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KAVA IN HAWAII
BY MARGARET TITCOMB.

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FOREWORD.

THIS presentation of the *kava* custom in Hawaii is the outgrowth of a suggestion made by Dr. E. S. C. Handy several years ago. The material has been gathered from a wide variety of sources: observations of foreigners, early visitors and later residents, native material from chants and legends revealing thought untouched by external influence, and later-day comments by Hawaiians in their newspapers and periodicals. Hawaiian sources have been searched by Mary Kawena Pukui. She has selected, translated and elucidated the material and has contributed from her own wide knowledge of early Hawaiian life as well as searching for information from other Hawaiians. Deep indebtedness for her share in making this record is here-with acknowledged.

Material additional to that in the Bishop Museum Library has been found at the Archives of Hawaii and the Hawaiian Mission Children's Society on the topics of *kava* and the law, and *kava* as a foe of the missionaries. Thanks are due to the librarians of those institutions, Miss Maude Jones and Miss Bernice Judd. Miss Marie C. Neal and Mr. E. L. Caum have criticised the statements concerning *kava* as a plant. Gratitude is expressed to Dr. John Embree, Dr. Felix M. Keesing and Dr. Kenneth P. Emory for helpful and painstaking criticism.

INTRODUCTION.

The Pacific islands custom of making a beverage from the root of *Piper methysticum* is well known to the rest of the world, chiefly from observance of its use in western Polynesia-Samoa and Tonga, as well as Fiji. *Kava* is the widely known term for the root and the beverage. In Hawaii, and some other Polynesian areas, the initial *k* of the word is dropped, and it becomes 'awa. The term *kava* has been used in the title of this paper because it is well known. The Hawaiian spelling will now be followed, however.

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The study of the *'awa* custom is of interest because it was cultivated in Polynesia wherever it could be grown and its use was of significance. Indeed its presence is an indication of Polynesian influence, and *'awa* vies with the betel nut of Melanesia in being closely and tenaciously associated with culture.

The *'awa* custom is of interest in Hawaii because it was a sacred drink of importance in many phases of Hawaiian life. Outside of water and drinking coconut, no other drink was known. Its effect is to relax mind and body and it was used by farmer and fisherman for this purpose. Medical *kahunas* (learned men) had many uses for it. It was customary for chiefs to drink it before meals, for commoners also if obtainable. It was essential on occasions of hospitality and feasting, and as the drink of pleasure of the chiefs. The manner of its use indicated rank, though not to the extent displayed in western Polynesia. It was a fit and necessary offering to the gods and the gods shared with man the desire for its potent effect.

THE PLANT SOURCE.

There is more than one legendary source for *'awa*. The discovery of Hawaii is credited to the adventurous sea roamer, Hawaii-Loa. In Fornander's version of the story (21, VI: 278) it happened this way:

"One time when they (Hawaii-Loa and his company) had thus been long out on the ocean, Makalii, the principal navigator, said to Hawaii-Loa: 'Let us steer the vessel in the direction of Iao, the Eastern Star, the discoverer of land' . . . There is land to the eastward, and here is a red star . . . to guide us . . .' So they steered straight onward and arrived at the easternmost island . . . They went ashore and found the country fertile and pleasant, filled with *'awa*, coconut trees . . . and Hawaii-Loa, the chief, called that land after his own name . . ."

Did the ancient composer of this tale assume that *'awa* was growing in Hawaii when the first Hawaiians came from the south, or was it his figurative way of describing any fertile land, to sketch in *'awa*, coconuts and other desirable things?

Makalii, the navigator, is described as a "celebrated king in Kahiki Kapakapaua-a-Kane" (21, VI, p. 272) and a hoarder of food.

"During a season of great fertility he sent his messengers all over the country and collected all the food they could get at and stored it up in Makalii's storehouses and forts. A famine followed, but Makalii was stingy and had all the food gathered up in nets and hung out of reach, and great distress came over man and animals. The rats scoured the earth and climbed up on the black shining cloud of Kane . . . and on the rainbow and from there they nibbled at Makalii's nets until they broke and tore them, so that the food fell out on the earth again; and thus the earth was restocked with potatoes, taro, yam, etc."

This legend is referred to in a chant in the tale of Kaukaieie (48 s.), a chant to accompany an offering of 'awa.

He 'awa keia no'u no Awini,
 He kanaka lawai'a au
 No na pali hula'ana nei
 O Laupahoeheenui me Laupahoeheoiki,
 Na Kane me Kanaloa i kanu,
 No'u akua o ka lewa lani, ka lewa nu'u,
 O ka 'awa popolo a Kane i kau iluna,
 I ulu iluna, i lau iluna, i o'o iluna,
 I hului ia e Makali'i pa'a iluna
 I ki'ina ia i ka 'iole moku ka 'alihi
 Helelei ilalo nei, ulu laha i ka honua
 Aha'i ka manu kau iluna o ka la'au
 Iho mai ka 'awa hiwa me ka makea
 Elua laua.
 O ka papa'ele me ka papakea,
 Elua laua.
 O ka mo'i me ka mokihana,
 Elua laua.
 O ka nene me kawaimakaakamanu,
 Elua laua.
 Ho'awa ko 'awa e Kane i ka wai
 Inu ka 'awa, pupu i ka i'a
 No ko pulapula ho Hanoalele
 Amama ua noa, lele wale ho'i.

Here is 'awa from me, Awini,
 A fisherman am I
 Of the inaccessible cliffs
 Of greater Laupahoeheo and lesser Laupahoeheo,

A plant set out by Kane and Kanaloa,
 My gods of the heavens above and the heavens below,
 The *'awa popolo* of Kane, that existed above,
 Grew above, leafed above, ripened above.
 It was seized by Makali'i and hung on high.
 The rat ascended and chewed the rope that held it.
 Down it fell, multiplied and spread over the earth.
 The birds carried some up into the trees,
 The *awa hiwa* and the *makea* came down,
 A pair were they.
 The dark *papa* and the light *papa*,
 A pair were they.
 The *mo'i* and the *mokihana*,
 A pair were they.
 The *nene* and the *ka-wai-maka-a-ka-manu*,
 A pair were they.
 The *'awa* of Kane is mixed with water,
 The *'awa* is drunk, fish is eaten for an aftertaste.
 This is for your offspring, Hanoalele,
 Amama, it is freed, it has flown.

The chanter has here gathered together some of the salient points in the legendary history of *'awa*—that it was set out by the gods, Kane and Kanaloa, that for a time it was denied mortals, or else almost disappeared during a famine or blight, and that it later spread widely. Some was carried to the trees by the birds, and there flourished. And then he tells us some of the varieties, the pairing signifying species that were similar. (Pukui, personal communication.)

Another statement, by Mana (21, V: 606-608), gives credit to Oilikukaheana, who brought it from Kahiki for a "fishing plant," which Fornander explains by saying that it was a "favorite of sharks at the hands of *kahunas*." It was planted first on Kauai, and then spread by chance to Oahu, where the legendary character, Ewa, had the courage to test its effect and discovered its intoxicating character. "Ewa said: 'Let me first eat of this plant, and should I die, do not plant it, for it would be valueless; but should I not die, then we will be rich.' When Ewa ate it she became drunk and was intoxicated all day. When she awoke she called the plant *'awa*'; from thence forward this plant was called *awa*, the *awa* of Kaumakaeha, the chief."

Mana admits that: "There are many other places mentioned as to where *awa* came from. It is said that birds brought it and planted it in the forests of Puna,

Hawaii. Others say that a son of Hi'ilei brought it. But this is what I have been told by friends as to the origin of the *awa*."

'*Awa* has been found by botanists in many of the high islands of the Pacific, in Polynesia, Micronesia, Melanesia and New Guinea. It was used as a beverage throughout Polynesia. Hawaiian plants were doubtless brought from the Society islands whence the Hawaiians are said to have migrated.

DESCRIPTION OF THE PLANT.

'*Awa* is a shrub growing about four to eight feet high. Botanically, it is known as *Piper methysticum* Forst. (22:50). Among other botanists, Hillebrand describes it (29:417). The leaves are heart-shaped, pointed, smooth, green on both sides, being about six inches in length, sometimes wider than long. The stems are jointed, the spaces between the joints sometimes determining the native name of the species, as do also the intensity of the green of the leaves, the colour of the stems, and the quality of the root. The root, which is the part used for making the beverage, is an underground stem. Just below the surface of the ground, and for two feet or so, it becomes three to five inches thick at maturity, which is about two years planting (40, p. 80). In a patch of '*awa*, the roots eventually become a heavy, knotted mass, and such a patch was highly prized, for the root gathers strength and flavour with age.

Hillebrand, who was in Hawaii when '*awa* was still used by the natives, says that he never saw it in a "truly wild state, but . . . extensively cultivated in clearings in the forest, especially on Hawaii." (29, p. 417.) '*Awa* is no longer cultivated in Hawaii, but has been reported to be growing wild on all the major islands. Emerson (19, p. 132) said so in 1903, and various informants have reported it recently. It thrives in cool, moist uplands, but will grow at lower levels if cared for. After cuttings were set out in a cleared area of the lower forest, the patch was weeded once or twice in its younger growth, and needed no further care. After maturity, a supply could be taken out at any time, but a thought for the future was ingrained in the Hawaiians, and fresh cuttings were planted when roots were dug. Handy (26: 201-204) has described the plant, its cultivation and use, and names fourteen varieties: the '*apu*, '*hiwa*,

ke'oke'o, *kumakua*, *kua'ea*, *makea*, *mamaka*, *manienie*, *mo-i*, *mokihana*, *papa 'ele'ele*, *papakea*, *kau la'au*. Meanings of these names are 'apu, cup, significance unknown; *hiwa*, black or very dark, refers to a dark area just above each stem node in mature plants; *ke'oke'o*, whitish, the stem is light green; *kumakua*, from *ku-ma-kua-hiwi*, forest-growing; *kua'ea*, back of the hornbill turtle, mottled; *makea*, whitish, light-coloured stems; *mamaka*, to put out new buds, evergrowing; *manienie*, a sensation as of suddenly dropping from a height; *mo-i*, royal, supreme, the very best; *mokihana*, fragrant, perhaps suggesting the fragrance of the *mokihama* berries; *papa*, recumbent; *papa 'ele'ele*, a dark, low-growing plant; *papa kea*, light coloured, low-growing plant; *kau la'au*, tree growing, or tree supported; *nene*, goose, a speckled 'awa, named in the chant of Awini (p. 4 herein). Lilia Frank of Palolo valley, Oahu, tells of the *kawa*, which has a yellow root. A letter from Oscar P. Cox to Governor Carter (10a) is worth quoting from in regard to kinds of 'awa:

Since meeting you . . . I have met my granduncle at Waialua, and from him I received the following information . . . *awa mo-i*: skin or the stem red or brownish. The priests used this kind in sacrificial ceremonies to Pele . . . obtainable today; *awa hiwa*: skin dark, also leaves; used in Pele worship, also at *heiaus* and *koas*; *awa papa*: smallest, grows slow, creeps; the bulk (sic.) is very hard, the strongest kind of *awa*; very small roots; *awa koa'e*: fast growing, plentiful, skin has long white stripes running up and down; leaves large, and like the *hoi vine*; named after Puna-ai-koa'e, a demi-god; perhaps there is some growing on Mt. Kaala; *awa kukaenalo* (same as *nene*): skin spotted with black; considered a strong *awa*; *awa puhi* (not the flower, *awa puhi*): fast growing, dark in colour, with short white stripes; named after Puhiula, a demi-god; *awa manakea*: a white *awa*; not strong, not much used; named after Wakea, a demi-god.

Whether this is the complete list or whether some have become extinct and have passed out of memory, cannot now be determined. As with all plants and animals, names sometimes varied according to island or even locality on one

island. For certain *'awa* there were also figurative names which the poets conferred, as the "*'awa of the birds of Puna*" (48n.) and the "*birds' tears*" (*ka wai maka a ka manu*), this variety being a favourite. Theodore Kelsey says this was also called *kau la'au*. Beverage from this root seemed to have greater strength than from others.

Varieties of *'awa* differed enough to make some preferred for one purpose, some for another. Beckwith says (3: 94):

Only the most common variety could be used by the commoner; the rarer kinds were reserved for the chiefs. For the gods and on ceremonial occasions the *moi* (royal), *hiwa* (black), and *papa* (recumbent) were used, the *papa*, from which the *moi* was often an offshoot, being especially offered to female deities.

Certain localities were famous for the potent *'awa*. Kamakau (48 e), a native historian, says: "From of old there were places made famous by the intoxicating qualities of their *awa*, for example, Ko'uko'u on Kauai, Hena on Oahu, Lanakila on Maui, and Puna on Hawaii."

Its manner of growth is shrub-like. With sufficient sunlight it grows densely to a height of about twenty feet. Planted in the forest, or at the edge, where it has to climb to reach sunlight, it sprawls up, the leaf growth at the top of the plant being heavy enough to make the support of sturdier growth welcome. Such *'awa* plants make use of the decayed vegetable matter in the crotches of trees, roots are formed at the nodes, and extra nourishment and a second hold are gained. The plant is not epiphytic, however. It is evident that Hawaiians noted such manner of growth, especially in the luxuriant forests of Puna. Not having planted *'awa* in that way themselves, they gave credit to the birds, thereby reflecting their love of poetic figure. Kaaiakamanu (32, p. 19) says that the birds take "the bark and fruit to their nests," and identifies this tree-growing variety as the *'awa mokiha*na. If Kaaiakamanu is correct, the whole seed spike must have been taken, for the seeds are very small.

BEVERAGE.

The drink is made from the root, which is woody, slightly spongy, toughish, and roughly gnarled.

One Hawaiian writer advises: "Use only fresh *awa* that has just been dried." (48b.) Fresh roots are easier to use. In the tale of Kamiki (48 n, 9/25/1912), the root is described as "tender as a raw sweet potato." However, in preparing a sample of the beverage today, we found it was too woody to be described as crisp and were glad to be able to resort to a meat grinder to break up the roots—perhaps a compliment to the strength of teeth and jaws of the early Hawaiians. Fresh roots not always being obtainable, a supply of roots was often kept in reserve, thoroughly dried by hanging in the sun. Strength was not lost in drying, and soaking brought back something of the crispness.

The root was scraped and washed, then reduced to small pieces. This was done by breaking with a sharp-edged stone if the root was large; by cutting into small pieces with a bamboo knife if small, young and fresh. It was then ready to chew (*mama*) and mix with water to make a cold water infusion. In later days, chewing was replaced by grinding or pounding. Reports of early visitors vary widely as to details of preparation, perhaps depending on their tolerance or disgust, and according to the rank of the person or persons for whom it was being prepared. Kotzebue (35, II, p. 199) says: "They intoxicate themselves with the *Ava*-root, which is prepared in the same manner as in the other South-Sea islands, with this exception, that here only the old women chew the root, and the young ones only spit into the dish to dilute the pap."

This is denied by all Hawaiian informants, and it must be that what Kotzebue saw, or was reported to him by one of his companions, was a break from usual custom. Paahana Wiggin (informant) says that *awa* was never chewed by old women, only by young men and women, and usually women. The demands on the jaws and teeth make this easy to believe. The stipulation that the chewers be young persons has been found in other areas in Polynesia as well as Hawaii.

In *awa* chewing, as in some other ceremonies, it was sometimes demanded that an *ula pa'a* (a girl or a boy who had not yet reached physical maturity) do the service, or a girl who was *pu'u pa'a* (virgin). This quality of immaculateness or sanctity was felt to be transferable from the

participant to the ceremony itself. (Pukui, personal communication.)

Chiefs and priests had special 'awa chewers in their train. A *kahu* (personal servant) performed alone all the work of preparing the drink for his chief, and was often required to do it several times each day, certainly before each meal. Portlock records this service (47, p. 157):

"My friend the old priest was almost constantly on board, and, according to his usual custom, drank vast quantities of *yava*, which kept him in a most wretched condition . . . The old man had generally two attendants on board to chew the *yava* root for him, and he found them so much employed that their jaws were frequently tired, and he was obliged to hire some of the people along-side to chew for him at a bead for a mouthful . . ."

A large quantity was prepared by a number of people, the work divided, some entrusted with cutting, or pounding, others with chewing, others with mixing and serving. For a group of forty people, perhaps six chewers would be needed.

Cleanliness was insisted upon, and required going to a beach or pool to rinse the mouth with water, sometimes adding wood ashes to the mouth rinse. Further insurance of cleanliness might be gained by chewing some edible seaweed, such as *limu kala*, or a piece of sugar cane, until its fibres were sufficiently free of juice to make a cleanser for the teeth. Hands were washed before the task of preparation started, and a final washing at the last moment was customary, both as extra insurance of cleanliness and a gesture of courtesy for guests to observe.

The chewers sat around a large, round bowl (*kanoa*), or a canoe-shaped vessel (*holo wa'a*) usually of wood, perhaps sometimes of stone. Each mouthful became a ball, called a *māna* (not to be confused with *mānā*, inherent power). As soon as the mass in the mouth was finely minced it was put into the bowl. A Hawaiian informant, Ke Kahuna, claims that good 'awa chewers developed the technique of chewing without allowing the saliva to flow too freely, thereby getting a comparatively dry ball. This is difficult to believe but others have made the claim also. Some saliva would be mixed with the minced root, and had

its use. Walter Hough (30, p. 88) states that "*Kava* that is prepared by chewing is said to be more palatable, which is perhaps due to the conversion of the starch into a fermentable substance by the ptyalin of the saliva," and that two properties of *awa* are (p. 86) "resin and *kavahin* . . . insoluble in water but . . . soluble in saliva and the gastric juices." The custom of chewing the root in general to Polynesia and its origin must be ancient. Churchill (9, p. 58) says: "The existence of the chewing custom in so many communities is evidence that it must carry some advantage . . . the islanders maintain that chewed *awa* has a better taste . . ." Hough offers two other reasons for chewing (30, p. 89):

"The *kava* root was probably chewed as the most available way to disintegrate its fibres. The tin grater found an immediate adoption in Samoa . . . Another reason may be that since *kava* drinking was a semi-religious ceremony, or at first highly official in most islands, the custom may have been perpetuated as one giving greater efficacy to the potion."

The chemical properties of the root were determined in Tahiti by G. Cuzent (11, p. 282-283):

"The root of the *Piper methysticum* contains an essential oil of a citron yellow colour, combined with a balsamic resin . . . Also a large amount of starch in small, round grains, a special neutral principle that we isolated at Tahiti, April 10, 1857, and to which we gave the name *kavahin*. It is probably to this principle that should be credited the stupefying and intoxicating properties of *kava*." (Translation by author.)

It is interesting to note that in the various dialects of the Polynesian language, there are two words for the verb to chew, *mama* and *nau*. *Nau* means to chew with the intent of swallowing; *mama* means to chew so as to mince finely. Mothers did this to the first solid foods given to their infants. The service was rendered by personal servants for chiefly children until they were well into childhood, and by medical *kahunas* in preparing medicines. The jaws and teeth were classed as good tools, not to be overlooked.

In Hawaii, the pounding process finally superseded the chewing process, special tools being developed for the new

method. (p. 164 herein.) Emerson (19, p. 133) notes that: "It is prepared by pulverizing the root in a mortar; if it is the dry article of commerce it is kept sufficiently moist to prevent its scattering and forming dust. When well pulverized, water is mixed with the mash to bring it to a proper dilution, when it is strained."

The strength of the concoction was roughly measured by the number of balls prepared. If a strong concoction was wanted, about four balls for each person were allowed. Two were usually sufficient. As soon as all were ready and placed in the *kanoa*, a coconut cup of water was added for each person to be served. For chiefs, and on rare occasions, water from coconuts was used. In the tale of Kamiki (48n, 9/25/1912) this is referred to: "After the chewing was done, the fluid used was the milk of the *hiwa* coconut, plucked from the tree, Niuapoe, the tree of the very sacred chief, Kalapana . . ." The mixture was thoroughly kneaded with the hands, and stirred, then strained. The strainer (*ahu-awa*) of tangled fibres, tied together at one end, and grasped with both hands, was moved slowly through the liquid, to pick up the fibrous root-particles, then squeezed dry, shaken out at the side of the bowl and the process repeated until the liquid seemed free of fibres. There remains no evidence of ceremonial manner of straining. Ke Kahuna says it was drawn through carefully and twisted as it was brought to the near side of the bowl, so that it ended up being a thick rope of fibres. Emerson, writing late (19, p.133), says only that "The fibre . . . is put into the bowl of diluted *awa* in such a way as to surround and gather up the undissolved particles, hence the name *ahu-awa*, the gatherer in the *awa*."

In order that persons of unfriendly or evil intent might not use the discarded fibres in sorcery, they were carefully thrown away in a running stream or in the sea. The last straining was through a twist of the fibres, a sort of funnel or "bird's nest." There seems to be no record of details of strict ceremony for this last pouring. One informant claims that the one who strained was also the server. Not all informants agree that this was always so. According to the narration which follows, *awa* was sometimes made in a gourd vessel, emptied into *kanoa* and then served into

cups. The tale of Kamiki furnishes this evidence of the whole procedure (48n, 11/8/1911):

"When he had pulled up the *awa*, he chewed five balls (*waku 'awa*, of eight mouthfuls each that is, 40 mouthfuls), wrapped them in green banana leaves, then dried banana leaves, and returned to the chief's house. The unchewed *awa* was tied in a bunch. The bundles of chewed *awa* were unwrapped and put into dippers (*haona*) . . . When the people went to open the *imu* for the pork, that was the time when the *awa* was put into one mass and the juice squeezed out into a long gourd (*olo*), the dregs strained out, the containers (*kanoa*) filled, and then poured into cups made of coconut shell (*'apu niu*), and was enough for four times four men, and when the chief and they themselves were counted in together that made five times four men to drink the *awa*."

The amount drunk varied greatly. A coconut cup was invariably the container from which to drink and would contain half a pint or more, the amount commonly taken before a meal. At a drinking party much more would be taken. Boastful chiefs exaggerated their ability at drinking. Emerson (19, p. 135) says:

"In the olden times there were those among the Hawaiians . . . who were stout drinkers and who won renown among their fellows by their ability to take large potations with a steady head. It is said of Pana, a king of Kauai and a famous drinker in the days of Keawe-nui-a-umi, that he could easily take forty cups of *awa* at a time without feeling it—an overstatement of course . . ."

'*Awa* was never made ahead of time and kept, but the chewed balls were sometimes prepared and wrapped in moss (*paihihi* moss), or banana leaves, as already stated by the teller of the Kamiki story. This met the necessities of long journeys or voyages, or the wish to serve a chief expeditiously.

When a scarcity of the supply of '*awa* demanded it, two or three infusions were made from the same mass of chewed '*awa*. "The first brew is called the *mahu*, the second the *hope*, and the third the *kua*." (48n, 2/22/1911.)

APPEARANCE.

The beverage is not attractive to the eye. If dried *'awa* is used, the liquid is greyish, if green *'awa* is used it is greenish. The liquid is never clear in spite of straining. In Hawaii it was a fairly thick liquid, this being preferred to "the dishwater drunk in the south" according to an old saying remembered by Kinney. Ellis (16: 358) termed it "like thick calcareous water." *'Awa* is no longer drunk to any extent in Hawaii and, therefore, to observe the colour, a bowl of *'awa* was prepared from fresh *'awa* taken from the forest at the head of Manoa valley on Oahu. It had a greenish cast like that of milky pea soup. During the process of mixing and straining a light foaminess occurred. After standing a few moments, that in the bottom of the cup had an almost puree-like thickness. One allusion to this potent sediment is in the legendary tale of Kaeha and Kaulu (21, IV: 524). The two brothers are drinking *'awa* and planning to deceive some spirits. One says, "Before you drink yours offer a little to me as your god by repeating the following words: 'Here is your *'awa*.' I will then answer back: 'Drink it and let me have the portion that is intoxicating!'" In western Polynesia, the drink of honour is the last from the bowl, because it is the most potent. (P.H. Buck, personal communication.)

TASTE.

There is disagreement as to the taste, easily traceable to wide differences in personal reaction, potency of the root used, strength of the infusion, familiarity with the taste, and with the custom.

Emerson (19: 131) says: "While tramping in the woods I have often moistened my tongue with a piece of *'awa* chipped from some root, and experienced relief from thirst by its pleasant, cooling, aromatic, numbing effect on the mucous membrane of the tongue . . ."

Dr. Buck, who has often drunk *'awa* in Samoa and other Pacific islands, corroborates this, saying that Emerson's adjectives are well chosen. To him *'awa* is astringent, rather than bitter.

Ellis, a missionary who toured Hawaii in 1823 (16: 358), says:

"(Chief Miomioi) took a large coconut shell full of *awa*. If an opinion of its taste might be formed by the

distortion of his countenance after taking it, it must be a most nauseous dose. There seemed to be about half a pint of it in the cup . . . As he took it, a man stood by his side with a calabash of fresh water, and the moment he had swallowed the intoxicating dose, he seized the calabash, and drank a hearty draught of water, to remove the unpleasant taste and burning effect of the *awa*."

None who have drunk *'awa* today find it nauseous, and not even unpleasant enough to distort the countenance. A morsel of food is customarily taken after drinking *'awa*, and in the old days the mouth was rinsed with water before taking the morsel of food. The "burning effect" must have been a guess on Ellis' part. It may be taken into account that the missionaries fought against the *'awa* custom, and any description of it would be apt to represent it as unpleasant.

Two Hawaiians speak of its bitterness, Kauea (48g, 1/6/67) says: "When chewed there is a peculiar bitterness with a feeling of thickness in the mouth, so that one does not taste the deliciousness of food after chewing or drinking *awa* . . ." Kauailinoe (48h) says: "If you chew a piece in your mouth, it is sour, and very bitter. The mouth will not taste food that is eaten after . . ." The Hawaiian dictionary (2: 74) gives one meaning of *'awa*, "the quality or state of being bitter; acidity." Bitterness seems to cling to the word. However, Pukui suggests that numbing is the strongest characteristic of the *'awa* taste. This numbing astringent effect on the tongue was the effect most noticeable to those who have tried *'awa* experimentally—to my knowledge. Among Polynesians there was no other drink that had bitterness, except those that were taken as medicines, and most foods were suave, non-acid. It may be that the exact translation of *'awa*, the adjective, is not bitter as we understand the word. Churchill says (9: 56-8):

"Polynesians do not praise *kava* for its taste, it is the odor which appeals to their sense of pleasure . . . Such woody taste as is recognized in the first sip is quite obliterated by the more distinctive effect of a numbing of the papillae at the tip of the tongue . . . The beverage made from brayed *kava* has a raw and woody taste, that prepared by chewing is lacking

in the raw flavour, is apparently more potent, smoother . . ."

In telling of the delights of Hana, Maui, and especially of the hill of Kauiki, Kamakau (48f, 12/1/1866) speaks of its olfactory appeal: "Heaps of *awa* delighted the nostrils of the dear, first born chiefs." The *U.S. Dispensatory* says that the odour is "faint but characteristic."

Whatever the taste, it was not one to hold in the mouth and linger over. Water was always at hand to drink or use as a mouth rinse, and then a morsel of food, called *pūpū*, was eaten. This might be any of good flavour—fish, banana, cooked greens. Cooked food was preferred, raw sometimes causing nausea. "After drinking, eat until satisfied with a good *pupu*, that is, a fish cooked in *ti* leaves or broiled over hot coals . . ." (48g, 1/5/1867.) The hero, Kamiki, "ate salt and taro leaf greens to remove the bitterness of his *awa*. Maka'iole ate a section of sugar cane and well ripened bananas to remove the bitterness of his *awa*, while their grandmother drank the water wrapped in taro leaves to remove the bitterness of hers." (48n, 2/15/1911.) Epicurean chiefs had decided preferences in the choice of *pūpū*, and it was a *kahu's* pride to have the right food on hand.

