong to the first group; those in figs. 135, 136 and 137, to the second. The spear in fig. 134 is a special piece that is distinguished by the long, fine point from 552II, 475II and 477II.

The club, lip en uoan or lep en uok, of katiu (Ixora) or iak (mangrove) was carved round or with edges. The round clubs were also called punopun, the four-cornered, pama Xapag. The pyramid-shaped point of the latter was called kapip, the shaft, olole, the handle, manile and the round knob, mone. The club was
carried in the belt, and were first used in the most bitter hand-to-hand combat, when it was a matter of life or death. They were never thrown in warfare, but probably by chiefs in a rage at their subjects.

The axe is apparently always only a tool and, besides, a symbol of power, but not a weapon. On the other hand, they have the knife, kapit or lopuk, both a tool and a weapon since olden times. Even women and young girls used to carry one with them. O'Connell tells how his wife once wounded a Seriso with her "cidjic" to such an extent that he later died of the injury. According to Christian, the kapit consisted of split bamboos, the lopuk of the shell of the common mussel. Since the introduction of iron goods, the men, according to Pereiro, wear knives half a meter \( \frac{3}{4} \) in length and three fingers wide, the women, small bent American knives under their armpit, both without sheathes. The latter they call nichin naep, i.e., small knives.

The spines of the ray serve as daggers, os en likant en kap.

According to O'Connell, they built breastworks for defense, which were still used in 1910.
<table>
<thead>
<tr>
<th>German page</th>
<th>Number</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>351</td>
<td>1</td>
<td>Payment.</td>
</tr>
<tr>
<td>352</td>
<td>1</td>
<td>The present is given by the Nanamariki, who has arranged the second festival.</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>In each canoe, a man stands in the middle, turns the spear in his hands and sings in addition.</td>
</tr>
<tr>
<td>353</td>
<td>1</td>
<td>That is not the rule throughout.</td>
</tr>
<tr>
<td>354</td>
<td>1</td>
<td>I.e., before the first festival, the conquered have to hand over canoes, sails, paddles, and other items to the victors; from these, a part is returned to the conquered at the second festival.</td>
</tr>
<tr>
<td>355</td>
<td>1</td>
<td>Kubary, p. 130.</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Pereiro, p. 103.</td>
</tr>
<tr>
<td>356</td>
<td>1</td>
<td>Thus they reported to Hambruch. O'Connell however explicitly denies this process.</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Christian, p. 73.</td>
</tr>
<tr>
<td>359</td>
<td>1</td>
<td>O'Connell, Chap. 16.</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Pereiro, p. 125.</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Christian, p. 136.</td>
</tr>
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<td></td>
<td>4</td>
<td>According to Hambruch.</td>
</tr>
<tr>
<td>361</td>
<td>1</td>
<td>katiu designates the wood, according to Christian, Ixora, called spear palm by Hambruch. Christian, p. 136 names the bow, &quot;kachhik en katiu&quot; literally, &quot;make shoot of katiu wood.&quot;</td>
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<tr>
<td></td>
<td>2</td>
<td>O'Connell, p. 219 . . . The clubs . . . are the last resort, but are never hurled.</td>
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</tbody>
</table>
361 3 O'Connell, Chapter 13.

4 Christian, p. 137. He states *lep en tuka, chup en tuka*

and *ghup en pok* as the designation for knife.

362 1 Pereiro, p. 126.
<table>
<thead>
<tr>
<th>Footnotes</th>
<th>1-VII</th>
</tr>
</thead>
<tbody>
<tr>
<td>369</td>
<td>1 Protective spirit of the net.</td>
</tr>
<tr>
<td>371</td>
<td>1 Cf. in addition, Christian, p. 128.</td>
</tr>
<tr>
<td>379</td>
<td>1 Warp strip</td>
</tr>
<tr>
<td></td>
<td>2 Woof strip</td>
</tr>
<tr>
<td>381</td>
<td>1 Christian, p. 131.</td>
</tr>
<tr>
<td>383</td>
<td>1 Christian, p. 328.</td>
</tr>
<tr>
<td>385</td>
<td>1 According to Christian, p. 330, a variety of mangrove, Bruguiera.</td>
</tr>
<tr>
<td>386</td>
<td>1 According to Christian, p. 347, Morinda citrifolia.</td>
</tr>
</tbody>
</table>
VII. Implements, Tools and Techniques