EFFECT.

The effect of *awa* varies according to the amount taken. In moderation, it relaxes the nerves and induces refreshing rest; taken often in large quantities it makes the skin scaly (*mahuna*), ulcerous, the eyes blood-shot and suppurated, and reduces the control of the nerves of the arms and legs. Walking is difficult or impossible. In striking contrast to the effect of alcohol, the mind remains clear until sleep comes, and the emotions are unaffected. The reputation of *awa* may have suffered a little from the lack of a term that accurately expresses its effect—intoxicating, narcotic, soporific, all being peculiarly applicable to alcohol and drugs.

Kamakau vividly described *awa* drinking by the commoner, and the effects (48e, 11/25/1869):

"*Awa* is good for the farmer when he is weary and sore after labouring day and night, and for the fisherman who has been diving, rowing, pulling and bending with his head down, or until his thighs and buttocks are sore from sitting on the edge of the canoe. He goes

ashore and in the evening the *awa* is prepared for the fisherman. It is chewed until the dish is filled then the head of the *kahala* fish, the *uku*, the *mokuleia*, and the *ulua* fish, the bundle of *kumu* fish cooked in *ti* leaves, and the *opule lauli* are taken from the *imu* and heaped on the table together with a bunch of dead-ripe bananas, sections of sugar cane just on the point of souring, sweet potatoes ridged in shape and deep red in colour, all ready for eating. Then straining fibres are dropped into the *awa* and water is added, the *awa* stirred with the fibres, the dregs are gathered together and lifted up in the fibres, and the juice squeezed out, the cup handed forth, the *awa* poured in. When it was full, a prayer of praise was offered to the gods for evil and good received from them, for their life-giving care of their offspring in this world and in the bright-world beyond. Then the weary man grasped the *awa* cup, gulped it down, reached for the water gourd to rinse his mouth, spit out the mouthful of water to remove the bitter taste, reached for sections of sugar cane to cool his throat, then for a banana to eat, took a mouthful of potatoes to hold that down, then reached for the eyeball of the *uku* and *mokuleia*, so full of fat (*momona*, meaning primarily fat, secondly delicious), and the bundles of *kumu* and *opule lauli* fish, and began at once on the pieces of pork cooked in *ti* leaves. By that time he felt a sharp tingling in his ears and took water and washed his hands. He could not eat another mouthful for nausea, for he was seized by the intoxication of the *awa*.

"The *awa*-drinking house was like a chief's house, there must be no gaiety, no talking, no jollity, lest one vomit. The candlenut torch was the only thing one desired—one or two torches would produce warmth—then there was a sound in the ear like the chirping of land shells and of fiddles that teased the ear pleasantly, or like the roaring of the strong wind that changed to stillness. Such was the custom of the planter; he would sleep till morning and the pains and soreness would be gone."

Kamakau's description needs no further explanation, and describes well the delicate balance the senses arrived at,

a disturbance of which by too much food or too much noise would produce nausea. After nausea, intoxication would cease, and the greatly desired effect of the *'awa* would be lost. Kamakau continues, telling the effects of continued drinking:

"People in the old days liked *awa* as a means of reducing weight. When a man saw himself growing too fat and subject to illnesses, the best thing was to drink copiously like the gods and like those possessed of a spirit until the skin scaled. Let him look for the potent *awa* and buy a large quantity, then begin to drink, and eat nothing between meals. Fish and *poi* were to be eaten only when the cup of *awa* was drunk. One must not go out in the sun and rain lest the feet crack if wet in water or mud. [Note: Because the skin became thin and dry—Pukui.] The first cup was enough to make one drunk for two days. The day after a man had become intoxicated drinking *awa*, he would be intoxicated again when he drank *awa*, when he bathed in sea water or when he ate. This effect lasted two or three days. Then if he took it again his head would grow heavy and his eyes pucker up, and with the third cup the heavy feeling would go down to the chest, and when the cups of *awa* were continued his skin would begin to scale and he would begin to lose weight. The scales would peel off, then more *awa* was taken as medicine, combined with a cathartic to act as a double net to clean out the body, and after three, four, or five cups of *awa* the body became spare.

"Then a pig was sought as an offering for the breaking up of the *awa* bowl, a feast made, the *awa* bowl broken, and the drinking of *awa* was ended and sea water was drunk. The effects of the *awa* would then cease, the body would be thin, the illness would be gone, and the body recover its fitness."

There are many witnesses who give corroboration to one point or another of this testimony. Deihl (12, p. 68) says:

"White men in these islands (the Pacific) have readily taken to *kava* drinking for its thirst-quenching properties are unequalled . . . Excessive use of it, especially when the dried root has, through the process

of chewing, been mixed with saliva in the preparation, leads most certainly to a loss of control over the muscles of the legs. One thus affected walks with a staggering gait, while the mind is clear . . ."

Vancouver (57, Vol. 2, p. 182): "His (Kahekili of Maui) age I suppose must have exceeded fifty, he was greatly debilitated and enervated, and from the colour of the skin, I judge his feebleness to have been brought on by excessive use of *awa*." Ellis (15, Vol. 2, p. 168): "Their general drink is water or the milk of the coconut, but all the chiefs use the *awa*, and some of them to excess, as was very evident from their skins, which were rough and parched as can well be conceived, and their eyes red and inflamed." Kotzebue (35, Vol. 2, p. 199): "How unhealthy the constant use of this root must be is proved by the many ulcers with which the inhabitants are afflicted." In the following chant, probably one of praise, the skin, evidently affected by *awa* indulgence in the *kapu* periods, is described. (21, IV, p. 242.) (Translation revised by Kawena Pukui.)

O Ka'ihikapu, 'ili manoa,
'ili pepe'e, pepe'e i ke kapu,
Ka 'ili pe'e ku-e o ke 'ili o Mano,
No Mano 'ili 'oi, 'ili kalakala,
Ke kalakala o ka lau ea pu,
Ke kalakala o ka i'a 'ili e'e,
Ka 'ili 'e, o Mano, lae pohaku.

O Kaihikapu with the thick skin,
Crusted skin, crusted by the *kapu*.
The thick, coarse skin of the chief Mano,
Mano of the pimply rough skin, the gritty rough skin,
Like the roughness of the coarse, exposed leaf,
Like the roughness of the rough-skinned fish,
The peculiar skin of Mano, he of the hard forehead.

In modern times, 1903, Emerson made his own observations of the effect of *awa* (19, p. 135).

"The Hawaiian is muscular and given at times to prolonged exertion and exposure which induces excessive weariness, and *awa* by relaxing the muscles and inducing sleep gives him relief. On stopping overnight a few weeks ago at a native house, preparatory to climbing out of Pelekunu valley and over the summit of Kilohana, Molokai's highest mountain, I was surprised in the evening to find my host drinking *awa*. In the

morning we were to start on our wearisome and difficult tramp and here he was making himself stupid with *awa*. I felt anxious for the result, but I need not have been so, for in the morning he told me that he had had a fine night's rest and felt well prepared for the day's work. The climb proved the truth of his words, for he went far that day, climbing the face of a steep mountain wall over five thousand feet high, where hands as well as feet came into constant requisition, and he carried a heavy burden strapped to his back all the way . . .

"On the following evening he again took *awa*, remarking that it would take away the soreness of his muscles and give him a good night's rest. The next morning he was up early, bustling about as actively as usual . . . He told me that the first cup did not make him sufficiently drunk and that in order to get the full benefit he had to take a second, and then when the flame of the lamp seemed to be double, as if two lamps were burning he fell off into a profound sleep, so profound that he did not turn over till morning."

Kauea (48g, 1/5/1867) writes:

"Because his body is steeped with *awa* . . . his skin is scaly like the skin of a tortoise or a rough skinned shark, and as shiny as a hairless dog. The eyes smart, they become bleary and squint, 'red as the earth of Kalau raised by the wind . . .' The lips are cracked and dry, the whole body is withered like the grass and beauty fades like a flower . . ."

Kauaililinoe (48h) says:

"There is no admiration for the body and face of an *awa* drinker whose eyes are sticky, and whose skin cracks like the bark of the *kukui* trees of Lili'oi in unsightliness. The face is coarse like that of an old man or woman with withered skin. If you are drunk with *awa* you will find your muscles and cords limp, the head feels weighted and the whole body too . . ."

An unsigned article (48k) states: "It has a different effect from that of beer or rum. The man that is drunk with *awa* does not talk loud, fight or make trouble. It is as much as he can do to eat and fall asleep like a pig." Kawena Pukui recalls the old expression, "*He kanaka ka*

mea inu 'awa; he pua'a-laho ka mea inu kuaipa." (The man who drinks 'awa is still a man, but the man who drinks liquors becomes a beast.) Kotzebue (35, Vol. 2, p. 199) says: "... they [Hawaiians] are in this [drunken] state the most cheerful and affectionate." Very little else has been recorded of the effect on the mind. If sleep is deep and refreshing, as already stated, shall we guess that it is dreamless? Emerson (18, p. 199) refers to "that state of dreamy mental exaltation which comes with *awa* intoxication." But there is too little evidence on this subject to make a definite statement.

At times it was desirable to transfer the effect, or most of it, from the actual drinker to another person present who might or might not be participating in the drinking. Paahana Wiggin explains two situations in which this might be done. If an 'awa chewer were treated ungraciously in any way, if for instance the service were performed by request but no gift of sugar cane, bananas or other things were given in exchange for the service, the chewer might appeal silently to her own *aumakua* (personal god) to transfer the pleasant effect from the ungracious one to another person designated.

The following excerpt from a chant* collected by Miss Roberts (52, Bk. 23, p. 37-38) illustrates another situation. A chief or chiefess might wish to drink 'awa, either for personal pleasure, or for ceremonial necessity, yet feel himself in personal danger from untrustworthy persons present, and so wish to keep his senses alert. He would then ask a *kahuna* to pray to the gods and cause the effect to be transferred. In this chant the effect is felt by the Pleiades, which were, possibly, among the personal gods of the chiefess Maukaa.

O ka 'awa makeanu o Puna i ka la'au,
I ka 'awa mokihana a ka manu,
I kanu i ka papa o Kaniahiku,
I ulu i ka 'ohi'a o Kali'u, ka pu'awa mo'i,
Papakea i mama ia e ka wahine a wali,
I hoka i ke kanoa i ka māū-'u
I ho'ohae i ka 'apu ku ke au
Ho'okahe ka'awa he 'awa ke 'lii,

* This name chant is not ancient, Maukaa, a Ka'u chiefess, having been born in early missionary days. However, the composer was evidently familiar with ancient concepts.

No ka pua a I nona ka pu'awa hiwa a Kane o Lono,
 Ho'olono ka inu 'awa kupuna o Kanaloa-wai-a-ka-honua,
 Ho'ohonua ka 'aha inu 'awa,
 A k pua i kela i ka wekiu,
 He kiu he makani 'awa no Lono o Puaka,
 Kau onaona Makali'i i ka 'ona a ka 'awa,
 He 'ona, he lehua, he poluea,
 He luluhi 'ona 'awa no Mauka'a,
 Ke moe maila i Halehalekalani.

The 'awa grows in the cold, on the trees of Puna,
 The mokihana 'awa planted by the birds.
 It is planted on the flat lands of Kaniahiku,
 In the ohia forest of Kaliu grows the moi variety of 'awa.
 The papakea 'awa is masticated well for the woman [Maukaa]
 It is strained in the *kanoa* with fibres
 Dip it up in a cup, hold it till it becomes still [literally, till the
 current stops]
 Pour, pour out the 'awa for a royal one,
 For the descendant of I, [name of a person] to whom the *hiwa*
awa of Kane, of Lono,
 All are quietly attentive during the drinking of the ancestral
 'awa of Kanaloa-wai-a-ka-honua,
 Hushed is the 'awa-drinking company
 Of the offspring of the most high.
 The Kiu is Lono's chilling wind at Puaka.
 The Pleiades are becoming drowsy with the effects of 'awa,
 They are drunk, drowsy, dizzy,
 They are sleepy for Maukaa, from the effects of 'awa,
 They slumber at Halehalekalani.

The effect of 'awa, then, varied greatly according to the amount taken and frequency. Still leaving it in relative terms, a moderate amount was beneficial, excessive use gradually impaired strength and hastened the debilities of age. The effect on the mind was not harmful, except to dull it when under the influence of an excessive amount, and after moderate drinking no after effects remained. An additional statement of the effect of 'awa can be made after an examination of the use of 'awa as medicine.

'AWA AS MEDICINE.

Quotations from Kamukau and others, just given, have already shown that 'awa taken judiciously had a beneficial effect on the health, soothing the nerves, relaxing fatigue-stiff muscles, and inducing sleep. A treatment for excessive fat brought back the body to normal fitness. Skin that was disgustingly scaly and ulcerous during the 'awa treatment became smooth and fresh again when the treatment ended

(Pukui, personal communication). Affections of the skin from other causes often yielded to the 'awa treatment.

Deihl (12, p. 68) tells us: "As to its medical properties, it is a spinal rather than a cerebral depressant, it steadies the pulse, does not raise the temperature, and acts as a diuretic and stomachic tonic . . ."

Hawaiian medical priests (*kahuna lapa'au*) made extensive use of it. Kaaiaakamanu and Akina (32, p. 17-19) say that the root was dried in the sun; when partly dried it was washed clean and chopped into pieces of convenient size. They state that "its use as a medicine is confined to the cure of sleeplessness and general debility . . ." A prescription for this ailment is:

" . . . allow five mouthfuls of the thoroughly chewed 'awa' for a dose. This is taken and mixed in about a quart and a half of water and strained . . . (and) put into a container in which a medium-sized stone, heated red-hot, is placed. After boiling, the liquid is allowed to cool . . . taken internally . . . (and) repeated until complete relaxation and sleep are fully restored. At the end, the scraped *iholena* or *lele*, banana, thoroughly cooked in *ti* leaves, is eaten. Spring water is used for a regular drink."

Similarly detailed prescriptions are given for the cure or alleviation of such troubles as "general debility, especially in children," "weary muscles . . . a great restorer of strength," for "chills and hard colds," "difficulty in passing urine," "sharp, blinding headache," for children having a "disorderly stomach and . . . thick, white coating on the tongue," "lung and kindred troubles," "weaknesses arising from certain conditions during virginity," "displacement of the womb," and a "poultice for boils." In some of the old records made by Hawaiian doctors on file at the Archives of Hawaii and at Bishop Museum there are other records of the use of 'awa.

Kawena Pukui adds that, within recollection, babies were given the juice of the *nene* variety for a soothing syrup. She recalls such remarks as, "This is a fretful child, and must be given the *awa nene*."

Jarret (31, p. 127-128) mentions 'awa and states that: "It was extensively used in Germany previous to the World War, in the manufacture of certain drugs and medicines."

Emerson (19, p. 133) says of 'awa as an article of export that its "value as a drug is in the preparation of remedies for urinary troubles. The *materia medica* gives it recognition only under this head." Mouritz (45, p. 115) says that "an alcoholic solution injected into the skin causes anaesthesia, followed by paralysis of the peripheral nerves for several hours." He says that both Hawaiian and *haole* (foreign) doctors use it for venereal and kidney diseases, and, in alcoholic solution or as an unguent, in affections of the skin, including leprosy. Handy (27, p. 20) adds, "bits of *awa* root chewed at frequent intervals and *awa* leaves wrapped around the head are said to protect against contagious disease and to cure headache. *Awa* leaves, stuffed into the vagina, are said to induce miscarriage . . . 'awa *hiwa* is generally required in medicines."

From the time of European discovery by Cook, in 1778, the islands have been the reservoir of a constant and ever increasing flow of alien peoples from many parts of the world. Many diseases have come with them—smallpox, syphilis, leprosy, bubonic plague, cholera, influenza, and so forth. These diseases were more devastating than those endemic at the time of discovery. Foreigners were accustomed to taking safeguards against disease. Hawaiians resisted accepting the knowledge of how disease germs may be transferred, and were incredulous of the warnings of danger. It is easy to see how disastrous was the habit of sharing the brew made from chewed 'awa, and how efficient was this way of spreading diseases. One of the worst diseases was leprosy. Though the mode of transfer was a debatable subject for many years, Hawaiians did not share with foreigners the abhorrence of association with lepers. The following deposition quoted by Fitch (20, p. 531-532) illustrates such insouciance:

"I knew Paiaina in the year 1857 . . . he was living with the Prince ——— [sic] and Paiaina was servant of ——— at that time . . . one of the Prince's favourite men, and he chewed *awa* for the Prince . . . My remembrance is that Paiaina had the leprosy in the year 1863, or 1865 . . . it was in the year 1878 . . . that he ceased living with the Prince ———. While Paiaina was diseased he was chewing *awa* for the Prince, and I have drunk, together with the

Prince, of the *awa* chewed by Paiaina . . . From the time when Paiaina got the leprosy . . . until the year 1878, I knew of his chewing *awa* for the Prince . . . all that time, and the Prince drank the *awa* chewed by him, yet the Prince has not contracted the disease, nor have I, nor has Mr. G. P. Wood, a special companion of the Prince . . . Written this 26th day of May, 1885 . . . (Signed) G. B. Kalaaaukane."

Besides being slow to learn the nature of germs and their ability to spread from mouth to chewed '*awa*, to the drinker, Hawaiians resisted segregation, the uprooting and the loneliness, and treated leprosy as a skin disease, using the '*awa* treatment. Said Ferd. W. Hutchinson (50, p. 5): "It is well known that the Hawaiian people universally believe that '*awa* is a sovereign remedy for all kinds of skin diseases . . . and are certain to go through regular courses of the drug when so afflicted . . . (with leprosy)."

To sum up, it seems that '*awa* has a two-fold effect of temporarily reducing the sensitivity or action of the nerves which centre in the spinal region, and increasing the activity of the fluids of the body, thereby relieving any seat of congestion. The physio-chemical action is discussed in the *U.S. Dispensatory*. It is probably more true of '*awa* than of any narcotic or intoxicant that, upon stopping the habit of drinking, the body recovers completely or nearly so, unless the habit has been constant and prolonged.

'AWA AND SOCIAL RANK.

Hawaiian society was composed of slaves (*kauwa*), who were accorded no social privileges, commoners (*maka-ai-nana*), and chiefs (*ali'i*). Priests (*kahuna*) were usually of chiefly rank.

Women had a high place in society, but certain privileges were denied them. As to '*awa*, women were permitted to drink it, but usually by themselves, rarely in the presence of men (Pukui personal communication). The following quotation provides indication of occasional exception to this prohibition: "The chief, Kukuipahu, had an *awa*-drinking party that evening . . . The house inside was encircled by chiefs, not only men but women too." (48.) There is also the instance of the grandmother who drank the water from *taro* leaves for her aftertaste (p. 119 herein). Female

goddesses had an evidently unquestioned right to drink 'awa. Pele was one of the most powerful goddesses. A chant to Pele and her 'awa has been recorded by Emerson (18, p. 198-299) and is here given, with revised translation by Kawena Pukui.

O Pele la ko'u akua
 Miha ka lani, miha ka honua.
 'Awa iku,* 'awa lani,
 Kai 'awa'awa, ka 'awa nui a Hi'iaka,
 I kua i Maui-ola,
 He 'awa kapu no na wahine.
 E kapu!
 Ka'i kapu kou 'awa, e Pele a Honuo-mea.
 E kala, e Haumea wahine,
 O ka wahine i Kilauea,
 Nana i 'eli a hohonu ka lua.
 O Mau-wahine, o Kupu'ena [Kuku'ena]†
 O na wahine i ka inu-hana-'awa,
 E ola na 'kua malihini!‡

Pele is my goddess.
 Let there be silence in the heavens, silence on the earth.
 For the straight-growing 'awa, the heavenly 'awa,
 The bitter juice, the great 'awa of Hi'iaka,
 That was cut down at Maui-ola,
 It is 'awa dedicated to the woman,
 It is sacred!
 Let your 'awa be sacred indeed, O Pele-honua-mea.
 Proclaim the kapu, O Haumea-the-woman,
 The woman at Kilauea.
 It was she who dug the pit until it was deep.
 Mau-wahine and Kuku'ena
 Were they who prepared the drinking 'awa,
 Long live the gods from foreign lands!

In the legend of Kawelo (25, p. 21), a goddess, Malei, "felt a longing for *awa* such as is planted by the birds in the trees of Panaewa . . . When the *awa* was prepared both Malei and her lord . . . drank so deeply as to be intoxicated . . ."

* "Straight-growing 'awa," is the young 'awa before it has started to branch.

† Kuku'ena, one of Pele's many sisters, made her leis and presented the 'awa cup to Pele.

‡ Pele and her train were always considered later arrivals, perhaps a later migration of gods, and so were spoken of as "from foreign lands." (Kawena Pukui, personal communication.)

All things especially good or rare were reserved for the chiefs. "It is true that the *awa* that grew on trees in Puna was a favourite of the ruling chiefs in ancient times, carefully kept in gourd calabashes, rolled up and kept in a piece of *tapa*." (48n, 6/12/1912.)

In serving, the highest in rank was given the honoured cup. There is not enough evidence to determine exactly all the qualifications of the rule for serving. It is likely that the last cup, being the most potent because it contained the residue of *'awa*, was the one carrying the greatest honour and would go to the highest chief, who would therefore have to wait for his cup. The chief second in rank would receive the first cup and others would take their turn according to their rank. But if the serving of *'awa* were not at a gathering for that purpose, but merely a serving to two or more chiefs before a meal, or at some time when the bowl was not emptied, then the highest chief would be served the first cup. If two chiefs were peers, they were served simultaneously. The following excerpts from legend and tradition have led to this conclusion.

"As the ruling chiefs (Kamehameha and Kaumualii) were yet talking, Kaumualii's attendant chewed the *awa*, strained and poured it into two cups and brought them to the two chiefs. The two high chiefs took them together and drank." (48o.)

And in the *History of Kamehameha* (48f, 1/19/1906) an incident shows that discord was the result of trying to waive the rule:

"When Kamehameha entered the men's house (*mua*), the chief's drinking gathering was being prepared for. Kekuhaupio suggested to the ruling chief, Kiwalao, 'Let Kamehameha prepare your *awa*.' Kiwalao asked, 'Why should he?' And Kekuhaupio answered, 'That was the will of your father, that one of you should serve the other, and one stand at the head of the government.'

"Kamehameha chewed the *awa*, strained and poured it into a cup. He offered a prayer and after freeing the *kapu*, the ruling chief (Kiwalao) took the first cup in his hand and gave it to a favourite friend. When the friend raised the cup to drink it, Kekuhaupio slapped it away from him and said, 'You are wrong, O

Chief, your younger cousin did not chew the *awa* for anyone but you.' Kekuhaupio pushed Kamehameha with his foot and said, 'Let us go . . .' This act of Kekuhaupio was much discussed by the attendants of Kiwalao. Some blamed Kekuhaupio and some approved, and laid the blame on Kiwalao."

In the tale of Kihapiilani (48g), the hero, a younger brother, feeling himself hated and abused by his elder brother, tries to snatch the power he covets by sitting on his father's right knee, instead of the left, where he properly belongs, and also by interfering in the order of serving '*awa*—"And he snatched the *awa* cup intended for his elder brother . . ."

Several of the crew of Captain Cook, discoverer of Hawaii, issued reports of that voyage. Samwell, one of these, gives his report of an instance of '*awa* drinking on January 19th, 1779. This was probably the scene recorded much better by Cook himself (p. 145 herein).

"A Chief in one large double canoe drank his Morning dose of intoxicating Liquor called Kava with his Attendants along side the Ship they prepare it by chewing the root in their Mouths like they do at all the South Sea Islands, while this operation was going forward the Chief himself began a song or gave out the Stave and was joined by all his people in the Canoe, when the Liquor was ready the Man who had prepared it gave some in Cups to those round him who were allowed to drink it being inferior Chiefs and dependents on the other, they held their Cups in their Hands with out offering to drink till the song was concluded, then they all gave a shout together and emptyed their Cups, after this a Cup of the Liquor was given to the Chief himself and was answered by the rest, he repeated them three times and was answered as often, upon which he emptyed his Cup, then he dipped his fingers in a Wooden Bowl containing some thin pudding . . ."

* This attempting to snatch the prerogatives of an elder brother was a common motif in legend as well as in tradition. If success against the personal adversary were won, the acclaim of retainers made it a fact—disapproval providing grounds for continuing the struggle (Pukui, personal communication).

The personal belongings of a chief, and the food and drink that he touched took on some of his *mana* (inherent power), and had to be guarded from harm, especially from falling into the hands of an enemy, or ill-disposed person. The personal servants closest to a chief had, therefore, great responsibility, and it was an honour to hold such a position. Quite often the office was held by a lesser chief. This close relationship, and the duties of such a servant (*kahu*), are well set forth in the tale of Pakaa (21, V, pp. 72-74):

"Pakaa was the servant of Keawenuiaumi, the King of Hawaii, and was a very great favourite with his master. It was his duty to have the supervision of the lands and household servants of the king. It was also his duty to have in his keeping all of the king's personal effects, the *kapas*, the food, the meat and fish, the *malos*, the feather *kahilis*, *awa* bowls (*kanoa*), *awa* cup ('*apu 'awa*), *awa*, the calabash containing ointment and all the different things belonging to the comfort of Keawenuiaumi.

"Because of the great care exercised by Pakaa in the supervision of the things belonging to the king, he was raised to the highest office in the king's household and he became a greater favourite than all the chiefs and men under the king. In time the king gave Pakaa several pieces of land in the six different districts of Hawaii for his own use . . ."

The story continues to be interesting as evidence of the place of *'awa* in the pleasure of a chief. The chief made favourites of two other men, and through their intrigues the chief's affection for Kapaa lessened. Heavy-hearted, Kapaa withdrew to Molokai, married and had a son whom he named Kuapakaa. "The meaning of the name is this: 'the cracked skin' (literally: scaly back), given because the skin of Keawenuiaumi was cracked by the constant use of the *'awa*, so much so that the flesh was exposed in places." Kapaa trained his son in all things that he knew. With love for his chief still in his heart, he said to his son, "It is possible that in time he will miss me and will come to make a search; if he does I want you to be in a position of readiness to meet him." That is just what happened. The fickle Keawenuiaumi, longing for Kakaa, his dear servant, his "backbone," is lured to Molokai by a dream about

Kapaa. Without revealing identity, Kuapakaa and Kakaa meet the canoes of the king. Through sorcery Kakaa plays some trickery with the winds, the winds play havoc with the weather, the canoes of the king are imperilled, and even his life. Kuapakaa has been the mouthpiece during the meeting with the chief, reciting chants that insult the lesser chiefs, chants that call forth the winds, chants that quiet the winds. Finally Keawenuiaumi is brought to shore safely, in disgust with his chiefs, less skilled in taking care of him than his again-beloved Kapaa. He admires Kuapakaa for his knowledge of chants, and his use of them. Dry clothes, of the kind he used to be provided with under the care of Kapaa, are brought to him by Kuapakaa, and again the king is pleased.

(pp. 112-134):

"That evening the chiefs came together with their men and as they were sitting quite close to the king, the king said: 'If Pakaa were here, of an evening like this, he would have my *awa* ready with two fresh *hinalea* (a choice fish for an aftertaste). I would drink the cup of *awa* and as its effects came over me, I would feel like a newly made net, nice and snug, all night. How I do miss Pakaa.'

"When Kuapakaa heard this he returned to his father . . . and said, 'My master is in want of some *awa*, and he has expressed his affection for you and showed that he still remembers you.' When Pakaa heard this, he took down the *awa* cup (*apu*), the *awa* dish (*kanoa*), the grass (*mau'u*), the piece of *awa* (*pu 'awa*), and two pieces of *awa* already prepared (*mana 'awa*), and said to the boy: 'You take these to your master and show them to him. If he should ask you to prepare the *awa* for him, give your consent. Then you turn to one side where it is dark, leave the piece that is not prepared, take up the portions that are ready, strain them into the cup. He will compliment you for being very quick, for I was ever ready with these things when I was with him. After you have strained the *awa* into the cup, hand the cup to your master, then run fast as you can to the pool where we keep the *hinalea* and catch two for your master, for he would

want the fish to take away the bitter taste of the *awa* from his mouth'."

All went well with this plan, and

"Because of these things performed by the boy, Keawenuiaumi complimented him for being quick, and for carrying himself like a person who has always lived with kings, and for conducting himself so well. The king then drank up the *awa* and as the effects of it stole over him, combined with the weariness of a hard and eventful day, he fell into a deep sleep."

Lesser chiefs and commoners were fortunate if they could live under a rich chief, one who was powerful, had good lands, and ruled well enough to provide all retainers and subjects bountifully. In the story of Umi (33, Vol. 2, Ch. 14, p. 48), it is stated:

"To him (Umi-o-ka-lani) the people made their gift offerings, torches burned constantly for him and his chiefs, the old men among his followers drank *awa* constantly—it was clear that he was a rich lord. As for Kanaloa's old counsellors, their urine was white. That was a sign of a chief without wealth."

The chiefs did not limit themselves in their demands for refinements of service. There were special servants for all sorts of tasks. Evidence of such service has already been shown in the tale of Kamiki, and in the tale of Pakaa. There might be special servants for growing '*awa*'. In the tradition of Kihapiilani (48q), there is mention of someone who was "a keeper of the '*awa kapu*.'" This might be '*awa*' for the chiefs or for the priests to offer to the gods. Runners might be dispatched long distances to get '*awa*'—or anything else a chief wanted, for that matter—and those especially gifted at chewing were delegated to that service, as already stated: "chiefs and priests had special *awa* chewers in their train."

Besides being pleasant, bringing restfulness and forgetfulness, '*awa*' drinking was a matter of personal prestige. Ellis notes (15, Vol. 2, p. 168) "... all the chiefs use the *awa*, and some of them to excess, as was very evident from their skins ... This appearance they are very proud of, and, so prevailing is the custom, esteem it as a particular mark of distinction." Frequent drinking was noted by

Cook (10, Vol. 1, p. 319). "It should be observed . . . that though these islanders have this liquor always fresh prepared . . . I have seen them drink it seven times before noon . . ." and again (10, Vol. 3, p. 142): "The chiefs constantly begin their meal with an doze of the extract of pepper-root, brewed after the usual manner."

When the pleasure-loving chiefs desired to assemble socially, *'awa* was their drink. Would that there were more descriptions of such scenes as this, given in the tale of Kepakailiula (48p):

"The chief, Kukuipahu, had an *awa* drinking party that evening. The *kukui* candles were lighted in the long shed of the chief. The burnt nuts were knocked off by four hunch-backed men. Hunch-backs were favourites of chiefs. After the chiefs had drunk their *awa*, Kukuipahu sat against the wall, but he was not intoxicated with *awa*. The house inside was encircled by chiefs, not only men but women too."

Already quoted is the mention of such an assembly in the incident of the dispute between Kekuhaupio and Kiwalao: "When Kamehameha entered the men's house, the chiefs' *awa*-drinking gathering was being prepared for . . ." Kawena Pukui remembers from her childhood in Kau and Puna, that the old people would sometimes have an *'awa* drinking party (*'aha inu 'awa*). "When someone dug up *'awa*, news of it would spread, and many people gather together." She and other children were not invited, nor did they see any fun in such a quiet time, when no one could talk or laugh or make any disturbance. That there were *'awa* drinking parties at such late date is evidence of the tenacity of at least fragments of the *'awa* customs, for European influence had had forty years or fifty to have its effects by the time these old people were born.

There are instances in legend and tradition in which chiefs wishing to express love for a dear one, or great honour to a guest, prepared the food and drink with their own hands. Three quotations follow which set this forth.

"Ka-lele-alua-ka reached for the *awa* container and strained the *awa* into a cup. He, the chief, prayed that all harm and trouble be warded from his son-in-law to be and from the chief too. He prayed that life be

lengthened, be productive, and blessed. Then Kahuhewahewa raised the cup for Kalelealuaka to drink from, and he lifted the *ihiloa* water gourd so that Kalelealuaka could rinse his mouth. Kahuhewahewa reached for a piece from the leg of a cooked pig and put it into the mouth of his son-in-law to be, and also big fingers of *poi* made from the *ka'i koi taro* of Ewa. So it was with all things prepared . . ." (48m.)

"When they arrived they were welcomed . . . Keohiolo went to the upland of Keauhou for *awa* for his adopted grandsons and other *awa* drinkers of the household of chief Honalo. Kamiki chewed all the *awa*, filling several long gourds (*olo*). He worked it with his hands as he added water . . . After drinking the *awa* they ate the pork and everything else . . ." (48n, 6/28/1911.)

"Let us turn to Umi (a king of Hawaii), who received Kiha-a-Piilani with love and kindness . . . He stood up to speak to his *kahunas*, and left them in the men's house to go to the house of his stewards to prepare foods of every kind served on the tables of chiefs . . . After this was done, Umi went to fetch the *awa*, put it into a *kanoa*, strained and poured it into a cup. He filled a sennit corded *ihiloa* gourd bottle with fresh water, put the *poi* into a calabash decorated with the teeth of chiefs, went to open the *imu* for the dog and pig, fetched ripe bananas with skins as dark as the breasts of fat plovers, and some sweet sugar cane from Kona. In doing all this, Umi was proving his affection and hospitality in humbling his position as a ruling chief . . . When all was ready, he laid the food before Kiha-a-Piilani . . . Umi picked up the *awa* cup and held it for Kiha-a-Piilani to drink from, gave him some water, a banana and sweet sugar cane to take away the bitterness of the *awa*." (48r.)

As to whether *awa* might be freely used by commoners as well as chiefs, we find conflicting comments. Cook says (10, III, p. 127), "It is fortunate that the use of it is made one of the peculiar privileges of the chiefs. The young son of Terreeoboo, who was about twelve years old, used to boast of his being admitted to drink *awa*, and shewed us, with great triumph, a small spot in his side that was grow-



PLATE 1.

'Awa growing in cultivation at elevation of 1,000 feet. This two year old plant is five feet high.

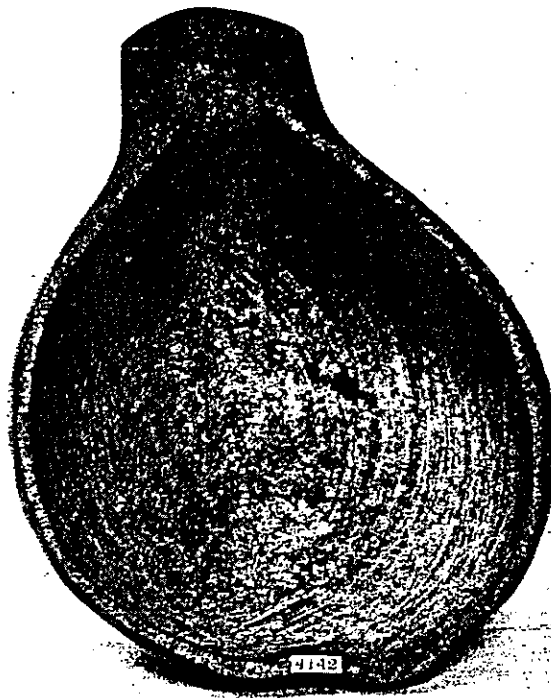


PLATE 2.
Gourd strainer.



PLATE 3.

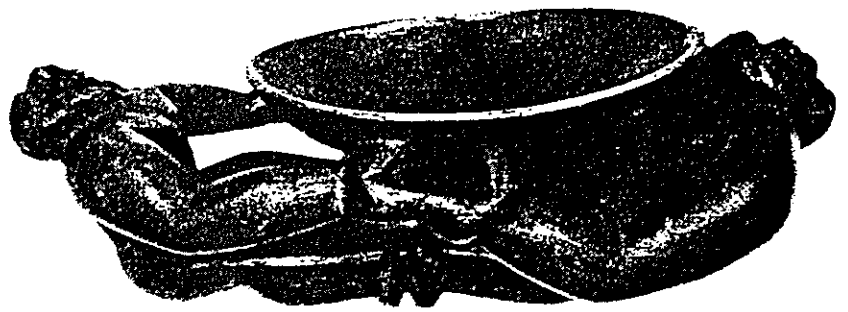


PLATE 5b.
Bowl in Peabody Museum, Cambridge, Massachusetts.



PLATE 5c.

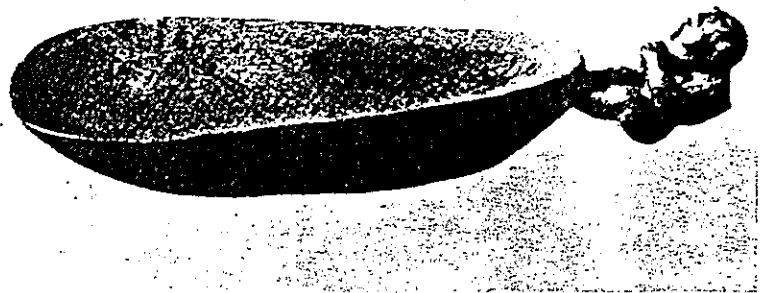


PLATE 5d.

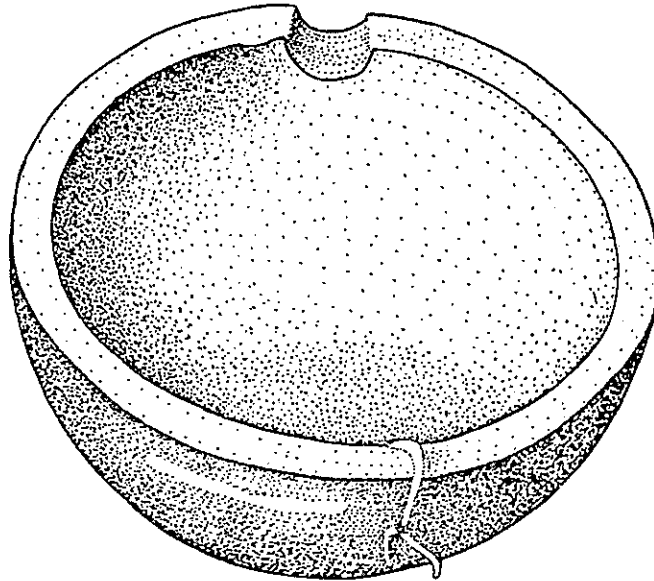


PLATE 4.

Drawn by Yoshio Kondo from photograph by Giglioli.
(24, plate 2.)

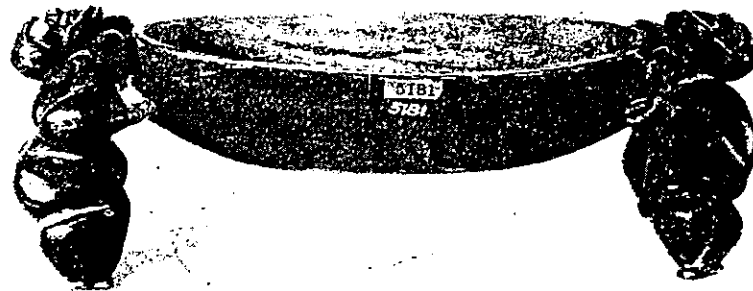


PLATE 5a.

Bowl in Bishop Museum.



PLATE 6.

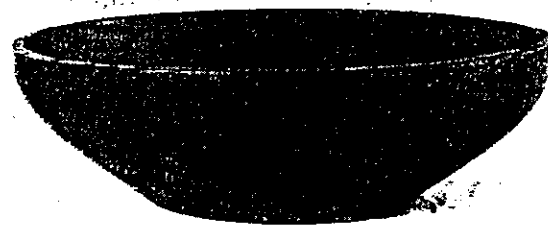
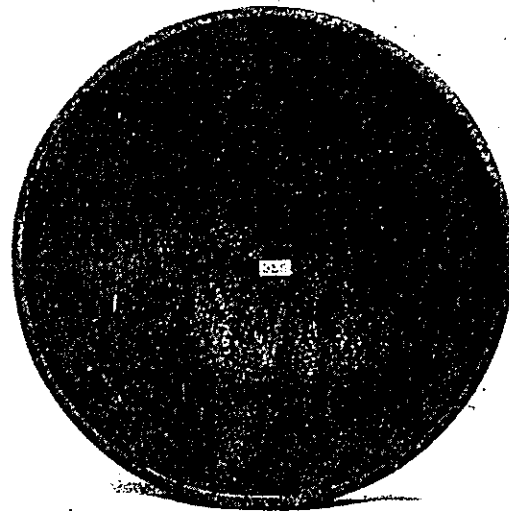


PLATE 7.



4219

4223

B2677

PLATE 8.

Three 'awa cups of coconut.

4219. Exterior well polished; interior almost as smooth. Rim is beveled smooth. The one eye probably used to pass through a cord for hanging.
- 4223 (J. S. Emerson, 1227). Interior and exterior dull, very dark. Shell exceedingly thin throughout, especially at rim; rim smooth and beveled. Two eyes are plugged, the rim is cut so as to eliminate the third eye.
- B. 2677 (175). Exterior highly polished; interior dull. Traces of 'awa (?) deposit on inside of cup.

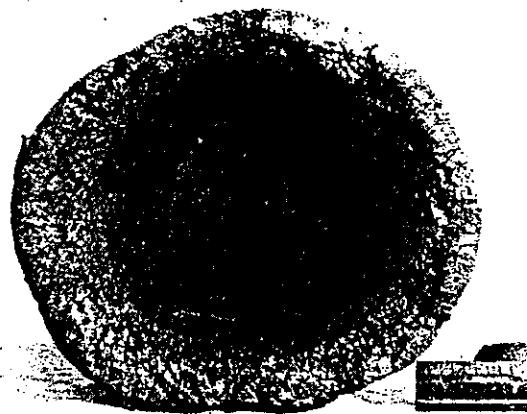
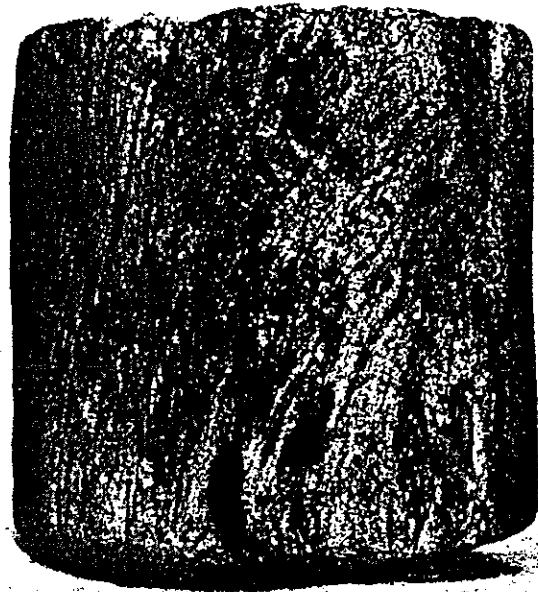


PLATE 9.

ing scaly." Ellis (16, p. 358) says, "... being a plant of slow growth (*awa*) was frequently *tabued* from the common people." In 1903, Emerson (19, p. 135) said:

"In the olden times of Hawaii *awa* seems to have been a drink used quite exclusively by the chiefs . . . It is a question if . . . restriction was always maintained. Probably it did not hold after 1820, when the *tabu* system . . . was abandoned. The common native could then raise and use his *awa* without fear of molestation, and the protection which the government of the Kamehamehas brought him permitted an indulgence in drunkenness to which the ancient . . . Hawaiian . . . dared not yield for fear of harm from some lurking foe."

In an article written by a Hawaiian thirty years earlier (48k), the same thought is expressed:

"When the whites first came to this archipelago, and in the years following, *awa* was not much drunk by the people for it was unobtainable. Only the chiefs, the *kahunas*, and members of the royal household had *awa* to drink. *Awa* was not much planted in those days but later when many of the ancient *kapus* were abolished, the common people began to drink it. Perhaps many drank it because they could not get it before . . ."

On the other side of the argument, we have Kamakau's statement that '*awa* is good for the farmer and the fisherman (p. 119 herein). Though some farmers and fishermen were of the chiefly class, we feel sure he was speaking of commoners, the men of toil who counted on its benison as their right. There is also the chant (pp. 107-8 herein): "Here is *awa* from me . . . a fisherman am I . . ." And there is the account of a farmer in a contribution, "Noted places of Ewa." (48j):

"He planted his *awa* on the hill in the upland of Waiawa (Ewa, Oahu) . . . This is what this farmer did when the gods came to earth. He chewed a quantity of *awa*, cooked a bundle of *luau* greens, strained the *awa* and poured it into coconut cups . . . The *awa* went into the cups, the *luau* into a gourd dish, the sweet

potatoes onto a calabash lid, and then he called upon his gods."

We also have a statement from a Hawaiian, Kauaililinoe (48h), which states: "This is an *awa* drinking race from remote times. None stood, none lay down, no one who caught shrimps in shallow water ever went without it, for all from chiefs to commoners drank it . . ."

From this seemingly confused evidence it is possible to assume that *awa* was used by both chiefs and commoners, but that what the commoners were denied was the right to indulge to the point of dissipation. Perhaps denial is too strong a word. Accorded to the chiefs were all the privileges and even the evils of luxurious living. It was unthinkable that a commoner would ape the ways of a chief. The boy of twelve, "the son of Terreeoboo," who boasted of having obtained the right of *awa* drinking, probably obtained the right, not of taking a drink of *awa* before a meal, after a day of heavy exertion, as the common man could do, but of indulging in the pleasure, the cultivated indulgence, of *awa* drinking, of having it prepared by servants, of drinking it in company with others, of having it served copiously, and according to one's rank, and then of bearing proudly before the eyes of the world the marks of one's rank and privilege, the scars of indulgence. This conclusion is borne out by testimony of Kawena Pukui, as stated by Handy (26, p. 204): "The distinction between the *awa* drinking of *alii* and commoners was one of manner and purpose of using the drink. The *alii* class drank for pleasure largely, the *kahuna* class ceremonially, and the working class for relaxation after labour. There was an abundance of *awa* for everyone.

'AWA IN RELIGION AND SORCERY.

Awareness of the presence and the power of the gods, and the necessity of procuring their help, characterized the religious concept of the Hawaiians. The gods had control over evil as well as good deeds, and it was necessary to propitiate them whatever one's purpose might be. Communication was constant; the feeling of nearness and active force of the gods permeated life. Religious practices were greatly detailed, and the details were of the utmost importance. Much of the record of this practice is lost,

but much remains, through which we may thread our way to find the value of 'awa in religion and sorcery.

The ruling chiefs had both political and religious power. Subject to them were the priests, whose function it was to establish communication with the gods. Priests were experts of religious practice, their knowledge including details of what to offer, what prayers to use, what interpretation to place on portents. In all matters of importance their service had to be engaged. Individuals, both chiefs and commoners, made offerings to the gods also, especially the lesser gods and on lesser matters. From the personal gods (*'aumakua*), within their reach, assistance was needed and applied for. The routine of living included the offering of food and drink to the gods before partaking, and the gods were imagined as consumers of these offerings, though of the essence only.

The food of the gods included a wide variety of offerings. Pigs, dogs, coconuts, bananas, the choicest foods of the choicest quality, and special kinds for special appeals, were the fare of the gods. The following statements tell of the pre-eminence of *'awa* as an offering. Kauea (48g, 1/5/1867) says: "There are many things offered to the gods, such as the hog, the fowl, the dog, the fish, the *awa*, and so on. The *awa* was the best of them all. If other things were given, *awa* came first." Fornander (21, V, p. 610) says: "*Awa* was supposed to be the favourite of the gods, hence an acceptable offering on all occasions . . ." and (21, Vol. 3, p. 70) "*awa* was religiously taught as being the most essential offering to propitiate the favour of the gods." Kamakau says (48e): "Over the *awa* cup were laid the *kapus* of the chiefs, the *kapus* of the gods, the oaths sworn . . . to gods and men, and the . . . offerings for sins . . ." And Pukui corroborates this by saying that *'awa* was so important that if only one thing were offered, it must be the *'awa*.

Evidence is found frequently in descriptions of Hawaiian culture that objects were dedicated to a certain use, and to change their use was a sacrilege. One tale shows that this custom was carried to the extent of growing special *'awa* for the gods. In the legend of Manuwahi, by Rice (51, p. 113), it is stated:

"At Laie lived Manuwahi . . . his grandson . . . and his great-grandsons . . . These men were the keepers of the *akua* at Laie. Manuwahi and his children were hairless and were possessed of supernatural powers.

"Manuwahi planted black and white *awa* far up in the mountains for the use of *akua* (gods). Every *awa* root planted was given one of these names, Kaluaka . . . Kumumu . . . Kahiwa . . . or Kumulipo . . . This was done so that Manuwahi, when sending one of his sons for a piece of *awa*, could designate the exact one he wished.

"When the *awa* was given to him, Manuwahi would prepare it, and then summon the *akua* from the north, south, east and west, as well as from above and below, to drink of it . . ."

The favourite '*awa* of the gods have already been noted (p. 111 herein). Root, beverage and leaves were all suitable offerings. One exceedingly powerful offering was a "complete" '*awa* ('*awa lau*)—that is, a plant with one root, one stem and one leaf. A long search would sometimes be necessary to find such a plant. Even in modern times, Kawena Pukui remembers such plants being sought, and bringing as high a price as five dollars. Very often a whole '*awa* root was necessary for an offering to the gods or a gift to a chief. The term for this whole, uncut root was *pu 'awa*. Usually a small part of the stem was left on with the root. Hawaiians seemed to have provided for such calamities as not being able to get the correct offering needed by stipulating a substitute that would be proper to offer instead, the *popolo* (*Solanum* sp.), with its blossom and fruit. Especially potent was the forest variety, the *popolo-ku-mai*. Any plant used as an offering had superior potency if found growing by itself rather than in a mass of growth.

Certain sacred ceremonies demanded the rite of '*awa-iku*. According to the Andrews-Parker dictionary (2, p. 15) this was:

"The rite observed in the handling of *awa* for the purposes of worship, or as an offering to the gods. This began with the digging of the *awa* root. He who did this had first to purify himself by a bath in the ocean

(*kai kapu*), followed by an ablution in fresh water. The purification was completed by a priest sprinkling the suppliant with water containing *olena*, or turmeric. Then having arrayed himself in a clean *malo*, he knelt with both knees on the ground and tore the root from its bed. Rising to his feet, he lifted the *awa* root to heaven."

Great care had to be taken of the '*awa* for the gods. An unsigned article (48d) states:

"In the houses of all the keepers of the gods, it is *kapu* to step over anything, or to walk to and fro when the *awa* is being chewed. When the *awa* is strained, it is *kapu* to utter a sound except by the one who responds to the one uttering the prayer. If one wishes to go outside or come in, a *ti* leaf shield is put where the *awa* container (*kanoa*) stands. Then the *kapu* is freed..."

In describing the temples of the Hawaiians, Thrum (55, p. 57) tells of the household shrines (*ipu-o-Lono* heiau):

"The *ipu olono* temple that is always maintained by the people is the *mua* house, the first of the group of several of this and that householder, and in that first house of every man is a calabash . . . inside of which is placed food and meat, and on the outside is attached . . . a piece of *awa*. That gourd is termed the gourd of Kuaaha, or the gourd of Lono, and sometimes the gourd of guardian spirits (*aumakua*). Every morning and evening the people paid devotional exercises to the god and offered prayer thereto; then the man would take the gourd . . . and bringing it to the threshold would take the piece of *awa* attached thereto and pray . . . then he would suck the piece of *awa*, open the gourd and eat a portion of the food therein. That calabash . . . is holy and sacred to the god."

Religion being an integral part of living, and '*awa* being the important offering, we are not surprised to find it mentioned in the "house of the keepers of the gods," the expert priests, but also in the household shrines, offering places closest to the common man.



Instances of how offered, when, and for what particular reasons follow to show the varied ways of obtaining rapport with the gods.

'AWA OFFERINGS FROM INDIVIDUALS.

1. Kauea (48g, 1/5/1867) says: "It is the custom of the *awa* drinkers to offer a prayer to the gods before drinking *awa*, like this:

O Ku, O Kane, O Kanaloa, na'li'i,
Na 'aumakua i ka po,
Na 'aumakua i ka ao,
Eia ka 'awa.
E ola ia Kamehameha,
E ola no hoi ia makou pulapula,
A kaniko'o, a pala-lauhala,
A kolopupu, a haumaka'iole,
O ka ola ia e ke akua
A hiki i ka puaneane.

O Ku, O Kane, O Kanaloa, the chiefs,
To the 'aumakua of the night,
To the 'aumakua of the day,
Here is 'awa.
Grant health to Kamehameha,
Grant health to us, thine offspring,
Till the (time of the) sounding cane, the sprawling on the
lauhala (mat),
The hitching along, bent with age, with eyes heavy and wrinkled
as a rat's,
That is the life from (dealt out by) the gods,
Till breath gradually fades away.

After prayer, the 'awa drinker dips a finger into the 'awa, and snaps it upward, saying 'This is yours, and this is mine.' Some people did it differently."

This flipping of a few drops of 'awa to the gods may seem a small offering. According to Kawena Pukui, offerings of every sort made to the gods were symbolic. The expression was "The shadow (or essence) is yours, the substance ours." (*Ke aka ka 'oukou, ka 'i'o ka makou.*)

2. Handy (26, p. 205) has recorded evidence, again from Pukui:

"The drinker took his cup outside, dipped his right index finger in three or four times, each time passing his hand back over his right shoulder and flipping

(*pana*) the drops of *awa* up and backward. While doing this a prayer was said to the family gods (*aumakua*), 'Here is food for the gods,' continuing with whatever requests (for health, long life, and so forth) the drinker had in mind. He then came back into his house, sat down and drank his *awa*, topping it off (*pupu*) with a sweet banana or stick of sugar cane to take away the bitter taste . . ."

A note by Kawena Pukui may be inserted here. Any man offering *awa* and praying to his gods had to be sure to pray for the chief under whom he lived. An omission, noticed, might reach the ears of the chief, and the man's loyalty come under suspicion.

According to Kawena Pukui, anything unpleasant repels the gods, and conversely, anything pleasant attracts them. An instance of an act supposed to be pleasing to the gods appears in the tale of Hainakolo (481). "Because he was a *kahuna* and a prophet, he took a small *awa* root, chewed it, spewed the juice in the palm of his hand and rubbed his hair and face with it. After this was done, he prayed. He asked his god to tell him what this fearful object was that lay in his way. He also wanted to know whether he would be killed or not."

3. Personal gods received a great deal of attention. There is the story (33, Ch. 9, pp. 26-27) of a famous shark that helped fishermen, and to whom *awa* was offered. "There died a man only recently, in 1849, who used to chew *awa* and give it to this shark to drink," and (*ibid*, pp. 32-33):

"Then the owners of the body and the keepers of the shark brought sacrifices and offerings, such as a pig and *awa* root as the important offerings . . . When the *awa* and the pig were brought out, it rose to the surface of the sea and opened its mouth to receive the *awa*, pig, banana, and other offerings . . . (A long explanation follows of how the body of a loved one changed into a shark and became a protector.) If the relatives were bathing or fishing in the sea it would come around and they would all recognize the mark of their own shark. It became their defender in the ocean."