1. Wooden Implements and Woodworking

In ancient times the people of Ponape were excellent woodworkers. Testimonies of their skill are the canoe carvings, dance paddles and clubs. But in 1910 wooden implements like those on Palau or in the Central Carolines were no longer found. O'Connell also says nothing about it. Yet in our time, there are still beautiful wooden bowls, kasaX, which reveal great skill in technique and a good sense of form. Christian also saw in the better houses, chests with lids, but it is not clear if it is a matter of old implements or European implements. The bowl depicted in No. 495II of breadfruit wood is a vessel of that variety that Christian saw used in the preparation of fish perfume. The base, lole en kasaX, is comparatively small, and even inside and out. Therefore the walls, lole en panapana, are very steep. The upper edge, au ue en kasaX, is tapered. The oval bowl is drawn out long towards the ends and a sharp edge runs from the points, emuel, to the base.

They manufacture their water containers from gourds or from coconut. According to the purpose intended for the vessel, the opening is made wide or narrow. For hanging up, the vessel is surrounded by a knotted sennit covering, or a pair of loops are attached to the upper edge.

As a universal instrument, a strong club of heavy wood serves. For carrying fruit and fruit baskets they use a stick.

The chief tool in woodworking was formerly the shell ax, which was also a burial offering and sign of sovereignty. They distinguish three types: 1. zila mal, 2. zila panapan and 3. matau. The first type had a curved haft, the second, an angular haft. The blade of the matau ax could be rotated. The grinding of
the blade from the shell of the Tridacna gigas was extraordinarily tiresome. According to O'Connell, a man worked at it for two to three months, even with pauses, until he fastened it to the haft. Hard blows could not be carried out with this ax. Ax blades have been found in great quantities in the ruins and are illustrated in vol. III. The ax shown here is of the zila panapan variety. The diagonally ground blade is tied to the support crossways to the haft, by means of sennit. The binding is carried out cleanly and almost ornamentally.

2. Stone and Shell Implements

To judge by the excavations, stone and shell implements have played a large part in past times. Basalt was the primary material. If they did not exactly use a suitable block just as they found it, they put themselves to great trouble working it, as the mortar vessels show. The implements gathered in the ruins are numerously illustrated in vol. III. In the Hamburg collection there is a very beautiful basalt mortar. (Illus. 144, No. E 1026). Illustration 147 shows a grating stone of basalt, which is sacred to the goddess, Kemai. It serves in the preparation of anointing oil as described by Christian (cf. p. 266). Illustration 150, No. 529II is a rough, long stone which, like the wooden clubs is used to open coconuts. No. I C 14206 (Stuttgart) and No. 534II are pestles of coral limestone. Before the abundant introduction of European ironware, snail and mussel shells served as scrapers and knives. For scraping breadfruit they cut two holes in the shell of the Cypraea pantherina, as is otherwise also customary in the Carolines (Illustration 148).

3. Preparation of Fiber, Twine and Nets

The preparation of fiber has already been extensively reported on p. 280. For the manufacture of thread the natives most frequently use hibiscus fiber and
and coconut fiber. They also know how to obtain fiber from kind of seaweed, olot. In the following native texts which describe the manufacture of the thread and nets, the preparation of the necessary fibers is presented first. Twisting occurs freehand from right to left or from left to right, according to the position of the worker, between fingers and thumbs. According to the statements of the people, the twine twisted to the right is better than that twisted to the left. They do not seem to know any implements to assist in this work. Twisting is men's work.

Preparation of Seaweed Thread

Seaweed thread is made in this way. The people go to the reef and use their feet to pull up the ground, then they tear off the roots and afterwards they remove the leaf ribs. Then the people take them and spread them out in the sun and turn them over until they are well dried. Then we strip off the skin; thus we do it continually until we have enough. Then we take the bundles of seaweed and disentangle them, so that they are usable for the manufacture of nets. Then when the separate pieces are ready, we cut ourselves net rollers in order to knit the nets with them. Now when we want to have a really big net, we make thirty (eyes.) double meshes, ten small double meshes and seven fish meshes. We count the meshes of the net by two meshes up to ten, then likewise up to twenty, then likewise up to thirty. We call these the small meshes, but we count the fish meshes individually. Thus we also do it if we do not want to make the net larger. Then twenty double meshes and ten small meshes are made, but always seven fish meshes. Thus we make the net to the end. Then we put it in fresh water and wash out the salt water, so that it does not break or even become ruined. After that we make the net frame in order to string the net threads on the upper and lower holding line (____). The people pull these through the net meshes and fasten
them to the net sticks, they also bind the floats on the upper ____, so that the net will not sink, because then the fish would escape over the net and would not be caught. I always make my net in this way.