“(Nuanua) then took a piece of wood from the *hula* altar which was covered with leaves and flowers, and, putting it in a cup of *awa*, shook it, and looked, and said to the boy, ‘This is the best I can do for you. Now the gods will take you in their care.’ Then he poured *awa* into cups, passing them to all the people as he chanted incantations, all the company clapping their hands. Then they drank. But the boy’s cup was drunk by the eepas of Po (gnomes of the night).”

In the schools of learning—*hula*, chanting, and so forth—there was a daily offering of ‘*awa* to the gods who were the particular deities of that art or learning. (Pukui, personal communication.) Emerson (18, p. 30) in describing the *hula* school says: “. . . the ordinary penalty for a breach of ceremony or an offence against morality was the offering of a baked porkling with *awa* . . .”

Further details of procedure are provided in the *Tale of Kamiki* (48n, 7/12/1911):

“The graduation ceremony (for those who had been in training for the sports of wrestling, running, and so forth) was like all such ceremonies, with roasted pig, red fish, *awa*, and so on. This was done under the instruction of Puuhau, who had the pupils constantly taking little drinks of *awa* up to the time of graduation.

“After the *awa* drinking and graduation exercises . . . the sports began for all those who had finished their training . . . Many were selected to chew the *awa*, to tend to the *kukui* candles—those who were adept in the work. These were set apart as assistants for the graduates.”

SORCERERS' PRACTICE.

Haleole (21, VI, p. 68) lists the orders of priesthood. One of them is that of the healing priests, the *kakuna lapa'au*. We have already noted how ‘*awa* was used in medicine. But the medical priest had to understand signs and omens and plan his treatment, in fact, determine whether he could give treatment before prescribing any medications. Sometimes the treatment was without the use of medications. Instances of this practice follow.

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1. Kupahu (48i) notes:

"In sickness after due ceremony has been observed, the priest will say, 'Take some of the pig (already cooked), and the cup of *awa*, and reaching the shore, throw out the *awa* cup, but don't look backwards, for if you do the shark will not accept the pig nor the cup of *awa*, nor will the sick recover . . ." [The shark here is a personal god.]

2. Kauea tells us (48g) :

"The messenger bore the *awa* in his hands and gave it to the *kahuna*, saying, 'Here is *awa* from the patient so-and-so, to you, the *kahuna*. A gift to your gods, from the sunrise to the sunset, from the heavens above to the earth beneath, from zenith to horizon.' The *kahuna* took the *awa* root and used divination to see whether the patient would live or die, whether he could be treated or not. He chewed the *awa*, strained it, poured it into a cup and stood up to pray . . . Should the *kahuna* discover that the sickness was caused by an *aumakua*, then he would say to the messenger, 'Go home and appease your *aumakua*, then come back for treatment.' The messenger would go home and consult with the relatives of the patient . . . They would take an *awa* rootlet, a young *taro* leaf, a mullet spawn, or the *pua'a* grass, and pray to the *aumakua* . . . This was done five times, then it was finished . . ."

3. Haleole (21, VI, p. 70) states that '*awa* was one of the revealing substances of the divining priest (*ho'o-manamana*). Westervelt gives an example (58, pp. 164-165): "I will lift the cover and if the *awa* is there I am at fault; if the *awa* has disappeared, I am correct (in prophesying the sex of a child). And again (*ibid*, p. 199) the movement of the bubbles in the *awa* cup was the sign watched for: "If while I chant, the bubbles on the *awa* come to the left side we will find Haina-kolo. If they go to the right, she is fully lost. Let all the people keep silence; no noise, no running about, no sleeping. Watch all the signs, and the clouds in-the heavens."

4. Among the orders of priesthood listed by Haleole (*ibid*, p. 112) there were three that were particularly dreaded—the '*ana'ana* (those who prayed victims to death),

the *ho'opi'opi'o* (sorcery), and the *ho'ounouna* (the sending of evil spirits on errands of death). Of these the last named used *'awa* exclusively. "A priest of this class had only one remedy, which was the *awa*," (*ibid*, p. 110) says the author, and adds:

"Supposing that the . . . *hoounauna* priest was called to heal a patient, he would go only to ascertain the nature of the complaint, and discovering it, he would declare that *awa* was the first thing to be sought; that when the *awa* was obtained the *hoounauna* priest was the only one to drink thereof, for the proper performance of his work. The following was what some people said: "Drink the *awa* that the ancestral spirits (evil spirits) may be pacified." Then the *hoounauna* priest, before he drank his cup of *awa*, would enjoin his gods to go and heal the patient . . ."

5. Kauea writes of sorcery (48g, 1/12/1867):

"There were many ways of doing the *kuni* (burning) sorcery, some requiring *awa* and some not. Those who used the *awa* in the *kuni* sorcery did thus—when the parents of the deceased brought to the sorcerer something that had belonged to him (the intended victim), they brought also some *awa*, chewed, strained and poured into a cup, and the *kahuna* uttered a prayer in this manner:

"Ka Ho'olua ke pa mai,
Ka Moae ke pa mai, pa mai, pa mai, pa mai,
Ke alo lolohi, lolohi, lolohi, lolohi,
No-no-pa, no-no-pa, no-no-pa,
Aia-la, aia-la, aia-la a pau i ka
'Oki'oki i ka 'ohe kapu a ke akua o Kane,
A-la, a hala a pa i ke kua au ai la.

"O strong Hoolua wind, blow,
O Moae (trade) wind, blow,
Blow! Blow! Blow!
Blow slowly, slowly, slowly,
Gustily, gustily, gustily,
There! There! There! Till all is cut by the sacred
bamboo knife of the god, Kane,
Awake! May the prayer and the food be acceptable to
the god."

6. Alexander (1, p. 8) describes the *kahuna ho'onoho*:

"The practice of the *kahuna ho'ono* strongly resembled those of modern spiritism. The medium was called the *kahu* or *ipu* of the spirit, which was often called a *makani*, or wind. Sometimes the spirit descended upon the *kahu*, and sometimes it spoke from the roof of the hut. [Alexander suspects ventriloquism.] The necromancer always demanded *awa* before commencing operations. 'E inu i ka *awa* i ikaika ka makani.' (Drink the *awa* to make strong the spirit.) After drinking *awa* the wind descended upon the *kahuna*, and showed him the cause of the sickness, whether the patient had been bewitched by a sorcerer, and by whom . . ."

7. Mana (21, V, p. 608) contributes this:

"When the god (Hawaiian text word is *ho'ono-honoho akua*) comes on a visit and sits on one, *awa* is quickly gotten ready for the deity, it is hastily chewed, prepared and drank up. And every time the god visits,* the same process is gone through until one gets inflamed . . ."

8. There was one fearful god, Kahoali'i, who had a craving for a human eye for an aftertaste to his '*awa*.'† Kamakau (33, Ch. 7, p. 14) states that sometimes in an assembly, there would be a Pu'u-koa-maka-i'a announcement. "Someone's eye was wanted to be eaten with the *awa*. They (the medium and his attendants) would come to a man whose eye was wanted and scoop it out as a relish with a cup of *awa*." From this decree there was no appeal, says Kawena Pukui.

9. Emerson (17, pp. 2-3) described the dreaded *unihipili*, the familiar spirits of a *kauna* (sorcerer). These spirits were the actual creations of the sorcerers. The body of a deceased child or other near relative was kept secretly, the bones and hair removed and gathered into a bundle and then presented with "two malos . . . a single sheet of *kapa* . . . an *awa* cup ('*apu 'awa*), a red fish properly salted and dried, a choice *awa* root (*pu-'awa hiwa*), and a small cala-

* This "visit" of the god meant possession by the god (Pukui, personal communication).

†All through Polynesia, there seems to have been a liking for the eyeball—human, dog, pig, fish—as a delicious morsel of food.

bash of *poi*." The spirit had to be fed regularly, and at each meal invoked with the following prayer:

E Puhi, e ho'i mai,	Return, O Puhi,
Eia kou ai,	Here is thy food,
Eia kou i'a,	Here is thy fish,
Eia kou kapa,	Here is thy kapa,
Eia kou 'awa,	Here is thy 'awa,
Eia kou malo,	Here is thy malo,
E ho'i mai a 'ai a ma'ona,	Come and eat thy fill,
A hele a pa'ani a lelele,	Then go, play, leap about,
Amama, ua noa.	Amama, it is freed.
No Puhi, ka 'uhane kino wai	(For Puhi, the disembodied
lua, kino 'uhane.	spirit, a ghost. Retrans-
	lated by Kawena Pukui.)

Helpful in understanding the nature of these familiar spirits is the note offered by Kawena Pukui that they had to be taken care of by their creator without let-up. They took on the character, good or evil, which was cultivated for them by their creator, and became so active that unless directed constantly they would direct their powers to the keeper of their own accord, with uncertain and probably unfortunate results.

10. Kamakau (33, Ch. 9, p. 51) tells how a chief might be dedicated to his gods. The body, or bones, were carefully prepared, wrapped in yellow *tapa*, a feast prepared and 'awa, "the all-important 'awa" made ready to feed to the fearful 'e'epa beings, when the *kahuna* prayed.

11. A prized god was a poison god, Kalai-pahoa, whose image was made of the wood of a certain tree on Moloka'i. To get immunity from the poison of this object, there was a ceremony for the caretaker of the god, whose duty it was to handle the deadly wood. A scraping of the poison was put into his 'awa cup—his alone—and when his eyes became glassy and his breath short, he was quickly given another cup of 'awa with a bit of the bark of the Mai-ola tree, the only antidote. After that he might touch the image without harm. (58, p. 109, also 33, Ch. 10, pp. 15-21.)

The gods and lesser spirits were usually exacting, tyrannical, powerful, but they would grant requests of priests, chiefs and commoners when sufficiently catered to. Religious practice had to follow prescribed formulas, offerings were necessary, 'awa was sometimes the only acceptable one, and was always appropriate. Though no

Hawaiian has made the statement, the evidence seems to point, as reason for this high place held by *'awa*, to its unique power to transport man out of his physical world—to some bridge-like span where, temporarily at least, he approaches the locale of the gods.

The urge to explore the metaphysical regions has been a universal one from ancient times, and man has used whatever edible substances he has found in his area that performs this miracle of taking him out of reality. Among such widely known and used plants as opium and hashish in Asia and Egypt, tobacco and peyote in the Americas, and the areca nut in Melanesia and Indonesia, *'awa* takes its place as the representative from Oceania. Whether the healing, or pleasurable, or mystic, or potent quality that each plant had, or man supposed it had, was the primary one made use of is a fact buried too deep in antiquity to be known. What effect did the special qualities, the possibilities and limitations, of these various plants have on the development of individual personalities and culture groups? Would the Hawaiians have had different attributes of personality if their narcotic plant had been tobacco or opium, for instance, instead of *'awa*?

'AWA AND THE GODS.

Besides sensing their relationship with the great company of powerful gods who pervaded all things, all places on earth, the underworld, and the realm of the sky, the Hawaiians pictured the gods as having lives and desires of their own, largely after the mortal pattern. The four principal gods were Ku, Kane, Kanaloa and Lono. Confining ourselves to the interest of the gods in *'awa*, we find little association between Ku and this plant. Beckwith (3, p. 13) states that Ku was "a god worshipped to produce good crops," so we can assume that a prayer went up to him whenever *'awa* was planted.

Kane and Kanaloa, according to one source (21, VI, pp. 505-506) were responsible for the sacredness of *'awa*. The "Prayer to Lono"* commences (retranslated by Kawena Pukui):

* This chant was probably a chant to a chief, Lono, but as was often done, the composer merged his apostrophe to the chief with one to the god, Lono. In various legends, Kaha'i was a hero who went

He Pule no Lono

O Lono, o ka 'o'ili lani,
Mai loko mai o ka maha ulu
lani,

Ke mai o Kane o Kanaloa,
Iloko o ka eweewe-lani,

Puka mai o Kumuhonua a Kane

Me Lalo-honua, ka wahine.
Laha mai o Wakea me Papa
nui hanau moku.

No loko mai o Huli-honua

Hanau mai na 'li'i
Mailoko mai o ka eweewe-lani.

Ku mai o Lono.
Hana i ka i'a 'ula,
Molia i ka niu hiwa,
Hana i ka i'a kea.
'Molia i ka 'awa-lau,
He lau ka 'awa i kupu,
I kupu i ka hanu'unu'u pali.

Ku mai o Kane, o Kanaloa.
Hana i ka moa 'ula hiwa,

Molia i ka 'awa maka kea
Hana i ka pua'a hiwa,
Molia i ka 'awa hiwa,
Hana i ka papa kea.

I poina i ka 'a'ahu

Iloko o ka eweewe ka lani.

A'e Kahai i ka iwi kahi, 1.84

O ka lewa-nu'u.
O Hihio, o Laumania,
O Hano a lele ka lau o ka
'awa,
I ka makani,

A Prayer to Lono

O Lono of the heavenly region,
From out the rest of heaven's
origin,

Stood forth Kane and Kanaloa,
From within the heavenly
birthplace,

Issued forth Kumuhonua, of
Kane,

And Lalo-honua, the female,
Descended Wakea and great
Papa, who gave birth to
the lands.

From within the realm of the
gods

The chiefs were born.

From within the heavenly
birthplace

Lono stood forth.

He created the red fish,

Sanctified the *hiwa* coconut,

Created the white fish,

Sanctified the growing 'awa,

By cuttings it is propagated.

It springs up at the ledges of
the cliffs.

Kane and Kanaloa stood forth.

They rendered the red cock
sacred,

Sanctified the *mahakea* 'awa.

Created the black pig,

Sanctified the *hiwa* 'awa.

Made the light coloured *papa*
'awa.

Covered them over with the
robe

Within the heavenly birth-
place.

Kaha'i stepped over the first
boundary,

Of the high place of earth.

The vision, the smooth place,

In respectful silence, the *awa*
slip is carried

In the wind

to seek some relative. Kaha'i is identified with bringing back plants,
such as the breadfruit, and here the 'awa, from his journeys. These
lines speak figuratively of his travels. Kawena Pukui.

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I kupu no a ohiohi	To grow thriftily
I ka pae humu o ka moku.	In the high places of the land.
...	...
E ho'i e 'ai kapu a Kanaloa.	line 80 Come and eat of the sacred food of Kanaloa.
Pakiki 'awa.	Break up the 'awa with a stone.
Kanaenae no na kane 'a'a me na wahine	As propitiatory offering for courageous men and women.
Eia ua 'ai he mohai leo.	Here is the food, offer it up with a chant (literally, with the voice).

Beckwith (3, p. 62) characterizes Kane and Kanaloa as "cultivators, 'awa drinkers, and water finders, who migrated from Kahiki . . . said to have been worshipped with *awa* and *aholehole* (a white fish) on their arrival . . ."

Kamakau (33, Ch. 9, p. 11) gives a chant setting forth this belief:

Holo mai Kane mai Kahiki,	Kane sailed from Kahiki,
Holo a i'a iloko o ka kai,	Sailed like a fish in the sea,
Kekekeleau i ka moana,	Cut through the currents of the ocean,
O Haumea ke kaikuahine,	Haumea was the sister,
O Kanaloa ia me Kane,	Of Kane and Kanaloa.
E ki'i e ka i'a kea i kai,	Go get the white fish in the sea,
La'a i ku'e maka o Kane	Sacred to the eyebrows of Kane
La'ahia i ke kanawai,	Made sacred by the law,
He mau lawai'a i ka moana,	Fishermen were on the ocean,
...	...
E kaka ana i ka malie,	Deep-sea fishing in the calm,
I ka la'i ku pohu malino,	In the windless calm,
...	...
Hukia i ka 'upena lu'elu'e,	Drawing up the heavy net,
E ho'i kakou i ka uka,	Let us go ashore,
E alana i ka pu 'awa hiwa,	And offer the whole <i>hiwa</i> root,
Ha'awi i ke kaikuahine.	Give it to the sister.
...	...

Beckwith (3, p. 67) also quotes one author who pictures the gods in an Elysian land, where 'awa is plentiful:

"Kane and Kanaloa are represented as gods living in the bodies of men in an earthly paradise situated in a floating cloudland or other earthly sacred and remote spot where they drink *awa* and are fed from a garden of never-failing growth . . ."

Malo adds his testimony as to the *'awa* drinking habits of these two gods in the following chant (41, pp. 172-173):

He miki 'oe Kane	Active art thou, Kane,
He miki 'oe Kanaloa	Active art thou, Kanaloa,
O Kanaloa hea 'oe?	What Kanaloa art thou?
O Kanaloa inu 'awa,	Kanaloa the 'awa drinker,
Mai Kahiki ka 'awa	From Kahiki came the 'awa,
Mai Upolu ka 'awa,	From Upolu came the 'awa,
Mai Wawau ka 'awa,	From Wawau came the 'awa,
E hano 'awa hua,	Homage to the frothy 'awa,
E hano 'awa pau'aka,	Homage to the well strained 'awa,
Halapa i ke akua i la'au wai la!	May the essence reach unto the gods!
Amama, ua noa,	The tabu is lifted, removed,
Lele wale aku la.	It flies away.

A vivid tale of Kane and Kanaloa is found in the tale of Kawelo (25, p. 113). The two gods have reached Hanauma Bay, Oahu, in their travels. Kanaloa complains:

"O Kane! we keep on going and we are dying of hunger! Let us eat.' Kane looked about him and saw that there was no water for mixing their refreshment of *awa* drink. He struck the earth with his staff and water gushed forth. When the two had eaten, they started on again along the highway. They had not gone far when Kanaloa wanted to eat again. The country through which they were passing had no water. As he had done before, so Kane again struck the earth with his staff and water gushed forth. Wherever they stopped to rest, Kanaloa asked for food, and many were the waterholes made by Kane between Hanauma and Laeahi."

The impetus for imagining this story may have been to account for the springs found in this dry region. For our purpose, it is valuable to note that the gods required *'awa* as a "refreshment" before meals, just as did mortals. No other food is mentioned. Perhaps there was none. Though the gods accepted offerings of food, *'awa* was food as well as drink. In the formula quoted by Handy (26, p. 205), the expression is, "Here is food for the gods"; and in a chant recorded by Beckwith (p. 155 herein) there is the line, "Here is the *awa*, O Kane, the Heavenly food."

Kane and Kanaloa are linked together in exploits. In another legend, the story of Maluae (58, pp. 16-17), the two gods seem to value the offerings of their worshipper. The story is one of a father who loved deeply his carefree, happy son. The boy, in ignorance or thoughtlessness, ate some bananas which his father had put on the altar for his gods, Kane and Kanaloa, who punished the crime by killing the boy and taking his spirit to the underworld. The father makes no more offerings, but remains by his son's body, wishing to die, waiting for death. The gods miss the offerings of their worshipper, and regret their own haste.

"Kanaloa said: 'He has been a good man, but now we do not hear any prayers. We are losing our worshipper. We in quick anger killed his son. Was this the right reward? He has called us morning and evening in his worship. He has provided fruits and vegetables for our altars. He has always prepared *awa* from the juice of the yellow *awa* root for us to drink. We have not paid him well for his care'."

After many difficulties, Maluae gets back his son, and we assume that Kane and Kanaloa find again on their altar the good things—the bananas and *awa*.

The composer of a prayer to the gods cited by Beckwith (4, p. 186) speaks of *awa* as the "heavenly food." (Revised translation by Kawena Pukui):

1.84

Haele mai—E ku i ke kala,	Come ye forth, O Ku, the for-giver,
E Lono i ka ueke-e	O Lono, the absolving one,
E Kane-i-ka-pohaka'a	O Kane, the thundering one,
Ho'oka'alia mai ke alo o ka	Let the front of the land be
moku ia'u nei	turned toward me,
	(Meaning: Let the land be
	made favourable for me.)
Ho'oka'alia mai ke alo ia'u nei	Yea, let the face be turned
	toward me
E Kane-i-ka-wai-ola -e; Eia ka	O Kane, of the water of life,
'ai,	here is food,
Eia ka 'awa, e Kane, he 'awa-	Here is the 'awa, O Kane, the
lani wale no,	heavenly food,
He 'ai na ka Kama-iki	Food for a dearly loved one
	(more literally: for one we
	love as a dear child)

Inu aku i ka 'awa lau-lena	Drink the yellow-leafed awa (awa from an old plant, mature, potent, the best)
I ka 'awa o Keahi-a-Laka . . .	The awa of Keahi-a-Laka (a place in Puna, Hawaii) . . .
He 'awa no na wahine o ka lani	Here is the 'awa for the celestial women (the god- desses Pele and Hi'iaka).
A pale aku, a palepale mai,	Shift it one way, then shift it another way (referring to the chewing process),
Mu ka waha, holoi ka lima,	Roll the water in the mouth, wash the hands,
E 'ali-'ali kapu, E 'ali-'ali noa.	Finished is the kapu, finished, it is free.
Ua -noa ka 'awa -a,	The 'awa is free,
Amama. Ua noa, a lele wale.	Amen. It is free.

In the creation myth, Hawaiian version, translated by Liliuokalani (38, pp. 81-82), the exploits of the hero Maui are mentioned, and the implied meaning, which Kawena Pukui feels is in the lines, is that Maui partook of 'awa, offering it to the gods before he struggled with his adversaries.

(No Hawaiian text available.)

A brave child is born to Hina-a-ke-ahi (Hina of the fire).
It roused the anger of Kialoa and Kiaakapoko (Tall post and
Short post)
They are Hina's brothers,
The two posts that guarded the low cave.
They fought hard with Maui and were thrown,
And red water flowed from Maui's forehead.
This was the first struggle of Maui.
They fetched the sacred 'awa bush of Kane and Kanaloa.
Then came the second struggle of Maui.
The third struggle was the working of the elbow for the 'awa
(referring to the motions of the arms and elbows in strain-
ing the 'awa).
They drank to the dregs the yellow waters ('awa)
Of Kane and Kanaloa.

We have too the picture of Kane affected by 'awa as soothingly and deliciously as man in this well-known chant—a version supplied by Kawena Pukui.

Ua ma'ona o Kane ia ka 'awa,	Kane has had his fill of 'awa,
Ua kau i ka keha i ka uluna,	His head resting on the pillow (literally: he rested his hand, elbow on pillow)

Hi'olani a'e i ka moena,
Kipu i ke kapa a ka noe.

His body stretched out on the
mat,
Fast asleep he lies, wrapped in
a covering of mist.

The importance and sacredness of *'awa* in the life and thought of the Hawaiians is well indicated in these references to the interest of their gods in that potent substance. There are statements or suggestions that *'awa* grew, leaved, ripened in the realm of the gods, that they sanctified it, that it was dispersed, "carried in the wind, to grow thriftily in the high places." It must have been dispersed widely, for it came from "Kahiki, Upolu, and Wawau"—old place names for ancient Polynesian lands. The great god Kane caused water to flow so that it might be available to use with *'awa*, he and Kanaloa travelled about the islands and when they stopped for food it was *'awa* they craved, their sustenance. All the gods demanded *'awa*, lesser gods, male and female, personal, family gods, and hero gods, and *'awa* had for them the same benign and blistful effect that it had for man—it stole over the spirit and brought rest.

UTENSILS.

Among material collections, it is disappointing to find so few utensils used for *'awa*, and, from all sources, so little detailed data of just what they were. *'Awa* vessels seem to have disappeared very soon after the islands' contact with foreigners. One reason for abrupt disappearance may be that the missionaries made war upon the *'awa* custom soon after they arrived, recognizing that its use was integrated with beliefs and ceremonies of religion and sorcery. Another reason for non-survival of *'awa* bowls is doubtless the dedication of them to a special use or occasion and their destruction after that use ceased. An instance of this is mentioned by Kamakau (p. 121 herein)—the *'awa* bowl was broken after a course of drinking was run through to reduce weight. After a course of *hula* instruction in which libations of *'awa* were offered to the gods of the *hula* the *'awa* bowl was broken at the end of the course (Pukui, personal communication). The *'awa* bowl was broken if its use lasted through a definite series of ceremonies for a stated purpose. However, for everyday use by chiefs and commoners the *'awa* bowl was used from day to day, care-

fully hung up out of harm's way when not in use. Any stepping over, sitting over or upon, or accidental use of another nature than that to which the object had been dedicated would be an offence to the gods, requiring propitiation, as well as destruction of the vessel. But to transfer an 'awa bowl to another use, such as holding food, was unthinkable.

FIBRE STRAINER (*mau'u*).

The most commonly used fibre for straining was made of the 'ahu'awa (*Cyperus javanicus*), a sedge. The stems of the blossom-bearing stalks were used. The next choice was the aerial roots of the female *Pandanus*. If neither of these could be obtained, the fibres used were the blossom stems of another sedge, the *puko'o* (also called *pu'uko'a*, *pu'uko'o*, *pu'uka'a*, *kilio'opu*), the *Cyperus auriculatus*. The term for 'awa strainer (*mau'u*) is also the general term for grassy plants.

To make the strainer, the stem was finely split, and the fibre separated from the pulp by "combing it with two sticks" (19, p. 133), or it was pounded with a mallet. The fibres were then tied together at one end, washed clean of pulpy substance, or the pulpiness pushed off with the fingers or a small piece of wood held in the hand, and the fibres dried. After use, it was washed, dried and again ready for use. (Pukui personal communication.)

GOURD STRAINER.

One gourd, labelled "strainer," has been preserved in the collection of Bishop Museum (Plate 2). It is shaped like a beaker. If the label is correct, and the object was used as a strainer, the funnel must have been stuffed with fibres before the liquid was poured out. There is a generous coating of 'awa sediment on the inner surface.

GOURD KANOA (BOWL).

One informant, Mrs. Makahonu Naumu, says:

"I have seen but one old *kanoa* patterned like those used by the ancients on Kauai. It was an old one which was highly prized by its owner. It was made of a short necked gourd cut lengthwise. The gourd was kept on its side while still attached to the vine to flatten it so that it would rest on its side without tipping. In cutting it lengthwise, half the neck was

left on. The end was cut out to form a natural beaker through which the *awa* was poured into coconut cups. The outside was designed and coloured before baking it to keep the colour in."

What this was like may be imagined by halving with the eye of gourds shown in Plate 3.

STONE KANOA.

In Bishop Museum there is a rough block of basalt which has been called an '*awa* bowl'. The top has an oval depression which is identical with the surfaces developed by adze polishers for sharpening their tools (K. P. Emory, personal communication). It is shallow, the measurements of the depression being, roughly, 18 inches by 14 inches by 2 inches deep. Kawena Pukui suggests that it might have been used by '*awa* chewers as a clean spot on which to place the chewed balls before mixing water with them. It seems even more likely that it was used for pounding '*awa*, after the chewing habit ceased. Dr. Buck, in his description of '*awa* pounding in Samoa (7, p. 152) states that:

"Since pounding on stone commenced, every household has selected some stone to serve as an anvil. Some are flat stones incorporated at the edge or corner of a terrace in the house platform. The most suitable of all, however, are large portable stones that were originally used for grinding stone adzes. The hollows formed by the grinding of the past furnish a convenient receptacle for the small pieces of *kava* root . . ."

Perhaps old, adze-grinding surfaces were put to the same use in Hawaii. This is the only *kanoa* of stone in Bishop Museum, and it seems possible to dismiss it from consideration as a container for the '*awa* beverage. *Kanoa* were of gourd or wood.

WOOD KANOA.

In the remembrance of Paahana Wiggin, who was an '*awa* chewer in her girlhood in Ka'u, '*awa* bowls were anciently of wood. Gourd *kanoa* were a late introduction in her district. It may have been otherwise in other districts. Wooden *kanoa* were round or elliptical. If elliptical (*holo wa'a*), they were provided with a rounded notch at one end, from which the '*awa* was poured into cups. At the opposite end, a hole was made for a cord to pass

through, by which to hang the *kanoa*. If the bowl were round, there was no pouring factor, and the cups were filled by dipping them into the liquid. Asked how large a bowl might be, Mrs. Wiggin raised her hands about 18 inches above the floor, to indicate height, and held them about the same distance apart, to indicate diameter. The round bowl was hung up when not in use or, if too heavy to hang, lifted onto the rafters out of the danger of defilement.

In Florence, in the Museo Nazionale d'Antropologia, there is a collection of objects from the last Cook voyage. The ethnological collection was described by Giglioli (24, pp. 57-101). He labels two bowls "Umeke o Apocava" (pp. 90-92), and pictures one of them (24, Plate 2, reproduced here as Plate 4). The first bowl he describes as (translation) :

"... a little more than the half of a sphere; round the rim it shows a uniform thickness of 3 mm., increasing towards the bottom of the vessel; the opening, almost a perfect circle, has a diameter of 235 mm., from the centre of a tangent the depth reaches 100 mm. It is made of hard, brown wood, darker on the inside, perhaps on account of the contents, compact in structure and perfectly smooth inside and outside; it has been rudely perforated on one side, probably to hang it on the wall. This cup is without doubt a porringer for food, and very probably was used as a container for *poi* . . ."

However, *poi* bowls were never hung up by a cord passed through a hole. They were held in a net (*koko*), and hung by means of the net (Pukui, personal communication). It is possible that this was an 'awa bowl, for 'awa bowls were hung up out of harm's way.

The second bowl Giglioli describes is 200 mm. in diameter, with a thickness in the rim of 23 mm., and a depth of 74 mm. At one point in the edge there is a:

"... semicircular notch having a diameter of 25 mm. and a depth of about 9 mm. on the inside and a little more on the outside; this notch is evidently to facilitate the pouring of the liquid contained in this bowl . . . on the outside, at the sides and below this notch, the edges of which are bright and smooth, are

seen incased in the wood and held together with glue three human lower pre-molar teeth, which project slightly, with the grinding surfaces outward . . . (the bowl) has an amazing regularity of form; it also has been rudely perforated on one side. I believed at first that this bowl might be a sacred cup, used by the priests in their libations.

After "accurate researches" which he does not specify, Giglioli concludes that this vessel was the spittoon of a chief. He adds: ". . . the white sediment which is seen inside . . . reminds one perfectly indeed of the sediment that I have noticed on the bottom of wooden vessels used exclusively for the *kava*, from the Fidgi Islands and Tonga. But this does not exclude the fact that it was a spittoon." What kept Giglioli from accepting this bowl as an '*awa* bowl was doubtless the three human teeth. Teeth from the corpse of a conquered foe were sometimes contemptuously set into a slop basin or spittoon—there are several in Bishop Museum collections. Any object connected with death or a corpse was considered polluted for noble use. However, though Giglioli probably makes this the deciding factor in his determination, it is easier to believe that some chief made an exception to this rule (as evidently did Umi, or his artisan, for Umi "put the *poi* into a calabash decorated with the teeth of chiefs" (p. 136 herein).

Lahilahi Webb (personal communication) says that first teeth of favourite children of chiefs were sometimes so preserved in a food bowl. She knows of no '*awa* bowl having been so decorated.

There is also the pouring factor. Mrs. Wiggin, who had never seen the illustration of the bowl in Florence, or heard of its existence, described the pouring feature of the long '*awa* bowls of Ka'u, and the description tallied perfectly—a semicircular cut made in the rim, with no attempt at bevelling.

The general acceptance of the fact of Hawaiian migration from central Polynesia, in part, at least, by way of the Marquesas, gives permission for offering Marquesan evidence to strengthen Hawaiian evidence. Linton collected *kava* bowls in the Marquesas, and pictured some of them (39, Pl. 60, 61). They are of two types: (1) Round or elliptical, one a compromise between the two, with cord to

hang by and without a pouring factor; (2). Ovoid, with a pouring factor at one end. These illustrations support Mrs. Wiggins's evidence even more than that of the actual bowl in Florence, which is the most conclusive material evidence extant. We must conclude that some variation was possible.

There is another type of *kanoa*, a bowl supported by human images. Cook (10, II, p. 246) reports that:

"Captain Clerke . . . received from him (Tamahano) . . . a large bowl supported by two figures of men, the carving of which both as to design and the execution showed some degree of skill. This bowl . . . used to be filled with the *kava*, or *ava*, which liquor they prepare and drink here as in the other islands in this ocean."

Cook also comments on the workmanship and finish of the '*ava* bowls' (*ibid*, II, p. 238): "their wooden dishes and bowls, out of which they drink their *ava*, are of the *etooa*-tree,* or *cordia*, as neat, as if made in our turning-lathe, and perhaps better polished." Examples of this type are in Bishop Museum, Peabody Museum at Cambridge, the British Museum and the Vienna Museum. (Pl. 5.)

Dixon (14, p. 276) corroborates as to the use of carved figures supporting '*ava* bowls. "Sometimes their *ava* dishes are supported by three of these little wooden images, and this I reckon a masterpiece in their carving." In the British Museum is a bowl supported by three figures that may well be similar to that seen by Dixon. (Pl: 6 from *Occ. Papers*, Bishop Museum, I, Pl. 13, Fig. 54.)

Included in Bishop Museum collections are five other bowls purporting to be *kanoa*. None of them are adorned by carved figures, none are of the fine workmanship referred to by Cook and evident in many ancient objects. All came from the collection of Keelikolani (Princess Ruth; died in 1883, aged 65. They may be contemporary with most of the other bowls they are mere suspicions. The unevenness of them have the slight unevenness to touch on the inside of the bowl that characterizes hand-made objects. It is not certain that they were made in ancient times however. They vary

* The *etooa* has been identified as *kou*, *Cordia subcordata*. (Emory, personal communication.)

somewhat in size and shape, as shown in the following measurements (in inches) :

Specimen	Diameter	Depth	Diameter of base
555	12.75	4.25	6.13
556	12.88	4.5	6.13
557	15-15.75	4.88	10.88
558	15.38	5	8.5
559	9.38-9.75	4	8.38

In specimens 555, 556, and 558, 'awa traces are positive, in the other two bowls they are mere suspicions. The unevennesses in form make all measurements inexact except for the one point at which they were taken. Number 555 is illustrated (Pl. 7).

CUPS.

Cups for drinking 'awa ('apu 'awa) were of coconut shell. In Bishop Museum collections there are eleven that show unmistakable traces of 'awa deposit (B2677, 4219, 4221, 4223, 4225, 5374, C1117, C1118, 9311, 9313). A coconut of any size was evidently suitable, variation in the length of these specimens being from 4.5 to 7 inches. Less than half the nut is cut away to make the cup; the cut is lengthwise of the nut, the plane sloping away from the pointed end. Sometimes one of the eyes was cut through to make a hole for a cord by which to hang the cup. Only one specimen is highly polished, but it is likely that cups for the chief were always so treated. One specimen is rubbed to make the shell exceedingly thin. Capacity varies from about half a pint or less to about three times that amount. Plate 9 shows three of these cups.

Brigham (6, p. 147) states that cups for ordinary purposes were "cut at right angles to the vertical axis, while the latter (drinking cups used exclusively by the priests) were cut parallel to this determinant." This statement does not meet with agreement by Hawaiians (Webb, Pukui, Wiggin, personal communication). Almost all the cups in Bishop Museum are of the long form, cut lengthwise. Another statement by Brigham (*ibid*, p. 149) that ordinary cups were called 'apu niu; and those for the use of priests called olo is also challenged by Pukui, who says that any cup was an 'apu; olo is the term for a gourd container for any purpose, not especially for 'awa. The term is used in the tale of Kamiki (p. 136 herein) in which he "chewed all the awa, filling several long gourds (olo)."

POUNDERS.

When the chewing practice stopped, *'awa* had to be pounded. Old adze-polishing surfaces may have been used, as suggested on page 159 herein, and another pounding apparatus was a wooden mortar made from a tree trunk. One of these was seen on Maui, in 1935, in a private collection, together with the necessary wooden pestle. Another mortar is in Bishop Museum (B 1169), Plate 9. It is a roughly hewn log, 10 inches long by about 9.38 inches wide, with a cavity for pounding of only 4.25 by 5.25 inches. The base is slightly rounded. The mortar seen on Maui was much deeper, and the pestle was at least a foot long.

POURING.

Being at variance with usage in western Polynesia, the mention of pouring *'awa* into the cups is especially interesting. A few phrases already quoted furnish evidence: (p. 116 herein) "The *'awa* was put into one mass, the juice squeezed out into a long gourd, the dregs strained out, the containers filled, and then poured into cups made of coconut shell . . ."; (p. 120 herein) ". . . the cup handed forth, the *'awa* poured in . . ."; (p. 146 herein) "Then he poured *'awa* into cups . . ."; (p. 147 herein) ". . . he chewed the *'awa*, strained it, poured it into a cup . . ."; (p. 159 herein) "The end was cut to form a natural beaker through which the *'awa* was poured into coconut cups." In two Hawaiian tales, the author omits mention of pouring: (p. 133 herein) ". . . take up the portions that are ready, strain them into the cup . . ."; (p. 135 herein) ". . . reached for the *'awa* container and strained it into a cup . . ." From Mrs. Wiggin's statement (p. 161 herein) we are sure of the fact that from bowls that had no pouring feature, *'awa* was dipped with the drinker's cup. Many questions come to mind. Was it done with any ceremony whatever; was pouring more elegant than dipping; was ceremony, religious or social, dropped from ancient days, or had it never existed?

PATINA.

Long use of any vessel for *'awa*—*'apu* or *kanoa*—left a coating on its surface. In the rough calabash *kanoa* (Fig. 1) this sediment is tawny in colour and dull in appearance. On a wooden or coconut surface where the vessel is rubbed

dry the residue becomes a polished glaze. Buck has described this (7, p. 151) as a "pale, bluish patina. When no longer in active use the patina fades to a yellowish colour, and may even flake off in parts."

'AWA AFTER EUROPEAN CONTACT.

The coming of foreigners to Hawaii tore into the fabric of customs, and the *'awa* custom had been a strong and colourful thread in that fabric. *'Awa* had been important in religion, but when the old religion was forsaken, the prestige of *'awa* as an offering was lost. *'Awa* had been important as the drink for pleasure, but the liquors of the *haoles* were more potent, and when they could be had, were eagerly sought. *'Awa* was important in medicine, and persisted as a part of Hawaiian materia medica for a long time, but slowly the acceptance of other medicines came about. Some of these changes were abrupt, some changes came very slowly, especially in places far removed from the anchorages of the visiting ships, and from the commercial and missionary centres. Some old customs lived on with the new, and vestiges of the *'awa* custom remain to this day.

The record of the *'awa* custom in early years of outside contact is sometimes faint or entirely missing. It is likely that *'awa* was drunk more commonly as the *tabus* of the chiefs were shown up to be less fearsome, less sure rules to live by, for foreigners had no regard for them, no similar *tabus*, and death did not fall to them. It was therefore probable that missionaries saw Hawaiians—chiefs and commoners—overcome with *'awa* quite frequently, and it was marked as a custom to eradicate. Complete proof of this has not yet turned up in the old records, but there is a tradition (Kawena Pukui, personal communication) that Kaahumanu, favourite and most powerful widow of Kamehameha I, issued an edict against the use of *'awa* when she turned from opposition to friendship and loyalty to the missionaries. Many foreigners were debased and unprincipled and plied the Hawaiians with liquors, taught them how to distil them, sold them liquors, and Hawaiians drank them as they drank the comparatively harmless *'awa*, "copiously like the gods," as one Hawaiian expressed it.

The evil effect of excessive indulgence in *'awa* was probably as harmful in the missionaries' opinion as that of

liquors. By 1842, the temperance pledge that children were urged to take was "Do you swear that you are determined to forswear always the intoxicants, such as rum, wine, *awa*, tobacco, and every other kind of intoxicant?" (48 v, 3/15/1842). In 1831, Meyen, a visiting German doctor, stated that '*awa* "has been completely given up" (42). In 1844, a Hawaiian writes, "At Hana all good things are growing well, but the people cultivate much *awa*, and are shameless in this evil deed . . . Whose *awa*-growing lands are these? The chiefs who belong to the Temperance Union . . .!" (48 v, 5/6/1844). The missionaries had a difficult struggle to get the chiefs to give up '*awa*. "Kalama, I think, will not like to be disciplined again, as she will be if she drinks *awa*, or trafficks in it in an improper way . . . As to the King not drinking *awa*, I would be glad to believe it is not true; but I fear it is and I feel *kaumaha loa* (heavy hearted) for him . . ." (37.)

Just when '*awa* began to have commercial importance is not clear in the records, but its value as such an article was a new factor that complicated control of its use. Farmers who cultivated and sold it groaned at legislation against its use, strong adherents of the new religion and the Temperance Union decried permission for its sale. Sometimes its use was controlled by the governors of the islands, from whom permits had to be obtained for its use as medicine. The missionaries themselves recognized its value in medical practice, but wrote to Wyllie, Secretary of Foreign Affairs (36), that "its entire destruction would be a great national benefit" as it "produces intoxication readily, and sustains it for a much longer time than alcohol or opium . . . *Awa* is also intimately connected with the ancient idolatry of these islands, and those who use it at the present time are very liable to fall into some superstitious or idolatrous practices . . .," to which opinion Wyllie agreed. However, for many years '*awa* cultivation was permitted, and a tax on its use brought in a small revenue to the government.

In 1903, Emerson wrote (19: 139) that the use of '*awa* was probably on the decrease and the use of liquor on the increase among Hawaiians, even though "against the raising and use of *awa* there is no law . . . Whatever laws there are on the statute book in regulation of the *awa* habit

are put there apparently for the protection of the Government in the monopoly it holds for the sale of *awa* . . .”

In 1903 no Hawaiian went home from the Saturday market without an *awa* root tied to his saddle. In 1930 *awa* was still to be purchased in the market; today it is not. Today the plant is scarce on Oahu except in a few areas deep in the forest. On the other islands there are more numerous wild patches, but outside of botanists, only the older Hawaiians know or care what it is, and only a few still have a taste for the old Polynesian drink once so important and so popular. When these pass away there will be no more of their kind to take their place and probably all use of *awa* in Hawaii will end.

SUMMARY.

In Hawaiian usage of *awa* there was a wide range in purpose and effect. Experts in knowledge used *awa* for medicine, for offerings to the gods in communal ceremonies and in direct communication demanding specific answer. Chiefs used it as a token of hospitality, a drink for sociability, a token of rank and a drink of pleasure. It was a plant that was cultivated and was therefore more readily available to chiefs than commoners. Commoners and chiefs used it to bring refreshing rest when fatigued, and to reduce weight and make the body fit. Personal gods were propitiated by daily offerings of *awa* from their devotees—both chiefs and commoners.

In Hawaiian thought *awa* figured in the lives of the gods. They craved it as a beverage and it had the same refreshing, soothing effect on them as on man. Also, they demanded it as a symbol of worship. To the gods were ascribed the origin and dispersal of *awa*.

Upon European contact the religious force was quickly disrupted, communal religious ceremonies therefore ceased and with them the religious importance of *awa*. More slow to die was the power of individual priests in sorcery practices, and here *awa* usage continued for several years. *Awa* was used medicinally and pleasurably for many years, though foreign (European) doctors and Hawaiian medical priests did not agree as to its medicinal value and missionary teachers fought against its use for pleasure or “idolatry.” The use of *awa* persisted sufficiently to make licensing of

its sale a lucrative form of government revenue through about a hundred years of European contact. Usage of any kind has now almost ceased.

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ILLUSTRATIONS.

- Plate 1.—'Awa in cultivation at elevation of 1,000 feet; a two year old plant, five feet high.
- Plate 2.—Gourd object labelled "strainer." Bishop Museum, specimen 4142. Neg. 3058.
- Plate 3.—Decorated gourds in Bishop Museum collections. Negative 20519. 'Awa bowls were sometimes made of gourds such as these, halved lengthwise.
- Plate 4.—Bowl in the collection of the R. Museo di Fisica e Storia Naturale in Florence, from the Cook collection, 3rd voyage. (Drawing made by Yoshio Kondo, Bishop Museum, from Plate 2 of Giglioli's account of the collection.)
- Plate 5.—(a) Bowl in Bishop Museum. Neg. 18736.
 (b) Bowl in Peabody Museum, Cambridge.
 (c) Bowl in British Museum. (Handbook to the Ethnographical Collection. London, 1910. Fig. 143.
 (d) Bowl in Vienna Museum. B. M. neg. 20635.
- Plate 6.—Bowl in British Museum. (See Bishop Museum, *Occ. Papers*, Vol. 1, Pl. 13, Fig. 54.)
- Plate 7.—Bowl in Bishop Museum, No. 555, neg. 3025, 18759.
- Plate 8.—'Awa cups in Bishop Museum. B.2677 (175). Exterior highly polished, interior dull. Traces of 'awa (?) deposit on inside of cup.
 4223 (J. S. Emerson, 1227). Interior and exterior dull, very dark. Shell exceedingly thin throughout, especially at rim, which is smooth and bevelled. Two eyes are plugged, the rim cut so as to eliminate the third eye.
 4219. Exterior well polished, interior almost as smooth. Rim is bevelled smooth. The one eye probably used for passing through a hanging cord.
- Plate 9.—'Awa mortar, modern. Side and interior views. Negatives 20886, 20887.

ISLANDS, PLANTS, AND POLYNESIANS

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Kava

(*Piper methysticum* Forst. f.): *The Polynesian Dispersal of an Oceanian Plant*

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Starting with their very first observations, scientists have tried to understand how indigenous Polynesian populations found the key to "artificial paradises" as the plant species usually cultivated as recreational drugs were not present in the Pacific (i.e., *Cannabis indica*, *Erythroxylon coca*, *Datura* spp., *Papaver somniferum*). However, early European explorers observed the use of a species unknown to them: *kava* (*Piper methysticum* Forst. f., Piperaceae) (see Fig. 1). Melanesians, Micronesians, and Polynesians alike grind the fresh or dry roots of this shrub to prepare their traditional beverage. In terms of the cultural role it performs, *kava* is to a large part of the Pacific what wine is to southern Europe. *Kava* has always played a special part in the history of Pacific societies and is today enjoying a resurgence of popularity with the Oceanic peoples, who are anxious to assert their cultural identity. By pharmacological standards, *kava* is not classified as a drug, as its consumption never leads to addiction or dependency. It has psychoactive properties but is neither an hallucinogenic nor a stupeficient. Experimental studies have shown that *P. methysticum* contains active ingredients called kavalactones, with diuretic, soporific, anticonvulsant, spasmolytic, local anesthetic, and antimycotic properties. *Kava* has been classified as a narcotic and a hypnotic (Schultes and Hofmann 1979), and this helps to understand the atmosphere of sociability felt when drinking it.

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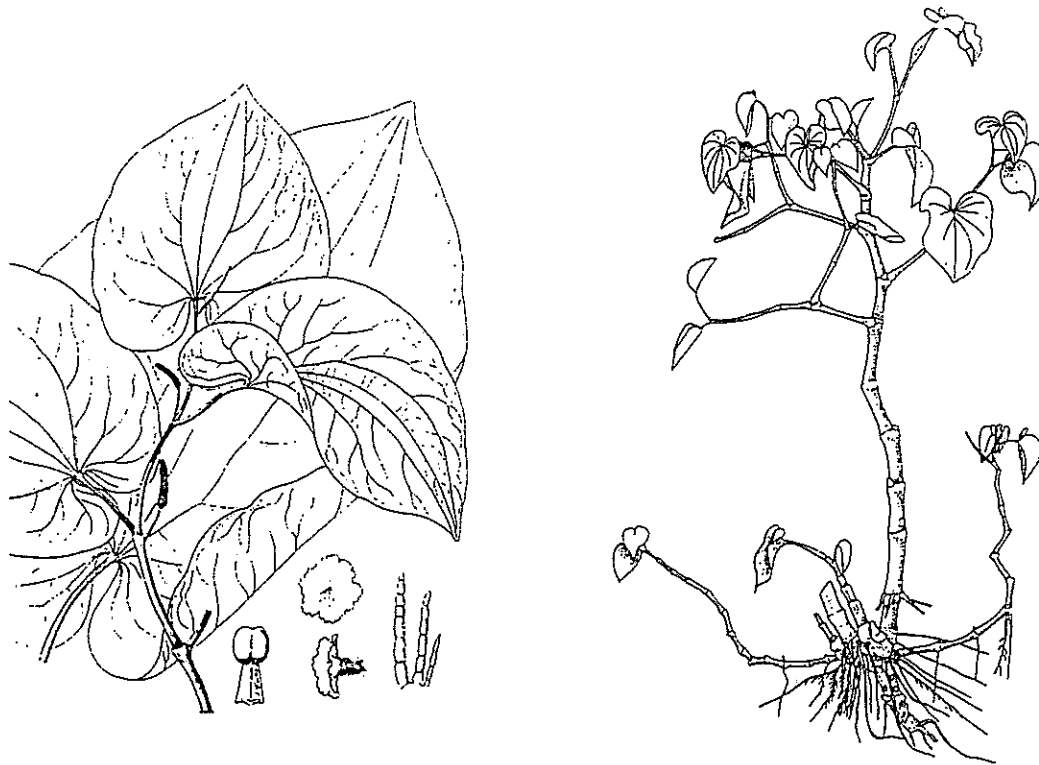


Figure 1. (Left) *Piper methysticum* Forst. f (original from Benjamin De Lessert, 1837); (Right) plant appearance (original from Lebot and Cabalion, 1986)

In this paper, I intend to review the ethnobotanical data about *kava* and to discuss the problem of its surprising distribution. As *P. methysticum* is always propagated vegetatively, the identification of its area of origin should help clarify the question of cultivars' diversity and sources. Kava might then serve as an indicator of Pacific populations' migrations.

Botanical Aspects

Parkinson sailed with Cook on his first voyage aboard the *Endeavour* (1768–1771). He was certainly the first scientist to take an interest in *kava*, which he observed for the first time in Tahiti (Parkinson 1773). During his second voyage from 1771 to 1775, Cook was accompanied on the *Resolution* by two German botanists employed by the British Admiralty: J. R. Forster and his son, Johann Georg Adam Forster. The first description of *kava* is credited to J. G. A. Forster, who named it *Piper methysticum* (1786) or "intoxicating pepper," *methysticum* being the Latin transcription of the Greek *methustikos*, which is derived from *methu*, meaning "intoxicating drink" (Barrau 1957; Steinmetz 1960).

Piper methysticum is an elegant shrub measuring from one meter to over four meters in height, depending upon the cultivar. It is a hardy, slow-growing perennial. When it reaches maturity, the plant looks like a bouquet of ligenous stems

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clustered together at the base. The leaves are thin, single, heart-shaped, alternate, and petiolate. The inflorescence, opposite the leaves, is a spadix typical of the Piperaceae. The flowers are sessile and have neither calyx nor corolla. The species is dioecious; the male flowers with their stamens are therefore found on one plant and the female flowers with their pistils on another (Lebot and Cabalion 1986).

None of the collected specimens of *P. methysticum* existing in the largest herbaria has seeds. Female plants are uncommon. Botanists agree that the sex ratio is unbalanced and several authors have stated that they have never seen any female flowers (De Lessert 1837; Degener 1940; Hänsel 1968). Among publications dealing with *kava*, only two give descriptions of seeds (Baker and Baker 1936; Guillaumin 1938). Close inspection of the specimens described, however, has confirmed that the fruits are from *Macropiper latifolium* Forst. f. (Lebot et al. 1986). When hand-pollinated, female inflorescences fall off before producing fruits. Growers in the Pacific islands are unanimous in stating that no seeds have ever been seen on a cultivar.

There is a wealth of variation in chromosome numbers in the genus *Piper*, both between and within species. Ploidy levels are based predominantly on $x = 13$. Recent work conducted on *Piper methysticum* (Lebot 1988, unpublished data) has shown that this species has a somatic complement of $2n = 130$. This is the first time that a decaploid has been recorded in this genus. Such a high ploidy level could explain the sterility phenomenon in *P. methysticum*.

Origin of Kava

Several botanists have discussed the origin of *kava* (Degener 1940; Yuncker 1959; Smith 1981; Lebot and Cabalion 1986; Lebot and Lévesque 1989). Among the related species are three endemic to Papua New Guinea, the Solomon Islands, and Vanuatu: *Piper wichmannii* C. DC., *P. gibbilimbium* C. DC., and *P. plagiophyllum* K. Schum. & Lauterb. The wild source is almost certainly *P. wichmannii* C. DC. (Lebot et al. 1986). This species is endemic to New Guinea, the Solomon Islands, and the northern part of Vanuatu. No significant difference has been found between *P. methysticum* and *P. wichmannii* in either male or female flowers. These two species have similar growth patterns and morphological features. The major morphological difference is the inflorescence length, which is always longer for *P. wichmannii*. However, variability in inflorescence length for cultivars of *P. methysticum* is also observed. On the other hand, anatomically, the roots of *P. wichmannii* are more ligneous, and chemically the composition is rather different, although the active ingredients are identical. *Piper wichmannii* and *P. methysticum* are the only *Piper* species from which kavalactones have been isolated (Säuer and Hänsel 1967; Sengupta and Ray 1987; Lebot and Lévesque 1989). Based on personal field observations, I believe *P. methysticum* should not be considered as a different species but rather as a group of sterile cultivars selected from wild forms of *P. wichmannii* (Chew Wee-Lek, per. com. 1986; Lebot and Lévesque 1989).

In Vanuatu, oral tradition on the myth of *kava's* origin seems to indicate that the ancestors of the present inhabitants used *P. wichmannii* to prepare the beverage. On the island of Pentecost, roots of both *P. wichmannii* and *P.*

methysticum are mixed, the former being used as a "stretcher," when there is not enough of the best cultivars for a feast. In local tradition, *P. wichmannii* is believed to be the *kava* used by the forefathers (Lebot et al. 1986).

When farmers select a cultivated species from a wild source, they select for characteristics which are important to them. The new plant often bears little likeness to the original one as the domestication purpose is to adapt the wild form to meet with the needs of people. For *kava*, morphological characters are less important than chemical characters. Therefore, it is not surprising that the cultivated species has a phenotype similar to that of the wild.

Area of Distribution

A review of more than 240 specimens scattered in 19 of the largest herbaria in the world (Lebot and Lévesque 1989) indicated that *P. methysticum* has been collected: in Micronesia Pohnpei (Ponape), and Kosrae; in Polynesia Oahu, Molokai, Kauai, Maui, Hawaii, Nuku Hiva, Fatu Hiva, Uapou, Raiatea, Tahiti, Mangaia, Rarotonga, Aitutaki, Niue, Upolu, Savaii, Tau, Tutuila, Tongatapu, Vava'u, Eua, Wallis, Futuna, and Alofi; and in Melanesia—Vanua Levu, Viti Levu, Vanua Balavu, Lakeba, Rewa, Tanna, Anatom, and Pentecost. Only 13 specimens of *P. methysticum* have come from Papua New Guinea, and 3 from Irian Jaya (on the southern border with New Guinea). One hundred and eleven specimens of *P. wichmannii* have been collected, all from Papua New Guinea, the Solomons, and Vanuatu.