The Manufacture of Sennit

The people bring down more than twenty nuts. We strip off the husks and make 100–200 strips of fiber from them. The people then dig a hole on the ocean beach and put leaves in it, after that they lay the strips of fiber in it. They let them lie in there for about a month, then they go and take them out and put them in fresh water, until they are good. Then we spread them out in the sunshine until they are dry. We take them away and bring them into the house. Then we roll them at every hour by day and night until they are used up. Then we wind them up and make balls or little packages of them. These we hang up in the house. When we build a house we use them, also when we build a canoe, and we give them away when the people want to have them and pay us for them.

And this is a type of rotting hole. If the fiber is not yet ready to be used, then we fetch a club, the aul; we beat the fiber with it until it is good and after that wash it out in water. Then we make sennit out of it.

And this is the way in which the people twist the fiber. The people who are right-handed twist sennit that is called right-twisted twine, and people who are left-handed twist twine that is called left-twisted twine. Right-twisted twine is excellent, left-twisted twine is less good.

The finished twine is artistically wound in balls. 

Netting, tautau, happens in the usual way with a needle and rod. The mesh and the knots show no peculiarities. Small fish nets are usually made of breadfruit or hibiscus fiber, for the larger ones, they choose sennit.
The Making of Nets

At the beginning of net making they say:

"I make, make, make small meshes,
I make, make, make large meshes,
What shall I make? Small meshes are quickly made, yoho!"

If one wants to make a net, one first goes into the bush and fetches hibiscus fiber, a whole bundle. One puts it in salt water and lets it rot. Then one scrapes it and then makes the net. One begins two pieces and finishes each piece. Then one puts the two pieces together, and it becomes one net. The middle of the net is formed by the holding lines twisted together, then two ropes are drawn in at the two long sides. One is called opa, the other, olan. The net sinker line is fastened to the opa, the net floats, to the olan. Some shells are tied in a row to the net sinker line and also in the middle of the net. When that is finished, one counts off the shells of the net sinker line, seventeen shells that are attached there, and likewise one counts from the middle of the net and fastens seventeen shells firmly to it. Then one measures again and if all distances are equal, then it is good, and if one is too long, it is bad. When that is done, one fastens the net ends. Then one rolls the net up in two balls. One pushes a canoe into the water, puts the drag net in it, travels to the lagoon, catches fish, and then one can eat.

Technical Expressions

Net sinker at the end of the drag net: ilan, with different knots that will be "discussed" individually.

Knots: sen.

Wooden float for net: us.

Shell: pelik.
Middle of the net: usaini
Lower net edge: imuin set
Middle of the net bag: kapus
Side line for sinkers: opa
Side line for floats: olan
Wooden poles: tiauit

Charm when Making a Small Net

When cutting the poles, this is spoken:
I cut for my little net, the little net,
Net to the beach, to the beach, full of fish!
I cut fish for Saukapira's and Katin Kapir's net.
The two do not cut, but I cut.

They not only make fish nets, but they also make carrying bags in the same way, et or lukauk. The very strong net chosen for this purpose lukauk of rectangular form, is folded in the middle and fastened at the long sides, opalam to a bow, kau, of hibiscus wood. The fastening is called sotone.

The accompanying sketches explain the knotting of the grass skirts (cf. p. 280ff). The fringes of bast strips or palm leaf strips are laid over a string of strong yarn or leaf ribs and individually knotted. Often they are also stitched through afterwards.

4. Plaiting and Sewing

Plaiting and sewing are women's work. Baskets and mats are the chief products, coconut leaves and pandanus leaves, the material used. As for baskets, kiam, one must distinguish between those prepared for one meal or for only a few days, which are quickly plaited together and the better ones, made clean and with care. For both kinds, half coconut palm fronds are used almost without exception.
The split middle rib gives the necessary support to the basket or rather plate of the first group. The leaflets are laid to one side, plaited like cloth and knotted on the end. Concerning the technique, the eyeshield in Illustration 161 which is worn when fishing or travelling in boats also belongs to plaited work of this kind.

The bag basket, No. 3383II in Illustration 162 is indeed intended for longer use, without attaining the delicacy of workmanship of the ornamental, four-cornered baskets, kopou. Because these bag baskets are frequent elsewhere in the Carolines and were described several times, the manufacture of the four-cornered baskets may suffice here.

Manufacture of a basket

Thus one makes a box-like carrying basket. One fetches palm fronds, cuts them off and divides the frond in three parts; then one makes the sections equally long and makes six parts from them. Now one splits up the fronds and removes some that are too wide. Then one makes first one, and then the other, side and plaits them together. After that, one fastens the narrow sides to them. In addition, we attach the edge firmly to it and furnish it with carrying bands. Then we knot the carrying bands and call them holding bands.

Edge: auue'n kopou
Plaiting strip: pei panapan
Plait: pei uer
Corner: kapuili
Narrow side: pan tisak

Many of these baskets are furnished with firm wooden frames. The type of plaiting is different and often irregular as can be seen from the illustrations.
The better fire fans are plaited of bleached pandanus leaf strips and have a triangular shape.

The Manufacture of the Fan

One dries (the fronds) in the earth oven like the aprons and then removes all the frond ribs. Then they bundle them and put them in fresh water. On the following day, they fetch them again. Then they are hung up to dry. Now we smooth them. And when we want to make a large fan, we count off one hundred strips. But when we want to make a small fan, we count off fifty or sixty frond strips. We make these equal in length. Then we bind them together and begin thus to make the fan handle. Then the plaiting begins. We make the upper edge piece last. We bend the ends of the strips of plaiting and stick them underneath. We cut off all the projecting points.

There are two types of mats, plaited and sewn. Those compared by O'Connell to a rolled wall seem to have been mats of the second type, which were hung in the open sides of the houses. The plaited mats, as also those sewn, are made predominantly of pandanus leaf. They offer nothing special, are found in various sizes and are cloth-like in a diagonal direction.

The sewn mats on the other hand are valuable and require lengthy, tedious work. The manufacture is described in detail in the following text:

The Manufacture of the Sleeping Mat

Thus they formerly made sleeping mats in Ponape. They went to a pandanus grove in a place called kapilap. They collected a great quantity of pandanus leaves. We cut off all leaf points. We bind the leaves together. We bring them home. Then we put them in the water and moisten them; we take them back and remove the thorns of the leaf ribs. Then we smooth the leaf surfaces.
Then we roll them all up and then untoll them again. After that we spread them out again until there are many of them; we roll them up again and make the leaf rolls. Then we untie these again and remove the points and the leaf ribs and make the leaf rolls. Then we spread them out again, that is called siasuk; then we sort out the short leaves from the long and put one on this pile and the other on that pile; then we roll them up again and make two leaf rolls, the one is called pualepits (long leaves), the other, irare (short, narrow leaves) which we hang up.

Then we go to the bush and fetch hibiscus. We remove the stems. We lay them in salt water. After eight days we get them again and peel them, wash them out in fresh water and hang them up (bark and bast) to dry. Then we look on the reef for a shell, the pelikena, another shell, the sakir, to sharpen the sewing needle, which is made out of hen's bones.

Then we start with the beginning of the mats; first we fold a plaited strip. We lay the leaf strip down, spread it out and fold it in two halves. Then we fold the woof, lay it down and stick it in the beginning of the mat. They take two strips, one on one side, the other on the other side. Then we take the needle. Now we begin to sew, that is called, sewing. When the sewing is finished, we place the warp strip and do the same on the other side. Now we take a small piece of it, rub it smooth on one side and the other. Then we tear a little piece out of this at one end and the other. Thus they sew every day. Now when one part of the mat is ready, then one cuts the sides of the mat, until the mat is ready. For a large sleeping mat one uses twenty segments, for a small sleeping mat, ten segments. When the mat is ready, they cut the ends of the reinforcing strips. Then one rolls up the segments and cuts the sides evenly. After this they fetch pandanus leaves in order to sew them up at the ends of the sides. If we
have fetched young leaves, then they are put in the earth oven and afterwards spread out in the sun to dry. Then we roll \( \frac{3}{4} \) them up too. We also remove all the leaf spikes and put them at the end of the sleeping mat. Before we sew them on, we cut the pandanus leaves into pieces and make six pieces. Four small and two large pieces are put together. Then they are sewn tightly to the edges of the mat. One needs a great deal of time to produce a sleeping mat; whoever is industrious and proficient at sewing will need a year for a sleeping mat, whoever is lazy, two years to make the mat.