The information gained from the collected specimens, coupled with the bibliography and my own field trips in more than 49 islands of the Pacific, resulted in the identification of the past and present areas of distribution (Fig. 2). This area was much wider before the arrival of Europeans. During the colonial period, the religious and secular authorities tried to stamp out *kava* drinking on hygienic grounds or because of its association with paganism. These taboos were responsible for its disappearance from several islands, especially from the Marquesas, the Society Islands, the Cooks, and Niue. Its western limit is Irian Jaya while the eastern boundary is Hawaii and the Marquesas. It has never been collected in Indonesia, the Philippines, or South America.

Kava was drunk throughout Polynesia before the European arrival, except on the flat coral atolls where the plant could not grow due to ecological reasons. Most certainly, *kava* has been introduced to all the islands reached by the Polynesians during their migrations. In New Zealand, the climate was, of course, too cold, but it is suspected that the Maoris gave the name *kawa-kawa* to *Macropiper excelsum* in memory of the plants they most certainly introduced and attempted to cultivate. In the Austral islands, the people of Tubuai drank *kava* but its consumption was abolished by missionaries after their arrival. There are no accounts of *kava* consumption on Rapa, Easter Island, the Chatham Islands, Kiribati, and the Tuvalu Islands.

Bougainville did not record *kava* in Tahiti, but provided a list of other cultivars (1772). Ferdon (1981) stated that *kava* was "certainly the last introduced plant into Tahiti. . . . The active diffusion east towards Tahiti was still going on as

* Locality where *Piper methysticum* is presently cultivated

* Locality where *Piper methysticum* has been cultivated

- * Locality where Piper methysticum is presently cultivated
- * Locality where Piper methysticum has been cultivated
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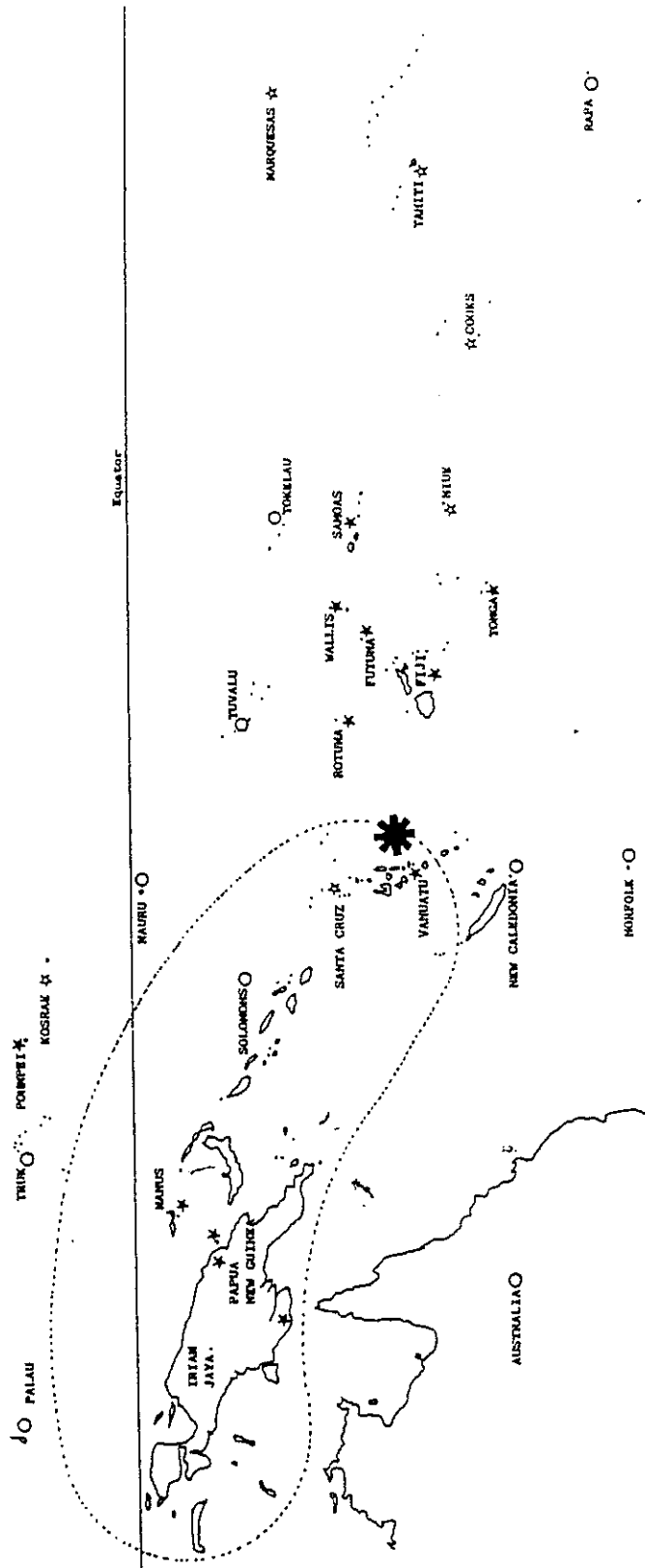


Figure 2. Areas of distribution of P. methysticum and P. wichmannii.

late as 1774–1775." Ferdon referred to a chief of one Tahiti district as not having a single plant, whereas two years later large *kava* fields were planted. This statement is surprising, because *kava* was most certainly one of the first plants that aboriginal voyagers would have taken with them (Smith 1981), and it would indicate that at one stage *kava* may have been abandoned in one Tahitian area, and that *kava* drinking had had a much wider distribution, but that a number of people had subsequently given it up. Either *kava* was abandoned at one stage, and later reintroduced just before the European era, or else there was a time in Tahiti when drastic steps were taken to restrict access to *kava*, possibly even to the extent of preventing it from being planted in some areas.

The same can be said for Hawaii, where *kava* consumption was at one stage restricted to certain people. This situation can be partly explained by a shortage of planting material, which occurs quite often today in Tonga, for example. When supply can easily meet demand, there is no need to excessively ritualize consumption. If, upon the arrival of the Polynesians to their islands, *kava* production was low, consumption may have been restricted to important occasions, but as the stock of planting material increased, consumption spread to everybody. According to Titcomb (1948), in very early Hawaiian history *awa* was drunk by chiefs or people of high social rank and never by commoners, probably because the plant was rare. However, by the beginning of the nineteenth century, there was enough for everyone and *awa* was drunk by all social classes.

The distribution of *kava* consumption outside Polynesia is very scattered and puzzling (Fig. 2). In Micronesia, the consumption of *kava* was restricted to the eastern Carolines, Kosrae, and Pohnpei, where *kava* is known as *Sakau*. *Kava* was unknown to the people of Guam, Palau, and Truk. Although one specimen was gathered on Palau in 1929 (Kanehira no. 453), and on Guam in 1818, Stafford (1905) observed that *kava* was unknown to the local people. The reported sighting could have been an early misidentification of *Macropiper guahamense* C. DC. (Smith 1975). According to Glassman (1952), there is no definite information concerning when and how *kava* was introduced in Pohnpei, but it is obvious that it came from either Polynesia or Melanesia. When considering possible transmission routes, it is interesting to notice similarities between preparation techniques, and ceremonial as well as linguistic affinities of the materials used for it. In Pohnpei and Baluan, Admiralty Islands, the cultural elements associated with *kava* drinking indicate a relationship with Vanuatu rather than with Polynesia (Brunton 1987). As Pohnpei and Baluan are the only islands in the Pacific where *kava* is prepared by pounding the fresh roots on a large, flat basalt slab, and because in Pohnpei the word *sakau* sounds like the word *kau* used by the people of Baluan for *kava*, there is strong evidence that *kava* was introduced to Micronesia from Melanesia.

In Kosrae, before the drink was banned by the missionaries in 1828, *kava* was called *seka* (Glassman 1952). This name also seems to be of Melanesian origin as *kava* is called *sika* and *saka* in parts of the Western Province of Papua New Guinea (Brunton 1987). Importation from New Guinea seems more feasible. This theory's plausibility is confirmed by the great distances the central and eastern Pacific navigators would have had to sail with cuttings on board between Polynesia and Kosrae or Pohnpei in Micronesia. Furthermore, most of the islands located on the

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route between the *kava*-cultivating areas of Polynesia and Micronesia are atolls unsuitable for *kava* cultivation. The Admiralty Islands were probably the area of greatest consumption in Papua New Guinea. *Kava* was used on Lou, Baluan, Pam, the Fedarb Islands and Rambuto. All were said, or known, to have had large flat stones used to pound the *kava*. On Lou, the last remaining plants were killed because the population was converted to the Seventh Day Adventist church (H. MacEldowney, per. com. 1986, Anthropology Dept., A.N.U., Canberra). Baluan is the only part of Manus province where *kava* is still used, although not very often. In the Admiralties, the cultural aspects of *kava* drinking suggest a closer relationship with Pohnpei than with the northern coast of New Guinea. *Kava* is pounded on a flat stone in Baluan and Pohnpei but chewed in New Guinea, the process of preparing the drink is also very similar.

The people of Karkar and Bagabag islands used *kava* traditionally but those from the latter no longer drink it. People in a few villages of Maclay coast and around Madang do still drink it. Mickloucho-Maclay saw *kava* being prepared in Astrolabe Bay in 1872; thus, it was present before European contact. But maybe on that occasion the *kava* referred to was *Piper wichmannii*. Mickloucho-Maclay (1886) himself stated that he was not sure whether the plant named *keu* used to prepare an intoxicating drink was really *P. methysticum*. When he sent samples for identification he received "... a note from Dr. Scheffer with the statement that the *keu* bundles contained two different species of *Piper*, both of which were different from the *Piper methysticum*" (Mickloucho-Maclay 1886). This is not surprising as today, in the small island of Baluan, farmers are cultivating several plants of *P. wichmannii* for their personal consumption and consider it as *kava* on the same basis as their two cultivars of *P. methysticum*.

In New Guinea, the major *kava*-drinking region covers a large part of the Western Province with an extension into Irian Jaya. Williams (1940) observed that, in the Lake Kutubu area, only two plants of *P. methysticum* were known before World War II. Crawford (1981) explained that a *sika* cult existed in the village of Isago, not far from Balimo, in defiance of the mission there. Brunton (unpublished data 1987) has compiled the vernacular names used for *kava* in Papua New Guinea and observed several affinities within this geographical area, suggesting internal exchanges of planting material. A linguistic approach to the question of the origin of *kava* in the Western Province would indicate that the plant is indigenous, since the languages of this region are Papuan (or non-Austronesian) languages (Terrell 1986), which, in spite of their proximity, do not show any evidence of having borrowed from each other with respect to the plant name, each identifying it with a different lexeme. Such an approach is, however, not conclusive. It is also important to mention that most of these names simply mean "roots," implying that the plant and its use were introduced, because it is referred to by the name of its useful part rather than by any vernacular name of its own (Anthropology Dept., Unitech, Lae, per. com. 1987).

E. E. Henty, who spent nearly 20 years as the curator of the Lae Herbarium believes

it arrived in the Maclay area by direct introduction rather than diffusion ... There are no early records of *P. methysticum* in the western district. This was a very isolated area and was made so by the Asmats, the dangers

of navigation in Torres Straight and the hostility of the local people. When missionary work began, earlier this century, "catechists" or "lay readers," were recruited, trained in Tonga and Fiji, and were employed. It is possible that one of them took a root to Daru or one of the other stations (Henty, per. com. 1988).

Serpenti (1965) felt *kava* was introduced into the western area after the Dutch government had established its presence on the island. In Papua New Guinea, *P. methysticum* is always very localized and situated on the coastal area. Therefore, there is very strong evidence, based on field observations, that *P. methysticum* has been recently introduced in few places through human's interference (Lebot and Lévesque 1989).

According to Whitmore (1966) no sample of *P. methysticum* has been collected in the Solomon Islands. However, the presence of *kava* has been reported a number of times in the Polynesian outliers of the Santa Cruz Islands: Vanikoro, Tikopia, and Utupua (Rivers 1914; Firth 1954). When Kirch and Yen (1982) visited Tikopia, they observed:

Kava has now become extinct, with only a wild form *kavakava atua*, (*kava*-diminutive-spirit), remaining that cannot, according to informants, be used for preparation (although it has been identified as *P. methysticum* by Solomon Islands and Bishop Museum botanists . . .).

Brown (1935) mentioned that the word for *Macropiper latifolium* in the Marquesas is *kavakava atua*. According to a dictionary of the *Are are* language of Malaita, the word *kakawa* concerns a tree whose roots are sucked to produce intoxication, and D. Brass recorded that the local name for *Piper wichmannii* in the southeast part of Santa Isabel was *kava qwua* (R. Brunton, per. com. 1987), but in Guadalcanal it is called *kwakwako* (Lebot, field obs. 1987).

In Vanuatu, although there were significant differences in the traditional *kava* ritual, it was of great importance everywhere except for Ambrym and parts of Malekula and Santo. All the inhabitants of this archipelago claim to have drunk *kava* and continue this usage today. There is no controversy about the traditional use of *kava* throughout Fiji where it is known as *yaqona*. *Kava* was never cultivated in New Caledonia as it does not seem to flourish there.

As the presence of *kava* always seems to result from human's involvement, a linguistic approach makes it possible to define two main zones, one in Polynesia and southern Vanuatu where the plant is called *kava*, and the other in northern Vanuatu, Fiji, New Guinea, and Pohnpei where it has Melanesian generic names. The most common name, *kava*, most certainly derives from the Polynesian word *ava*, meaning "bitter" and "inebriating drink" (Steinmetz 1960). In the southern islands of Vanuatu, especially on the islands of Tanna, Anatom, and Futuna, *kava* could have been introduced, along with its generic name and rituals. Bonnemaïson (1985) stated that Tongan navigators' visits were not uncommon as they came to take women in southern Vanuatu. This may be why the local name for *kava* in the vernacular languages of Tanna is *kava*, the same word as used in Tonga.

Myths and Legends

In Vanuatu, a northern legend from the island of Maewo has it that

A very long time ago, orphan twins, a brother and sister, lived happily on Maewo. One night, the boy, who loved his sister very much, had to protect her from a stranger who had asked to marry her but whom she had refused. In the struggle the frustrated suitor loosed an arrow which struck the boy's sister and killed her. In despair, the brother brought his sister's body home, dug her a grave and buried her. After a week, before any weeds had grown over her tomb, there appeared a plant of unusual appearance which he had never seen. It had risen alone on the grave. He decided not to pull it up. A year passed and the sorrowful boy had still not been able to quell the suffering he felt at his sister's death. Often he went to mourn by her grave. One day, he saw a rat gnaw at the plant's roots and die. His immediate impulse was to end his own life by eating large amounts of these roots, but instead of dying he forgot all his unhappiness. So he came back often to eat the magic root and taught its use to others. (Recorded by Lebot, February 1984, at Loltong, Pentecost Island, cited in Lebot and Cabalion 1986).

Another legend, this time from the south, explains the origin of *kava* differently:

Long ago the islanders drank only one sort of *kava*, the wild *kava*. Then, one day, a Futunese woman was peeling yams alone by the seaside. As she crouched in the water, an evil spirit took advantage of her posture to slip a magic pebble into her vagina. When she realized it was there, she pulled it out and looked at it. She was intrigued to find that it was slender and covered with knots and buds and decided to take it back to the village. (According to Chief Siaka of Henamanu Village, Tanna, May 1982, recorded by Lebot, and cited in Lebot and Cabalion 1986).

Bonnemaison (1985) reports another interesting local myth. The first canoes arrived from the north carrying with them yam, taro, breadfruit, and banana. These plants were sent by the god of the gardens, Mwatiktiki. Later, another canoe arrived from the southeast, sent by the god Karapanemum, and brought the pig, *kava*, and the magic stones. According to legends, *kava* is of local origin in the northern part of Vanuatu, but has been introduced in the southern part of this archipelago.

In Fiji, on the island of Vanua Levu, legend has it that *kava* appeared on the grave of Prince Ranggona who had died a short time previously, perpetuating his memory with the name *Yanggona* (*Yaqona*) (Hocart 1952, cited in Sterly 1970).

In Western Samoa, a local legend from Fagaloa Bay on Upolu Island reports that

kava first came to Samoans through Tagaloa, the first *Matai* or chief. Tagaloa had two sons, Ava and Sa'a. As Ava lay dying, he murmured to Sa'a that from his grave would come a plant of great value to the Samoan people. Ava died and was buried. Sa'a and his children watched the grave and on the third day after Ava's burial, two plants were seen growing from the head of his grave. As Sa'a and the children watched, a rat came and ate the

first plant. It then moved to the second one and began to eat, but quickly became intoxicated. The rat went staggering home as the people watched in astonishment. They named the first plant *Tolo* or sugarcane, and the second *Ava* in honor of the man from whom it sprung. (Recorded by Lebot, in Fagaloa Bay, May 1987).

In Tonga, Gatty (1956) reports a legend very similar to those of Vanuatu, Fiji and Samoa:

[O]n the Island of Euaiki, the chief Loau recognized human flesh at a meal and told the people not to eat it—it should be planted in the ground and brought to him when it matured into a plant . . . the body grew up into a *kava* plant arising from different parts of the body. And when it matured he noticed that a rat chewed on the *kava* and became paralysed.

French navy pharmacist Cuzent (1856) did not mention any legend or myth relating to *kava* origin in Tahiti and the Marquesas. In Hawaii, Titcomb (1948) recorded a legend giving credit to Oilikukaheana for first bringing forth *kava*. This author refers to a statement by Fornander (1919) to the effect that on Oahu

Ewa had the courage to test its effect . . . Ewa said: "Let me first eat of this plant, and should I die, do not plant it, for it would be valueless; but should I not die, then we will be rich" . . . When Ewa ate it, she became drunk and was intoxicated all day, then she awoke she called this plant Awa; from thence forward this plant was called Awa, the Awa from Kaumakahea, the chief.

According to Gatty (1956), oral tradition in Hawaii has it that *kava* was introduced from Tahiti and first planted on Oahu, but Titcomb (1948) suggests many points of introduction in the archipelago.

In Pohnpei, local tradition has it that *kava* was first introduced from the island of Kosrae by a woman who brought it secretly (Lebot's record, August 1987). According to Ashby (1987)

[I]n one legend, the discovery of *sakau* is attributed to a rat seen nibbling a root and acting quite intoxicated. In another legend, more detailed, the original is traced to Pohnpeian god Luk. The skin of a heel of a mortal man, Uitannar, was given by Luk to a woman in payment for her kindness. She was told to bury the skin and a plant would grow in its place. The juice of the plant would make people intoxicated and change their lives. This was done and the *sakau* plant was later spread throughout Pohnpei.

According to the Marind-Amin of the Western Province of Papua New Guinea, *kava* came from a devil-stork whose spindly legs were thought to resemble the knotty stems of the plant (Nevermann 1938, cited in Sterly 1970). In the center of Papua New Guinea, near Lake Kutubu, *kava* is said to have come out of the ground, where Waki, the "underground-man," lived. Other versions have the "big-man Sagainya" or Tokorabu reappearing from beneath the ground in the form of *kava* (Williams 1940, cited in Sterly 1970).

In the places where the origin of *kava* has a mythical explanation, it is likely

that the plant was introduced or its use developed at some stage. Explanations abound in these legends, attributing *kava* origin to gods, to spirits of the dead, or even to animals, such as the pig in New Guinea and the rat in Fiji, Samoa, and Tonga (Risenfeld 1950; Gatty 1956; Sterly 1970) and Vanuatu (Lebot and Cabalion 1986). There is a factual basis for these myths, because rats and pigs have often been seen chewing *kava* roots and are not repelled by the smell (Lebot, field obs.). It is also interesting to observe that in these remote islands, separated by thousand of miles of ocean and inhabited by three ethnic groups with different customs and cultures, a similar theme recurs in nearly all these myths and legends: *kava* comes from a body buried in the ground, a rat is first observed chewing the root, and a woman is often associated with the discovery. According to Wodzicki (1979), rats often play an important role in Polynesian mythology. The Polynesian rat, *Rattus exulans* Peale, was introduced in the Pacific from southeast Asia during the first migrations (Wodzicki 1979). It is, however, doubtful that this myth can have a factual basis in Polynesia; a rat could not be seen chewing the roots of a cultivated plant that could not be known to the Polynesian, as *kava* dispersal is due to human intervention. The hypothesis of a rat being observed chewing the roots of a wild species seems more likely in Melanesia where *Piper wichmannii* occurs. Whatever the case may be, even if these legends do not provide a reliable explanation, they all seem to share a common origin. It is likely that the myths and legends were introduced with the plant by Polynesian migrants and they fall in line with the idea of a Melanesian origin of *kava*.

Methods of Preparation

Kava receives the tender care growers lavish on their traditional crops. Most authors describe *kava* as a traditional crop suited to existing agricultural systems and highly flexible in cultivation. Local techniques have been developed which aimed at improving the yield or appearance of the root system. On the island of Tanna, *kava* is planted in the hollowed-out trunk of a tree fern that is placed vertically and filled up with organic matter (Fig. 3A). The roots obtained from such a technique are protected from nematodes and the surface is whiter and smoother than that of ordinary *kava*. In Maewo, several cultivars are known to have high water requirements and are therefore planted on the ridges of the irrigated taro terraces. Once planted this way, they contribute to the terraces' maintenance (Fig. 3B). In Savaii, Western Samoa, where lava takes time to disintegrate into fine soil, *kava* is often cultivated in pits filled up with organic matter (Fig. 3C). In the Western Province of Papua New Guinea, farmers claim that their plants never reach two years, and have to be tended; if not, they die. *Kava* is therefore planted in beds under sago palm leaves (*Metroxylon sago*) (Fig. 3D).

Generally, a plant is rarely uprooted before it is 2 or 3 years old. In some countries it is consumed fresh, as in Pohnpei, Papua New Guinea, Vanuatu, Wallis, and Futuna; in others it is consumed after drying, as in Fiji, Samoa, and Tonga. The basal stems, stumps, and roots comprise a multitude of ligneous fibers as well as over 50 percent starch. Around the center of the pith, which consists of starch cells, are layers of vascular and ligneous tissue which alternate with small cells also filled

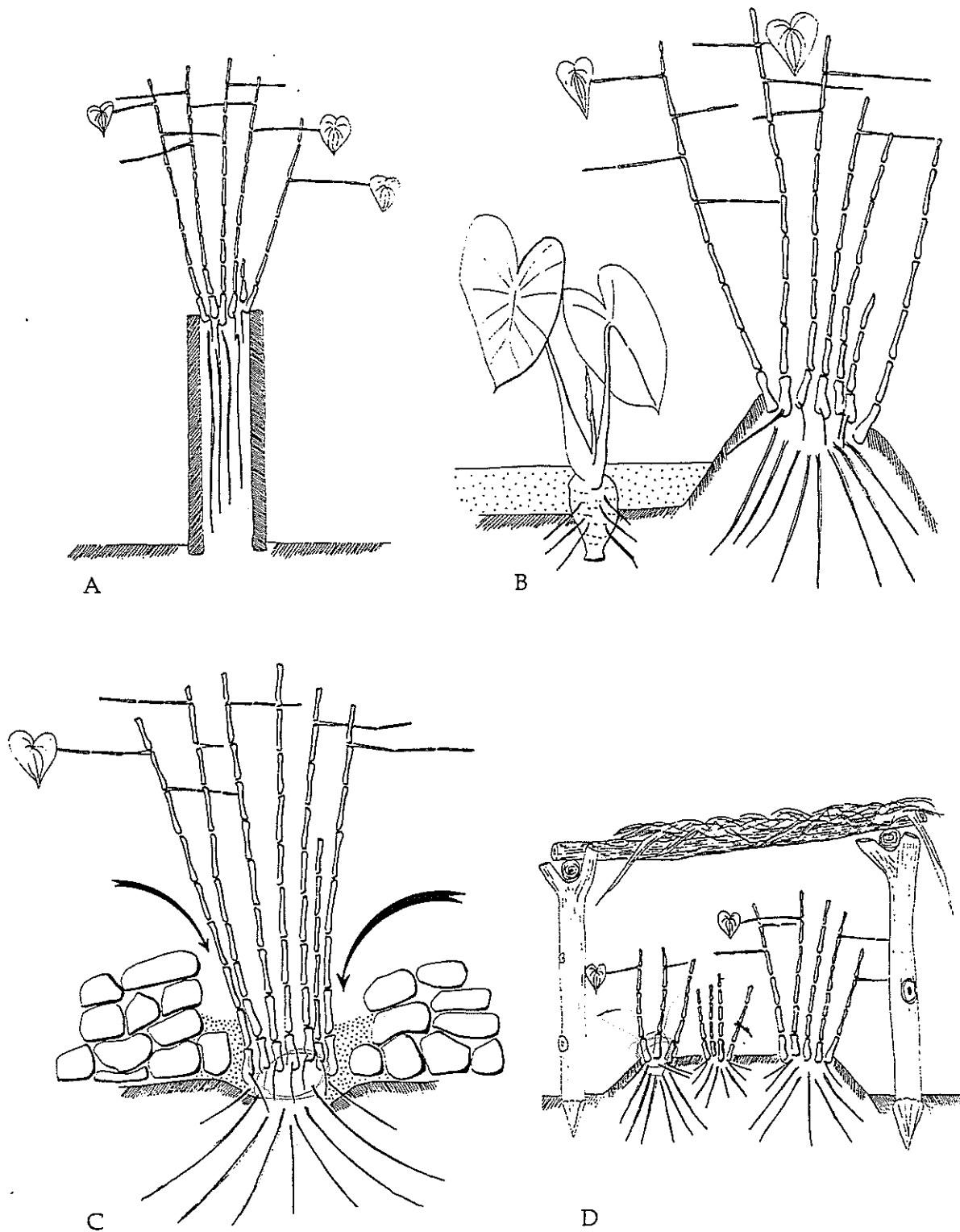


Figure 3. Traditional cultivation techniques.

up with starch. Such a substance, of course, cannot be consumed without further preparation. There are two methods of preparation, depending on whether fresh or dried roots are used. The principle applied is very simple and remarkably efficient in allowing easy extraction of the chemical constituents by either chewing or grinding, followed by maceration. Today, mastication of the fresh roots is practiced only in the southern and central parts of Vanuatu and in the Western Province of New Guinea. This method was very widespread in Polynesia and Fiji at the beginning of the pre-European era, but was abandoned under the influence of the missionaries, who considered the practice unhygienic. Nowadays, *kava* is prepared in these countries by maceration of the fresh or dry root.

In Pohnpei, *sakau* was traditionally a drink reserved for the elite, but its use is now widespread among all levels of people. It is the focal point of almost all ceremonies, and is also consumed nightly in private gatherings. It is prepared by pounding roots and then squeezing the material through a filter made of the inner layers of *Hibiscus tiliaceus* bark into half a coconut shell. This is a procedure also reported in various Polynesian islands, but no longer practiced. When prepared this way, *kava* takes on a very slimy consistency due to the mucilage existing in the bark of *H. tiliaceus*. The coconut shell is passed round in order of rank, both men and women drinking from the same shell (such a mixing of the sexes being unique in the Pacific).

In the Western Province of Papua New Guinea, the Gogodola prepare the drink by masticating the roots, and spitting the contents of the mouth into a coconut shell. When all shells are full, their contents are strained through a coconut stipule into a common bowl from which each person's shell is refilled. The drinkers quickly swallow the *kava* before having a meal of sago and fish. Shaw (1985) reported the use of *kava* among the Samo of the Nomad River area, where it is called *oyo*. He made a very interesting statement on the preparation:

[T]he brew is made by mixing palm leaf ash with the masticated *Piper methysticum*. Nowhere else has the mixing of ash been reported in conjunction with the preparation of *kava*. But throughout the Nomad area this practice is necessary as people maintain that by itself the root is too strong, bitter and unpalatable.