5. Weaving

Weaving was already a forgo-ten art when Christian visited the island. In 1910 only one old woman could still give information about it. Yet the old, formerly collected pieces provide evidence of the former flourishing of this manual skill. The loom, tantar, was set up as usual and the woman weaving stretched the warp through the distance at which she sat from the warp beam. The breast beam was fastened to her body by means of a broad pandanus belt. It is a wide board, provided with grips, while the warp beam consists of an ordinary, thick, round wooden bar. The sword is distinctly visible on the Hamburg loom in Illus. 175. The shape of the small ship is recognized in Illus. 174 of the Leipzig loom. The number of auxiliary pieces of wood varies with the pattern. Also, the warp is for the same reason, knotted together from different colored yarn. That makes it necessary, when warping, to count the separate movements and to change the dyed yarn (e.g. black, white, reddish-white) corresponding to the latter pattern.

In warping one uses a warp frame resting on four legs of an ordinary beam, in which the warping sticks which are cut at the lower end are inserted (fig. 173). The stick designated by a, represents the warp beam, that designated by b, the cross beam and e, the shedding stick. The remaining undesignated sticks are
auxiliary sticks for the patterning.

6. Preparation of Lacquer and Paints

To make red lacquer, *ais*, which is chiefly used as a canoe coating, the nuts of the *ais* tree are used. According to Christian, it concerns Parinarium laurinum. "It grows fairly high and produces large, circular, rough, reddish-brown fruits the diameter of a cricket ball. A decoction of the shell serves to paint the canoes red and the kernel yields a good varnishing oil which is used together with clay in order to caulk the cracks of leaky boats." According to Hambruch, a new canoe is first painted with red earth color and then varnished with *ais*. In all, it is coated six times alternating paint and varnish.

The grated kernels are kneaded into a ball, *lupen*, and put in this shape into a coconut shell, called *inipel*. Then the juice is pressed out and caught in a wooden trough. By putting in hot stones, the water is evaporated. The residue forms the lacquer.

The Preparation of Lacquer

This is the way lacquer is prepared on Ponape. We go into the bush and pick fruits from a tree, which they call *ais*; we fill many baskets with them; we bring them home and put them down. On the next day we cut them up. Then they are completely grated. We make the mass into a ball and make many balls out of it. Then we light a fire and put the shells of the *ais* on the stones until they have become hot; then we tear them apart. After that we put them in taro leaves, we also put all the *ais* balls there. Then we cover everything with leaves. Now we cut off three branches and one that is crooked. These we make ready for use. Then we fetch coconut fibers and also a wooden bowl which is put underneath the pressing rods. The people then take an *ais* ball, put it in the coconut fibers and lay it in the bend of the crooked piece of wood. Then we press the ball out...
into the bowl. After that we take the mass out of the bowl. They make a bag
(of taro leaves) and make a hole in it, so that the unusable liquid runs through
and the good remains behind. We pour this back into a wooden bowl. Then we
put in hot stones until the mass is well cooked, then we take the stones out.
We pour the mass into a calabash or into a bottle. It is corked. Then we put
the finished lacquer away.

According to their own statements they obtain red, black and orange colors
as follows:

About Red Color

First we gather red earth. When we cannot find any, we go to a place in
Matolenim, towards Senipein. Here is the place where there is a hole with red
earth. We buy it from the people who possess it. Then they give it, and we
take it with ut. We put it in a wooden bowl and pour water on it, and knead it
until it is good. Then we paint the boats with it.

About Black Color

In this way we make the black color for ourselves. First we gather fruits
from a tree called soom, a tree that grows between the mangroves. We take all
the fruit with us, take off the shell, wrap them in leaves and put them first
in the fire: after that we take them out and squeeze them out into a coconut
shell, then we throw in small pieces of charcoal and mix. Then we paint the
paddles with this color solution.

About Orange Color

First we dig up ginger roots, then we carry them to the water and clean them
of earth, peel off the skin and take them away. We chew them in our mouths, spit
it out into the hand and rub it into everything that we want to dye, even clothing
aprons.
About a Method of Dying Skirts Red

We gather the roots of a tree that is called ue'ipul, peel off the bark and then squeeze it out into a wooden bowl. Then we take some lime and mix it with it. After that we fetch the skirt and lay it in this for a night. On the following morning we take it out. It is hung up to dry and then it has become red.