According to Lawrence (1984), the Garia who live in the mountains just north of Usino, in Madang province, refer to *kava* in pidgin English as *koniak* and in their own language as *isa*. The Garia prepare *kava* for funerals and the dead person's relatives consume about half a coconut shell before bearing the body to the grave. Informants claimed that it had a toxic effect, and this seems to be borne out by the fact that, after the funeral, those who drank it immediately fell asleep (Lawrence 1984).

In Tonga, at the beginning of the last century, the old and young roots, once pared, were cut into pieces which could be held in the mouth (Beaglehole 1941). In Fiji, they were ground on a stone and were then masticated by men or women, but especially by young boys and girls with strong jaws. They chewed until they were exhausted, and the drinkers were vigilant that none was swallowed. Water was added and the mixture was then strained through the fiber of the stipule of coconut leaves which acted as a filter and was called *fau* in Samoa (Kramer 1903).

This task was performed by a young girl, preferably the village virgin or *taupou*, who had been "purified" for the ceremony by washing her hands and wrists (Steinmetz 1960). According to Kramer (1903), the ceremony, which was very strict in Samoa, required that the girl should sit cross-legged on a mat, bare-breasted, with flowers carefully arranged in her hair and her hips swathed in a grass skirt, thus representing an image of beauty which was supposed to attenuate the impression left by the beverage preparation. However, in most Pacific islands the ceremony in which young boys and girls were obliged to chew *kava* has been outlawed. In Hawaii a law was passed in the 1850s forbidding *kava* consumption without medical control or advice, but it was not strictly enforced.

In Wallis and Futuna, Samoa, and Tonga, *kava* is prepared mainly by scraping the stump and then grinding it between two stones, one of which is a small stone with a concave top. The ceremony begins as soon as water is poured on the ground *kava*, but this differs greatly from island to island. When the water has been left long enough to permeate the *kava*, the plant residue is extracted from the mixture. Each guest attending the ceremony drinks from a common cup formed from half a coconut shell.

In Futunese society (Gaillot 1962), as in Samoa, *kava* is a symbol of forgiveness. Custom requires that the person offended or injured be offered a *kava* root, the offender thereby obtaining pardon.

The method of preparation by mastication has also disappeared on Futuna, after a missionary in 1930 introduced the grinding technique. The Futunese ceremony was always performed in the presence of a master of ceremonies who directed the stages of preparation and decided whether the *kava* was as it should be or too strong.

As in Fiji, Samoa, and Tonga, the beverage, which in the past was prepared by mastication, was drunk only by adult men and formed a rite which was an integral part of religious and social life. Drinking *kava* is important during feasts; it is a sign of hospitality whose ritual varies enormously from one culture to another. To drink *kava* is therefore more a rite than an act of "debauchery." In Hawaii, every social class drank *kava* to relax. Royalty drank it as a mark of hospitality and for pleasure, the *kahuna* (priests) for ritual and esoteric purposes, and the underprivileged class for well-deserved relaxation after work (Handy 1940). *Kava* was used in central Polynesia to produce a "serene state of mind." On the island of Uea, Fiji, whose culture is similar to that of Samoa, *kava* was deliberately drunk to stimulate inspiration (Handy 1927). The Tongans considered this drink as beneficial for healthy people but not advisable for the sick. They usually drank it in moderation, claiming that a man addicted to *kava* became weak and lazy, and encountered family problems through "neglect of his responsibilities" (Beaglehole 1941).

Effects Felt by Kava Drinkers

Different attitudes towards *kava* drinking may affect the responses to ingestion of the beverage. Those who expect or desire an intoxicating effect are more likely to experience it. When the beverage is not too concentrated drinkers attain a

state of happy unconcern, well-being, and contentment. They feel relaxed and free of any physical or psychological excitement. At the beginning, conversation flows gently and easily; hearing and vision are also improved, allowing subtle sounds and shades to be perceived. Drinkers remain masters of their conscience and reason because *kava* is not a central nervous system depressant but acts on the spinal system. The beverage soothes temperaments and drinkers never become angry, unpleasant, noisy, or quarrelsome. *Kava* is considered as a means of easing moral discomfort and killing anxiety. In many cases, it helps thought processes and solves the problems of everyday life as drinkers can talk to each other without any nervous tension. The following day, drinkers awaken in excellent shape, having fully recovered their physical and mental capacities, except with some cultivars known as "two-day *kava*" that have a more lasting effect (Lebot and Cabalion 1986).

However, when consumption is excessive, drinkers suffer from photophobia and diplopia. In some cases, temporary oculomotor paralysis occurs. Muscles no longer respond to the control of the mind, walking becomes unsteady, and drinkers look inebriated. They feel the need to sleep and in some cases they can be found prostrate at the place where they have drunk. Of course, these effects are highly correlated with the chemical composition of the cultivar used to prepare the drink; as different "vintages" occur, their effects differ.

Nevertheless, one deleterious side effect brought on by the heavy consumption of *kava* is skin lesions and drying up of the epidermis, producing an advanced exanthema whose urticarial patches produce intense itching. Such reactions are only found in heavy drinkers and can be attributed to *kava's* active ingredients, the kavalactones. These are related to sesquiterpenical lactones which are severe allergens that can attach themselves to the skin proteins. These skin lesions, called *kani kani* in Fiji, disappear as soon as the amounts of *kava* consumed are reduced. Their occurrence is, in fact, very uncommon. They afflict drinkers who are prone to allergies, and are due to the chemical composition of a few well-identified and undesirable cultivars.

The situation is sad in Australia where some Aborigines are consuming abusive amounts of *kava*. Mathews et al. (1988) have studied the effects of heavy usage of *kava* in Arnhem Land. It is obvious that there is a clear preference for *kava* over alcohol as it does not produce violent behavior. But Mathews et al. have shown that heavy users present general ill-health, are often underweight, and have puffy faces and scaly rashes. The heavy consumption of *kava* in Arnhem Land leads, according to these authors, to effects far different than those of socially regulated, moderate consumption. However, these authors did not specify accurate percentages of active ingredients.

Whichever island, ceremony, or method of preparation is referred to, *kava* was always drunk at dusk and before the meal, never after, probably because of its properties. Lewin (1886) reported that Captain Cook often saw Samoans take several bowls of *kava* during the morning. This report is unusual since Captain Cook never visited Samoa, and today such a habit, except on feast days, would seem illogical. Yet consumption of *kava* in the morning in modern Samoa does occur, particularly during *kava* ceremonies which are usually held in the morning (P. Cox, per. com.).

Kava as a Ritual Offering

The Oceanic peoples who are familiar with *kava* hold it in esteem primarily as a ritual offering or a ritualized form of payment. *Kava's* medicinal reputation would appear, at least originally, to be a corollary of its narcotic action and its role in the exchange system between individual and especially between human beings and the gods. Other plants also play the part of a customary gift, but *kava* has acquired a special favor. Such a pre-eminent role over many different plants is believed to be due to its pharmacological properties.

The most frequent use of *kava* is in the form of an essentially ritual and social drink because of its soporific and anxiety-relieving properties. By offering *kava* to the gods and spirits, humans were gaining their goodwill, and by drinking it they could move closer towards the supernatural world. As a present or offering to the gods, ancestors or spirits, *kava* was used as a sign of respect towards them, to obtain their favor, to appease their resentment or anger if due respect had not been shown to them, and, through divination, to communicate with them and to accede to the supernatural world and therefore to the secrets hidden from the mere mortal.

In Hawaii, as a ritual oblation on the family altar, *kava* was offered to the spirits of the ancestors or the gods, such as the "protecting shark" (Handy 1940). In some cases, the gift was made through a medium who imbibed in the name of the called-upon spirit. *Kava* was occasionally given to "clairvoyants" who contemplated it and drank it "in order to produce a desired passiveness or trance" (Handy 1940). For such events it was used as a hypnotic, which is still the case on Tanna, south Vanuatu, with the healers. In this archipelago, people believed that *kava* was a vehicle for communication with ancestral spirits and deities.

As a gift to people, *kava* is still used to seal or to publicly bind an agreement made between two partners. More often, it is simply used as a sign of sociability and as a ritual sign of the sacred character of a place or occasion. In Samoa, *kava* is used as a token of respect, and the arrival of a travelling party is greeted with *lupesina* or very large stumps with attached stems which are not intended for consumption (Cox and O'Rourke 1987). In Fiji, the ceremony called *sevusevu* is an offering from the travelling party and much solemn ritual is included.

Kava in Traditional Pharmacopoeia and Medicine

If *kava* was still an unknown plant, all its traditional therapeutic indications would have to be sifted through. Modern medical science tries to find a logical relation between cause and effect in order to apply an etiological or symptomatic remedy, whereas traditional medicine seeks the cause of the illness, primarily in the breaching of taboos, and then treats it with medicines tested empirically. Both often seem to neglect the placebo effect by favoring a supernatural or a rational explanation only. *Kava* is a panacea; Zepernick (1972) noted about 30 syndromes treated with *kava*-based preparations. Several syndromes are enumerated in Table 1. The use of *kava* as an anaesthetic and a galactagogue is reported by Steinmetz (1960). In Fiji, *yaqona* is considered as a powerful diaphoretic (Parham 1939). It is

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Table 1. Syndromes Treated With *Kava*

Place	Syndrome	Medication	Source
Pacific Islands	Gonorrhoea and chronic cystitis	The beverage, orally	Steinmetz 1960
Tubuai	Inflammation of the urogenital system	Maceration of young <i>kava</i> shoots, orally	Aitken 1930
Hawaii	Difficulties in urinating	Stump	Handy et al. 1934
	Irritation of the urogenital system	Stump	Handy 1940
	Feminine puberty syndromes, weakness	Drinking masticated <i>kava</i>	Titcomb 1948
	Menstrual problems, dysmenorrhea	Kava-based medication	Handy 1934
	Painful migraine headache	Drinking masticated <i>kava</i>	Titcomb 1948
	Vaginal prolapsus	Maceration of <i>kava</i>	Titcomb 1948
	To provoke abortion	<i>Kava</i> leaves <i>in situ</i>	Handy 1934
	Headaches	Masticated <i>kava</i> as a drink or masticated <i>kava</i> as such	Handy 1940
	General weakness and sleeping problems	Maceration of masticated <i>kava</i> diluted with water and boiled, orally	Titcomb 1948
	Chills and general treatment of diseases	Maceration of <i>kava</i> , fumigation with leaves	Titcomb 1948
	To prevent the risk of infection	Drinking masticated <i>kava</i>	Handy 1934
	Irritation of the respiratory tracts, asthma and pulmonary pains	Preparation containing the juice	Handy 1940
	Tuberculosis	Medication containing the juice extracted from the stump	Degener 1945
	Leprosy	External application of the juice extracted	Degener 1945
	Skin diseases	Masticated stump in a poultice	Hänsel, et al. 1966
Vanuatu	Intestinal problems	Fresh leaves applied on the skin	Walter per. com. 1988
	Otitis	Juice obtained from fresh leaves, <i>in situ</i>	Walter per. com. 1988
	Abscess	Juice obtained from fresh leaves, orally	Walter per. com. 1988
	Urinogenital system infection	Juice obtained from fresh leaves, orally	Walter per. com. 1988
	Cough	Maceration of bark	Walter per. com. 1988

(According to Lebot and Cabalion 1986.)

also consumed by women as a fortifying drink, a laxative, and a diuretic. In pregnancy, the absorption of small quantities of *kava* is said to facilitate delivery. During breast feeding, the absorption of *kava* is thought to favor the production of milk. The absorption of many mouthfuls of *kava* can help clear up the first stage of diarrhea (Thompson 1908; Steinmetz 1960).

The soporific properties of *kava* have been known in Vanuatu for centuries. Garanger (1972) states that during the excavation of the funeral site of Roimata (who reigned over the Shepherd Islands and Efate in the thirteenth century), the position of the servants' and main dignitaries' skeletons reveals that they were probably buried alive in a peaceful attitude. The position of the women, on the contrary, shows a sensation of horror. According to oral tradition, this is explained by the fact that the men buried alive were under the influence of *kava*. The wives, on the other hand, were not allowed this potion and were not under any narcotic effect when buried.

An awareness of *kava's* traditional reputation and the properties of kavalactones makes it possible to explain most of the above-mentioned indications. This does not apply to women's complaints however. How could *kava*, according to what is known, play a role in hormonally regulated physiological mechanisms? The bactericidal or bacteriostatic activity of kavalactones helps us to understand *kava's* reputation as a remedy for urogenital infections, but does not leave room for an hormonal explanation. The plant's indications as a contraceptive, abortifacient, or galactagogue, therefore, remain to be verified and explained, maybe by research to identify compounds other than kavalactones.

Active Substances of Kava

Chemical and pharmacological studies have produced a wealth of documentation and many publications. Such research has a dual aim: to identify the active principles responsible for the properties listed above, and to analyze the physiological activities of those ingredients. A number of scientists thought they had found alkaloids among the substances extracted from the roots without succeeding in isolating them. The effect felt on consuming *kava* is so close to the one produced by an extract of coca leaves that the temptation to seek alkaloid structures is easily understandable. However, nitrogen, a component of alkaloids, was absent from the products obtained from the plant. Nonetheless, in 1979 R. M. Smith isolated and identified an alkaloid specific to *kava* which he named piper-methystin; this substance was found only in the plant's leaves. At least in this case, alkaloids are not responsible for the physiological effects of the beverage obtained by grinding the roots.

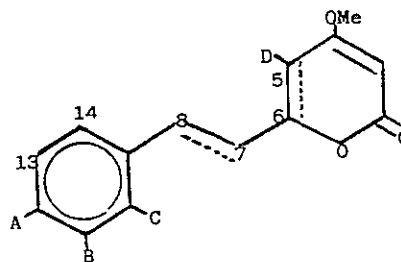
The skeleton of the lactonic molecules isolated from *kava* consists of 13 carbon atoms, 6 of which form a benzene ring attached by a double bond to a saturated lactone (Fig. 4). A total of 15 compounds has been isolated and fully identified (Hänsel 1968; Lebot and Cabalion 1986; Lebot and Lévesque 1989). Six of these compounds are of major importance: demethoxyyangonin, dihydro-kavain, yangonin, kavain, dihydromethysticin, and methysticin. Nine others are of

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Figure 4. Elementary structure of kavalactones.



	A	B	C	D	C5-C6	C7-C8
1) Kavain					-	=
2) 7,8-Dihydrokavain					-	-
3) 5,6-Dehydrokavain					=	=
4) Yangonin	OMe				-	-
5) 5,6,7,8-Tetrahydroyangonin	OMe				-	-
6) Methysticin	O-CH ₂ -O				-	-
7) Dihydromethysticin	O-CH ₂ -O				=	=
8) 5,6-Dehydromethysticin	O-CH ₂ -O				-	=
9) 5,6-Dihydroyangonin	OMe				=	-
10) 7,8-Dihydroyangonin	OMe		OMe		=	=
11) 10-Methoxyyangonin	OMe	OMe			=	=
12) 11-Methoxyyangonin	OMe	HO			=	=
13) 11-Hydroxyyangonin	OMe			OH	-	=
14) Hydroxykavain					=	=
15) 11-Methoxy-12-hydroxy-dehydrokavain	OH	OMe			=	=

minor importance (Duve 1981). After Hänsel, Jössang and Molho (1967) tried to explain the formation of kavalactones by two biosynthetic processes, one starting from cinnamic acid and ending up with styrylpyrones like demethoxyyangonin, and the other from the corresponding alcohol to arrive at styryldihydropyrones like kavain. The absence of the latter in the leaves was explained by the immediate reduction of their double bond, 7,8, by ascorbic acid. The most that is known, thanks to R. M. Smith (1983), is that the biogenetic activity is essentially the same in the various parts of the vegetative system and that it leads to different compositions in the stump and the roots.

Kava, like most medicinal plants, contains more than a single active principle. These active substances, often very similar in structure, form in the extract a very complex mixture of elements with often very different activities. Although the synthesis of kavain and methysticin held no more secrets, these substances did not in any way induce the same physiological effect as the natural extract. The latter's activity did not stem from a single substance, but from a mixture, a natural blending of several compounds bringing about a resulting activity. Several constituents are of secondary importance, but most certainly play a role. In fact, each element is so dependent on the presence of the others that the extract used without the slightest alteration gives much better results than any single one of these substances isolated (Steinmetz 1960; Lebot and Cabalion 1986; Lebot and Lévesque 1989). The problem is that the composition of these extracts is very variable.

When Hänsel (1968) concluded his studies on *Piper methysticum*, he wondered why *kava* was so little used in modern pharmacopoeia despite its poten-

tial, and had to admit that the answer was not clear. The industry has not totally rejected the use of natural extracts of *kava* but has never been able to realize their full potential, no doubt because the production of raw materials has always been inadequate in quantity and quality. In 1975 five allopathic and one homeopathic medicines containing *kava* natural extract were distributed on the French market. Today, the medicines which remain are indicated for a decongestive action in the pelvic area coupled with an antiseptic and sedative effect. In France, for example, Kaviase is produced with a natural extract and is commonly sold in drugstores. In Switzerland Kavaform, containing synthetic kavain, is on the market.

Although *kava*'s physiological properties are very interesting, many laboratories refuse to develop new products due to the variability of composition. This problem was first observed by Keller and Klohs (1963) when they published their review of *kava* chemistry

No systematic scientific survey appears to have been made as to the relative potency of extracts from various forms of *P. methysticum*, and, since all of the growth forms would most likely not be thought worthy of recognition as separate taxa by plant taxonomists, this area remains one for possible future study and clarification.

Young et al. (1966) stated that the taxonomic value of morphological and chemical relationships in *kava* needed to be shown through subsequent work in this area. Jössang and Molho (1967) confirmed that the variation in composition of the extracts from Fiji was an important point needing clarification. More recently, Duve and Prasad (1981) concluded their quality evaluation by saying that variation in the active constituents of *P. methysticum* with age, cultivars, and environmental factors needed to be studied before chemical standards of *kava* could be formulated.

Cultivars of Kava and Traditional Classifications

Results gained from ethnobotanical studies conducted in 49 Pacific islands have shown a considerable degree of specialization in the use of particular cultivars (Lebot and Lévesque 1989). These are classified according to principles and criteria that vary from island to island but are essentially based on physiological effect, morphology, and order of importance in the exchange system (i.e., according to their social and ritual uses).

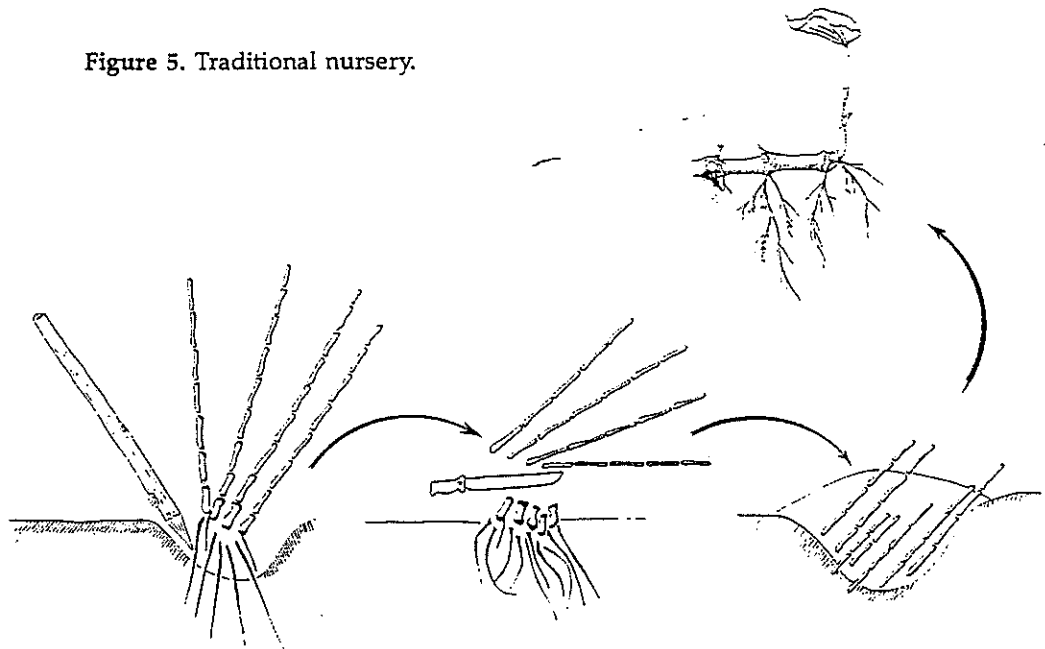
Kava always results from cloning. The clone, a community derived from the same individual by vegetative propagation, is genetically homogenous because it corresponds to a single genotype. A single clone may occur as different morphotypes, according to circumstances. (A morphotype is a coded transcription, using morphological descriptors, of a particular phenotype.) The traditional classification of clones amounts to a study of the uniformity of a population produced by vegetative propagation from a single selected individual. Its purpose is to observe interclonal variability and also, where it occurs, intracolon variability, because that is the point of the departure of a new cultivar. The problem faced by the growers is the judicious choice of the initial individuals, by eliminating

unsuitable mutations, if necessary, or by using the favorable mutations (morphological or chemical) as the starting point for new clones.

Figure 5 shows the procedure currently followed by farmers: the plant is first uprooted and the stems left in the hole produced by the harvest of the stump. The beverage is then prepared and farmers judge its physiological effect. If it is pleasant, they go back to this traditional nursery and collect the cuttings, which are then used for propagation. If it is not interesting, they leave the cuttings at their place where they will soon collapse. Therefore, the selection pressure acts each time an individual plant is harvested, following a genealogical procedure based on appraised chemical characteristics. Evolutionary changes in plants involve morphological or chemical changes according to the selection pressures applied. These clones have remained in the same place for a long time and are known by a precise name in the vernacular language. They are most likely the result of local selection carried out by the farmers themselves. The various cultivars possess a set of morphological features which are significant for one island's or one region's farmers and are therefore valid for identification of local cultivars but do not lend themselves to the identification of these same forms in other islands. These features relate principally to the aerial part of the plant and vary greatly according to the environment. The efficiency of local methods of differentiation is reduced when applied outside the original environment; they are significant only for the concerned cultivation area. Similarly, the same cultivar may be classified differently in the ranking order of two islands.

Local cultivars possess a vernacular name in most Pacific island languages. In Vanuatu, cultivar names consist of a "big name" (in Bichelamar, pidgin English), the equivalent of a generic name, followed by a "small name," or the name of the particular cultivar, together forming a binomial, as in the Linnean system. Generally, when speaking of a well-known cultivar or one to which reference has

Figure 5. Traditional nursery.



been made in the conversation, and if the "small name" is a long one, the "big name" is not repeated, whereas both names will be used if the "small name" is short. This rule exists in other Pacific countries and is not specific to *kava* or Vanuatu. The vernacular name marks the cultivar's main feature, a legend, or, quite simply, the name of the first person to select that clone. The often brief description given by the grower and the meanings of the vernacular names are a guide in forming theories about name relationships.

In Fiji, Samoa, Tonga, Wallis, and Futuna the cultivar name refers, in most cases, to the plant's morphology. A very simple dichotomous key allows the farmers to describe the cultivar to which they are referring by saying its name. For example, in Fiji, the first character is the stem color which is light (*vula*) or dark (*loa*). The second character used is the shape of the internode which is either long (*balavu*), short (*leka*), or "as thick as a planting stick" (*dokobana*). The cultivar with dark internodes is well known throughout Fiji as *loa kasa leka* (*kasa* meaning "internode"). The one which is light green with long internodes is known as *vula kasa balavu*.

The procedure is similar in Polynesia, but cultivar names referring to myths are more often used, for example, *ava lea* or *ava la'au* in Samoa. In 1860 French navy pharmacist G. Cuzent listed 14 cultivars of *ava* used traditionally by Tahitians. The names and the traditional classification essentially referred to the physiological effect felt by the drinker and the characteristics of the root: color, flavor, hardness, and taste when chewing. This classification is very similar to the one reported by Brown in 1935 and used by the Marquesans to identify their 19 cultivars at that time. However, today this traditional knowledge has disappeared as have most of the cultivars from the Society Islands, the Marquesas, and Hawaii.

Morphotypes

A taxonomy of *kava* cultivars is in itself highly worthwhile, not only because it will help us to clarify some ambiguous ethnographic and historical problems related to synonymy, but especially because it will provide a baseline from which relevant decisions can be formulated towards germplasm conservation. In Vanuatu, for example, 222 vernacular names of cultivars have been recorded (Lebot and Cabalion 1986). However, this figure does not represent 222 morphotypes, because mixing of genetic stock has taken place along the traditional exchange routes. The same is true of other Pacific islands.

In 1986 and 1987 I conducted a survey of the genetic resources of *Piper wichmannii* and *P. methysticum* over the total area of distribution of these two species, collected the wild and cultivated forms, and planted them in germplasm collections (Lebot and Lévesque 1989). I then conducted morphological descriptions of all the accessions to identify accurately these cultivars as well as wild forms. The plants were described by using seven morphological descriptors: the general appearance of the plant (A), stem color (C), internode configuration (I), leaf color (L), lamina edges (E), leaf pubescence (P), and internode shape (S). After coded description was completed, it was possible to differentiate the local cultivars and wild forms in different morphotypes (Tables 2 and 3).

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It is beyond doubt that *Piper methysticum* has reached its highest degree of diversification in Vanuatu. This country is probably an area of domestication for wild forms of *P. wichmannii*. In this country, for ecological and socio-cultural reasons, a substantial genetic endowment has evolved. It is a zone of widespread cultivation (23 islands surveyed), where a large part of the gene pool of the species and the cultivars is concentrated (Tables 2 and 3).

In the Cooks, Tahiti, the Marquesas, Hawaii, and Papua New Guinea, *kava* is an endangered species. Only a few plants survived in remote gardens on Mangaia, Cook Islands. My frequent field trips to the valleys of Tahiti ended with the discovery of only 11 scattered plants. In the Marquesas the situation is dramatic as only one cultivar has survived, on the island of Fatu Hiva. In Hawaii, the situation is quite different as it is possible to find groves in remote and lush valleys of Oahu and Maui, where the plant seems to survive with some maintenance from local people who apparently use it for their traditional pharmacopoeia. Even so *kava* is also an endangered species there. The situation is not better in Papua New Guinea. In Maclay Coast, Karkar Island as well as on the small island of Baluan, few plants remain and I took the opportunity during my collecting trips to advise farmers to save and propagate them.

Table 2. Origin of accessions of wild forms of *P. wichmannii* and cultivars of *P. methysticum*, by island group.

Country	Islands Surveyed	Forms Collected		
		Wild	Cultivated	Morphotypes
Vanuatu	23	6	241	82
Fiji	3	—	16	12
Tonga	2	—	7	7
Western Samoa	2	—	6	6
American Samoa	1	—	5	5
Wallis and Futuna	2	—	6	3
Cook	1	—	1	1
Tahiti	1	—	3	3
Marquesas	5	—	1	1
Hawaii	2	—	11	11
Pohnpei	1	—	2	2
New Guinea	5	2	9	7
Solomons	1	2	—	1
Totals	49	10	308	141

Table 3. Classification of the wild and cultivated forms gathered in the Pacific, based on their chemical composition. (Results of cluster analysis using hierarchical agglomerative clustering and Euclidean distance.)

Cultivar	Origin	Chemotype ¹						Morphotype ²						
		1st	2nd	3rd	4th	5th	6th	A	C	I	L	E	P	S
A														
Vambu*	Vauna Lava	5	2	1	6	3	4	3	2	2	1	2	1	3
Buara*	Maewo	5	2	1	6	3	4	3	2	2	1	2	1	3
Bo*	Pentecost	5	2	1	6	3	4	3	2	2	1	2	1	3
Kau*	Tongoa	5	2	1	3	6	4	3	2	2	1	2	1	3
B														
Bundun*	Morobe	1	6	5	3	2	4	3	2	3	2	2	1	3
Kwakwako*	Gluadalcana	1	5	6	2	3	4	3	2	3	2	2	1	3
Kau Kupwe*	Baluan	1	6	5	3	2	4	3	2	3	2	2	0	3
C														
Waeld koniak*	Madang	2	5	6	1	3	4	(3)						
Borosak*	Karkar	2	1	5	6	3	4	3	2	3	2	2	0	3
E														
Tabal*	Pentecost	5	2	6	3	4	1	3	4	1	4	2	1	3
Tangurlava*	Maewo	5	2	6	4	3	1	3	2	2	1	2	1	3
Vila	Tanna	2	5	6	4	3	1	3	1	2	4	1	1	2
Marino	Santo	2	6	5	4	3	1	3	1	2	4	1	1	2
Palavoke	Santo	2	6	5	4	3	1	7	1	3	1	1	1	2
Hina kata loa	Wallis	2	5	6	4	3	1	3	1	1	5	1	1	2
Abogae	Pentecost	2	6	5	4	3	1	5	2	2	4	2	1	2
Lalahk	Pentecost	2	6	5	4	3	1	5	2	2	2	2	1	2
Tudey	Santo	2	5	6	4	3	1	5	2	4	4	2	1	2
Hina leka	Wallis	2	5	6	4	3	1	7	1	1	5	1	1	1
Fock	Santo	2	6	5	4	3	1	7	1	1	4	1	0	2
Oahu 242	Oahu	2	5	6	1	3	4	5	3	4	4	1	0	2
Nimau	Tongoa	2	4	6	5	3	1	3	3	1	3	1	0	2
Akau	Tongatapu	2	4	6	5	3	1	3	3	3	1	1	0	2
Oahu 236	Oahu	2	6	5	4	3	1	3	1	1	1	1	0	2
Apin	Tanna	6	2	5	3	4	1	3	5	1	3	3	0	3
Apeg	Anatom	2	5	6	4	3	1	3	5	1	3	3	0	3
Palisi	Santo	2	6	5	4	3	1	5	1	2	4	2	0	2
Akau huli	Tongatapu	2	6	4	5	3	1	3	4	3	4	2	0	2
Huli kata loa	Wallis	2	5	4	6	3	1	3	4	3	4	2	0	2
Oahu 241	Oahu	2	5	6	1	4	3	3	3	1	1	2	0	2

1. Kavalactone concentrations ranked by order of decreasing importance in the composition of the roots extract.

2. coded phenotype:

A: 3 = Erect, 5 = Normal, 7 = Prostrate;

C: 1 = Pale green, 2 = Dark, 3 = Green with purple shading, 4 = Purple, 5 = Black;

I: 1 = Uniform, 2 = Mottled, 3 = Speckled, 4 = Striated and mottled;

L: 1 = Pale green, 2 = Dark green, 3 = Purple;

E: 1 = Undulate, 2 = Raised, 3 = Drooping, 4 = Regular;

P: 1 = Present, 0 = Absent;

S: 1 = Short and thick, 2 = Long and thin, 3 = Long and thick

3. Sample received from Unitech, Lae. Plant not described.

*Indicates that the form belongs to the species *Piper wichmannii*.

(According to Lebot and Lévesque, 1988)

Table

Cultiv

Omoa

Rahm

Oahu

Oahu

Oahu

F

Nakas

Kau p

Kau p

Ewo

Yevoe

Malog

Aheyc

Thyei

Merei

Malma

Ume

Isa

Sipaia

Iwi

Ayou

G

Pirime

Tau

Asyaij

Woko

Ahoui

Pualiu

Amor

Biya

Aigen

Ava u

Kiskis

Metok

Oleika

Borog

Borog

Poua

Ava ta

Ava ta

Riki

Big ha

Puarik

Mita

Bumal

Akau

Leka

Small

Fuluft

Table 3, continued.

Cultivar	Origin	Chemotype ¹						Morphotype ²						
		1st	2nd	3rd	4th	5th	6th	A	C	I	L	E	P	S
Omoa	Fatu hiva	2	6	5	4	3	1	3	4	3	1	2	0	2
Rahmwahnger	Pohnpei	2	4	5	6	1	3	3	2	1	2	2	0	2
Oahu 240	Oahu	2	1	4	6	5	3	5	3	3	4	2	0	1
Oahu 238	Oahu	2	5	6	1	4	3	3	4	1	3	2	0	3
Oahu 239	Oahu	2	6	5	4	3	1	3	2	3	3	2	0	3
F														
Nakasara	Emae	2	6	5	4	3	1	5	1	1	2	1	0	2
Kau pel	Baluan	2	5	4	6	1	3	3	4	1	2	1	0	2
Kau pwusi	Baluan	2	5	4	6	1	3	5	5	1	1	1	0	2
Ewo	Tongoa	2	4	5	6	3	1	5	3	1	3	1	0	2
Yevoet	Santo	2	6	4	5	3	1	5	2	4	2	2	0	2
Malogro	Santo	2	5	6	4	3	1	3	1	2	4	2	0	2
Aheyoke	Santo	2	5	6	4	3	1	5	3	2	3	2	1	1
Thyei	Santo	2	5	6	4	3	1	7	2	4	4	2	0	1
Merei	Santo	2	5	6	4	3	1	5	2	1	3	2	0	3
Malmabo	Pentecost	2	5	6	4	3	1	5	1	3	2	1	1	2
Ume	Fly	2	5	6	4	1	3	7	1	1	2	1	1	2
Isa	Usino	2	5	4	6	3	1	7	2	3	1	2	1	2
Sipaia	Morobe	2	5	6	3	4	1	7	2	3	1	2	1	2
Iwi	Madang	2	5	6	4	3	1	7	2	3	1	2	1	2
Ayou	Karkar	2	5	4	6	1	3	7	2	3	1	2	1	2
G														
Pirimerei	Santo	2	5	4	6	3	1	5	3	3	1	2	0	1
Tau	Tongoa	2	4	3	5	6	1	5	1	4	3	2	0	1
Asyaij	Anatom	2	4	6	5	3	1	5	1	1	3	1	0	1
Woko	Santo	2	6	4	5	3	1	3	1	2	2	2	0	2
Ahouia	Tanna	2	4	6	5	3	1	5	1	2	2	2	0	2
Pualiu	Tongoa	2	4	6	5	3	1	5	1	2	2	2	0	2
Amon	Tanna	2	4	6	5	3	1	5	2	3	1	2	0	2
Biya	Anatom	2	4	6	5	3	1	3	1	4	3	2	0	2
Aigen	Tanna	2	4	6	5	3	1	3	1	3	1	1	0	2
Ava ulu	Tutuila	2	4	6	5	3	1	3	1	3	1	1	0	2
Kiskisnian	Tanna	2	4	6	5	1	3	7	1	4	3	1	0	2
Metolei	Tongoa	2	3	4	6	5	1	3	2	1	3	1	0	2
Oleikaro	Tongoa	2	4	6	5	3	1	5	4	4	1	1	0	2
Borogu	Pentecost	2	4	6	5	3	1	3	2	2	3	2	0	3
Borogoru	Maewo	2	4	5	6	1	3	3	2	1	3	2	0	3
Poua	Malekula	2	4	5	3	6	1	3	4	1	3	2	0	3
Ava talo	Savaii	2	4	1	6	5	3	3	2	3	3	2	0	3
Ava talo	Tutuila	2	4	6	5	1	3	3	2	3	3	2	0	3
Riki	Anatom	2	4	5	6	3	1	5	1	3	1	2	0	3
Big hand	Efate	2	4	6	5	3	1	5	1	3	1	2	0	3
Puariki	Tongoa	2	4	6	5	3	1	5	1	3	1	2	0	3
Mita	Tanna	2	4	6	3	5	1	3	1	1	3	1	0	3
Bumalotu	Maewo	2	4	5	6	3	1	5	1	3	2	1	1	2
Akau hina	Vava'u	2	4	6	5	1	3	3	1	3	5	1	1	2
Leka hina	Vava'u	2	6	4	5	3	1	3	1	3	5	1	1	2
Small hand	Efate	2	6	5	4	3	1	5	2	2	3	2	1	2
Fulufulu	Tongatapu	2	4	6	5	3	1	5	1	1	5	1	1	1

Table 3, continued.

Cultivar	Origin	Chemotype ¹						Morphotype ²							
		1st	2nd	3rd	4th	5th	6th	A	C	I	L	E	P	S	
H															
Olitao	Emae	4	2	6	3	5	1	3	5	4	1	1	0	1	
Yag	Aanatom	2	4	6	5	3	1	5	1	2	1	1	0	1	
Tuan	Tanna	2	4	6	5	3	1	5	1	4	3	1	0	2	
Visual	Santo	2	4	6	5	3	1	5	1	4	3	1	0	2	
Palarasul	Santo	2	4	6	3	5	1	5	1	4	3	1	0	2	
Leay	Tanna	2	4	6	3	5	1	7	1	2	3	1	0	2	
Nidinolai	Anatom	2	4	6	5	3	1	3	1	3	1	1	0	2	
Black hand	Efate	2	4	6	3	5	1	5	4	4	1	1	0	2	
Kelai	Epi	4	2	6	1	3	5	5	3	4	1	1	0	2	
Tikiskis	Tanna	2	4	6	5	3	1	7	1	2	3	2	0	2	
Pia	Tanna	4	2	6	1	5	3	3	1	4	3	2	0	2	
Small leaf	Efate	4	2	3	6	1	5	3	1	4	3	2	0	2	
Rongrongwul	Pentecost	2	4	6	3	1	5	7	4	4	2	3	0	2	
Malamala	Tanna	2	4	6	5	1	3	3	2	1	2	2	0	3	
Kar	Santo	2	4	6	5	1	3	3	4	1	3	2	0	3	
Tchap	Anatom	4	2	6	3	1	5	5	2	1	4	2	0	3	
Paama	Tanna	2	4	6	1	5	3	3	2	2	3	2	0	3	
Miela	Emae	4	2	6	3	5	1	3	3	4	1	1	0	3	
Palimet	Emae	4	2	6	3	5	1	3	1	1	3	1	0	3	
Urukara	Santo	4	2	6	3	5	1	3	1	2	4	1	1	2	
Ava lea	Upolu	2	4	6	5	1	3	7	1	3	5	1	1	1	
Ava lea	Tutuila	2	4	6	5	1	3	7	1	3	5	1	1	1	
Ava lea 2	Upolu	6	4	2	5	3	1	7	1	1	5	1	1	1	
Ava samoa	Tutuila	4	2	6	3	1	5	7	1	1	5	1	1	1	
I															
Oahu 237	Oahu	6	4	2	3	5	1	5	1	1	1	1	0	1	
Loa kasa leka	Vanua levu	6	4	3	2	5	1	7	4	3	4	2	0	1	
Loa	Taveuni	6	4	3	2	5	1	7	4	3	4	2	0	1	
Kabra	Taveuni	6	4	3	2	5	1	7	4	3	4	2	0	1	
Leka huli	Tongatapu	6	2	4	5	3	1	7	4	3	4	2	0	1	
Damu	Taveuni	2	4	6	5	1	3	5	3	1	5	2	0	1	
Matakaro	Taveuni	6	2	4	5	3	1	3	3	3	1	1	0	2	
Matakaro balavu	Vita levu	6	4	2	3	5	1	3	3	3	1	1	0	2	
Honolulu	Vanua levu	6	4	2	3	5	1	5	1	1	5	1	0	2	
Business	Taveuni	6	4	1	3	2	5	5	1	1	5	1	0	2	
Loa kasa balavu	Vanua levu	6	4	2	3	1	5	3	4	3	4	2	0	2	
Ava mumu	Savaii	4	6	3	2	5	1	3	4	3	4	2	0	2	
Fataua	Tahiti	6	2	5	4	3	1	5	3	1	1	1	0	2	
Paenoo	Tahiti	2	6	4	5	1	3	3	4	3	1	2	0	2	
Rahdmel	Pohnpei	4	6	2	1	3	5	3	2	3	2	2	0	2	
Gona vula	Viti levu	6	4	3	2	5	1	3	1	2	5	2	0	3	
Dokobana vula	Vanua levu	6	4	2	3	5	1	3	1	2	5	2	0	3	
Qila balavu	Taveuni	6	4	3	2	5	1	3	2	3	3	2	1	2	
Vula kasa balavu	Vanua levu	4	6	2	3	1	5	3	1	3	5	1	1	2	
Ava la'au	Upolu	4	6	2	3	5	1	3	1	3	5	1	1	2	
Vula kasa leka	Vanua lelvu	6	4	3	2	5	1	7	1	3	5	1	1	2	
Ava sa	Savaii	6	4	1	3	2	5	3	2	1	5	1	1	2	

Chemotypes

For the drinker, the beverage can be weak or too strong, according to the method of preparation used, the concentration of active ingredients, and especially according to its composition. *Kava* can be soothing and induce a deep sleep without dreams, or on the contrary, it can fail to produce relaxation and in some cases, will cause nausea. Consumers are well informed of these variations and usually want to know which cultivar is being prepared. Farmers argue that the physiological effect varies according to the cultivar involved.

Kava presents different natural compositions of active ingredients having different properties. The physiological effect of the beverage prepared from a particular cultivar is governed by its dominant kavalactone concentration. Extraction of these substances from the roots and quantitative isolation by using high-performance liquid chromatography (Lebot and Lévesque 1989) showed that the six major kavalactones accounted for more than 96 percent of the whole extract. The six major kavalactones are: DMY = demethoxyyangonin (1), DHK = dihydrokavain (2), Y = yangonin (3), K = kavain (4), DHM = dihydromethysticin (5), and M = methysticin (6). These six active substances with different individual physiological properties therefore produce a natural "cocktail" which will itself produce a different effect according to the composition of the mixture.

In order to appreciate these differences, these compositions were coded in a decreasing order to the proportion of each lactone in the extract and this coded description is called the chemotype. For example, if the chemotype of a cultivar is 521364 this indicates that kavalactone number 5 (dihydromethysticin) is the most important, that kavalactone number 2 (dihydrokavain) is the second most important and so on (see Table 3). Of course; chemotype 521634 will produce an effect quite different from that of chemotype 625431. In the code, the first three kavalactones often represent over 70 percent of the overall total; they are therefore the ones most important in characterizing the chemotype. In some cases the percentages of the major kavalactones, are very close (22, 25, and 23 percent, for example). What is then more important is the fact that they occupy the first three positions rather than their exact rank (642... instead of 426..., for example).

When different cultivars are planted on the same day in the same plot they produce different chemotypes. This would indicate that the variability in chemical composition and total kavalactone content is related to genotype more than to environmental factors. In fact, the trials conducted in Vanuatu between 1984 and 1986 only confirmed the phenomenon elucidated by ethnobotanical studies (Lebot and Cabalion 1986), where farmers reported that different cultivars uprooted from the same garden on the same day produced different effects. Several trials were conducted to evaluate the scope of variations of these preliminary results. When clones are planted the same day and harvested the same day, the results show that kavalactone content and chemotype are very homogenous among the clone. In other words, farmers have a high probability of preserving the same physiological effect by cloning the mother plant. Kavalactone content is not related to ontogeny. The cultivar's total kavalactone content is maximized after 18 months and its level remains unchanged during the growth of the plant while the

yield in dry matter, of course, continues to increase year after year. Results of several trials conducted on two islands suggested that chemotypes were not related to ontogeny or environment (Lebot and Lévesque 1989).

This was an attempt to approach a major ethnobotanical problem using modern, high-efficiency, analytical techniques. When these results are compared to those obtained from ethnobotanical studies, a definite correlation is observed between a specific chemotype and the traditional uses of the cultivars. Correlations with ethnobotanical data show that drinkers do not appreciate a high percentage of DHM (5) and DHK (2). For example, chemotype 521634 is rarely consumed and farmers observe that its physiological effect is too severe to allow daily consumption because, when imbibed, an unpleasant nausea is felt. This is due to the very high proportion of the two most active kavalactones, DHK (2) and DHM (5), in the beverage (Hänsel 1968). On the other hand, the most appreciated chemotypes have a high percentage of K (4) and a low percentage of DHM (5). It is not surprising that these chemotypes yield a pleasant effect, considering the high percentage of kavain.

Kretzschmar (1970) described the "excellent psychopharmacological activity" of kavain: "emotional and muscular relaxation, stabilization of feelings and stimulation of the ability to think and act." On the other hand, the wild species, *P. wichmannii* C. DC., has very high concentrations of DHK (2) and DHM (5), in some cases representing more than 60 percent of the total extract (Lebot and Lévesque 1989). Because the selection is made each time an individual plant is uprooted, and after the farmer has experimented with the effect, it is thought that the domestication process could be portrayed as a process of clone selection. This genealogy of clones, from the wild species to the cultivars, is a lineage of chemotypes.

The aim was to demonstrate the importance of using the standard approach to characterizing chemotypes, and also to identify chemotaxonomic signatures assigned to all cultivars existing in the Pacific. This would help to identify cultivars within the Pacific islands and would help answer questions about human migrations throughout the area.

Dispersal of Cultivars

From the information yielded from our previous study (Lebot and Cabalion 1986; Lebot and Lévesque 1989), it is possible to assume that the origin and domestication area of *P. methysticum* is the northern part of Vanuatu. From this area, Polynesian travellers could have spread cultivars to other islands.

These cultivars are so polymorphic, however, that it is important to associate both chemotypes and morphotypes to accurately identify clones collected from different islands and known locally under different vernacular names. An attempt to classify 122 clones originating from 29 Pacific islands is presented in Table 3. The aim of such a classification is to produce convars, or groups of related cultivars, based on morphotypic and chemotypic affinities. The chemical data, coupled with the morphological descriptors, lead to the following conclusions:

Morphotypes of *P. wichmannii* scattered between the Admiralty Islands, in Papua New Guinea, and the Shepherd group in Vanuatu, are quite close to each

other. However, their chemotypes vary greatly. Forms from Baluan, Morobe, and Guadalcanal are identical, although the one from Baluan is cultivated whereas the other two are wild. The wild form originating from Karkar Island presents a chemotype (215634) which is very similar to the one spread between the Banks and Shepherd groups in Vanuatu (521634). In Vanuatu, *P. wichmannii* presents chemotypes which are closer to those of *P. methysticum* than to the wild forms of *P. wichmannii* occurring in other Melanesian islands (526431 for *Tabal* and *Tangurlava*). The numerous cultivars of *P. methysticum* existing may have arisen following mutations of seeded forms, hybridization of seeded variants of *P. wichmannii*, vegetative mutation with human selection of somatic mutants, or most certainly, by a combination of these ways. The creation of new cultivars by bud mutation (somatic cells) is a real possibility that occurs quite frequently in species exclusively asexually propagated. Selection must have taken place in order to preserve new cultivars as they appeared, and because individual uprooting of *kava* allows selection for the sole purpose of improving those chemical characteristics which are useful to human. Due to the occurrence and variability of seeded forms of *P. wichmannii* and, since dioecious species produce highly heterogenous progenies, it is likely that seeded forms showing valuable chemotypes were cloned by drinkers in order to preserve them. If these hypotheses are correct, this domestication process would have taken place in Melanesia because *P. wichmannii* does not exist in Polynesia.

Cultivars with chemotypes presenting high proportions of DHK (2) and DHM (5) are restricted to Melanesia. Cultivars with the most interesting chemotypes for the drinkers (e.g., 426 . . . or 642 . . .) are widespread in Polynesia. On the basis of these observations, it may be inferred that in Melanesia and in Vanuatu, especially, the whole *in situ* collections of the different clones produced from the domestication process of *P. wichmannii* are preserved. When Polynesian travellers came to collect their cultivars, they selected the most interesting clones and did not spread those with "wild characters" (e.g., 521634) to Polynesia.

Piper methysticum is represented by only one cultivar in the northern part of New Guinea (Usino, Morobe, Madang, and Karkar), yet it is not possible to trace this cultivar elsewhere. On the other hand, the only cultivar existing in the Western Province (Fly River area) seems to be closely related to *Malmalbo*, a cultivar originating from Pentecost, in Vanuatu. The two cultivars of *P. methysticum* grown on Baluan (Admiralty Islands) are also closely related to cultivars originating from the Shepherd group in Vanuatu.

In Polynesia, it is easier to associate these cultivars, even if great distances separate them. For example, cultivar *Omoa* collected in the Marquesas seems to be related to *Oahu 241* from Hawaii. Similar observations can be made for other cultivars (e.g., *Aigen* from the island of Tanna, southern Vanuatu, is identical to *Ava ulu* from the island of Tutuila, American Samoa). Although a local myth suggests that *kava* came to Tanna from Tonga, the most likely agents of introduction are the Polynesians from the small islands of Aniwa and Futuna. They speak a language which, according to some linguists (Clark 1979), is related to Samoan. In central Polynesia, and between Fiji and Tonga, Wallis or Samoa, it is obvious that an exchange of planting material has taken place, based on the number of common characters shared by morphotypes and chemotypes of this area.

Revival of a Traditional Beverage

These observations confirm the hypothesis formulated previously and there is now very strong grounds for saying that *kava* drinking had a single point of origin. *Kava* is a sterile plant, the cultivars of which are the result of human selection and propagation. The linguistic affinities or the occurrence, in most of the areas of consumption, of words for *kava* that are cognates support this view. Its consumption throughout the Pacific is therefore the consequence of the diffusion by Polynesian travellers of the planting material and the knowledge of the preparation of the beverage. The sterility of cultivars of *P. methysticum* causes *kava* to die out if its cultivation is abandoned, as can be observed in most parts of Polynesia. Within its area of origin, Melanesia, are the Solomon Islands where *kava* does not exist. A very clear boundary running through the Santa Cruz Islands separates one area where the species does not occur and another where domestication and diversification have probably taken place. Very few species could have undergone such a surprising distribution within their area of origin.

The Pacific islanders have been cultivating *kava* for centuries. This plant enjoys great cultural standing and is held in high esteem. It is grown primarily to fulfil a social role, but is rapidly becoming a highly motivating cash crop. It is also the only species used in traditional Oceanic pharmacopoeia that has reached a stage of industrial development in Western laboratories. Its natural extract is now sold in Europe in tablet form and it has potential for wider use. In the Western world natural products are becoming increasingly fashionable. Both Europeans and Americans are using more and more tranquilizers to fight the permanent aggression surrounding their way of life. The odds are good that they would turn to *kava*, a natural product, instead of their daily synthetic soporifics, if they had the chance. As regards its export potential, *kava* rates as a drink and as a medicinal plant. Its potential is promising, especially now that the problem of the active ingredients' variability and composition is solved. Selection of suitable chemotypes for well-identified markets is realistic and feasible.

Kava opens up several research avenues. Few plants can attract such a wide range of interest. For linguists, *kava* helps trace the migrations of Oceanic peoples. For the sociologist, it is the catalyst for a convivial event at an impressive scale and of much potential. For the anthropologist, there are numerous rites, magic acts, stories, and legends. Botanists cannot fail to be intrigued by the definition of the species, by the plant's inability to reproduce sexually, and by its dependence on humans. For geneticists, interest lies in the variability of morphotypes and chemotypes and on their correlation. The agronomist will see in *kava* an under-exploited crop perfectly suited to the traditional agricultural system of Pacific islanders. For development officers, *kava* cultivation is a way of generating surpluses, difficult to find in countries which do not control the prices of their export commodities.

Aitker
Ashby
Baker
Barrat
Beagle
Bonne
Bouga
Brown
Brunto
Clark
Cox, P
Crawf
Cuzer
Deger
De Le
Duve,
Duve,
Ferdor
Firth,
Fornar
Forster
Gaillo
Garang
Gatty,
Glassn
Guillau
Handy
Handy

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In three views on the modern Hawaiian 'awa ceremony

by Jeff Clark
When you tackle an all-encompassing subject like "culture," you realize there are a lot of different opinions. Take 'awa, for example. Botanist Isabella Aiona Abbott says, in *Lā'au Hawai'i* that 'awa was once the most frequently used plant in religious ceremony. David Malo, writing in *Hawaiian Antiquities*, first published in 1903, said that by the turn of the century the use of 'awa had diminished: "Awa was the intoxicating drink of the Hawaiians in old times; but in modern times many new intoxicants have been introduced from foreign lands, as rum, brandy, gin."

What follows is the mana'o of both say they learned the 'awa ceremony from their kūpuna. However, OHA Trustee Kamaki Kanahele has been outspoken in his criticism of the modern-day 'awa ceremony as being untraditional. "It is almost like they're making it up as they go along." "In traditional Hawaiian culture, there was no such thing as a formal 'awa ceremony. The formal 'awa ceremony with a specific protocol simply did not exist in ancient Hawai'i," according to trustee Kamaki Kanahele, chair of OHA's education and culture committee. "So any 'awa ceremony that you see today is a modern and contemporary expression, and it is almost like they're making it up as they go along."

In old Hawai'i, 'awa was taken for religious purposes by priests in an enclosure either at a kahuna's house, on a heiau or within temple grounds, Kanahele said. "It was done in the privacy of the temple, but not in a formal public setting... That is not part of Hawaiian culture," Kanahele also said ali'i may have enjoyed 'awa among themselves, but he called the current use of 'awa in a public ceremony by members of different Hawaiian classes "a con- tradition of culture" because the classes did not associate in ancient Hawai'i.

"The ceremonies that we see today seem to be an offshoot and a mixture of Samoan, Tonga, and



Sam Kaai, practitioner of the Hawaiian 'awa ceremony, blows his pū during centennial events last January.

Photo by Jeff Clark

Fijian culture," in which the practitioners pick and choose elements of each and incorporate them into something new. Kanahele said in those cultures, especially Tongan, the ceremony is a beautiful, "classical" affair.

Kanahele said it makes him "absolutely uncomfortable" that the ceremony is becoming a permanent fixture when Hawaiians gather for formal culture occasions.

What bothers him is that when culture is practiced in what he calls a "freestyle" manner, the new style is taken for "traditional" and the genuine traditions are more easily lost, or, as the case may be, completely obliterated.

"I do it because I've done it for my grandmother and grandfather."

Parley Kanaka'ole said there are specific prayers said when performing the ceremony for specific occasions, but that he was taught the basic structure of the 'awa ceremony from his grandfather and grandmother.

"As far as 'awa is concerned, there are a lot of personal artistic kinds of things that one does. And there are two kinds of Hawaiian 'awa ceremonies that are done today: one that was introduced by Sam Kaai, and

God bless him, he's been very adamant in doing it and that has brought back the 'awa ceremony... and one done by myself.

Kanaka'ole says there are a lot of differences between the two. "In mine there are a lot of Hawaiian values that go with it... a lot of symbolism. The cup is symbolic of the god Lono. The ceremony is symbolic in that you can use it for the altar of Kana'loa."

He conducts ceremonies in which the 'awa is distributed according to rank of importance by genealogy, seniority in politics or seniority in family line. "There's symbolism in the preparation of the 'awa whereas you always recognize the son of a father; if both of them are there you have the son honor his father with the chewing of the 'awa. Those kinds of symbolisms are quote-unquote culturally Hawaiian and I'm sure it is also recognized that way in other South Pacific islands. Other than our own, I only know the Samoan way of doing 'awa. I do it because I've done it for my grandmother and grandfather, and so I kind of use the same format."



Kamaki Kanahele

have the son honor his father with the chewing of the 'awa. Those kinds of symbolisms are quote-unquote culturally Hawaiian and I'm sure it is also recognized that way in other South Pacific islands. Other than our own, I only know the Samoan way of doing 'awa. I do it because I've done it for my grandmother and grandfather, and so I kind of use the same format."

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'Awa

continued from page 12

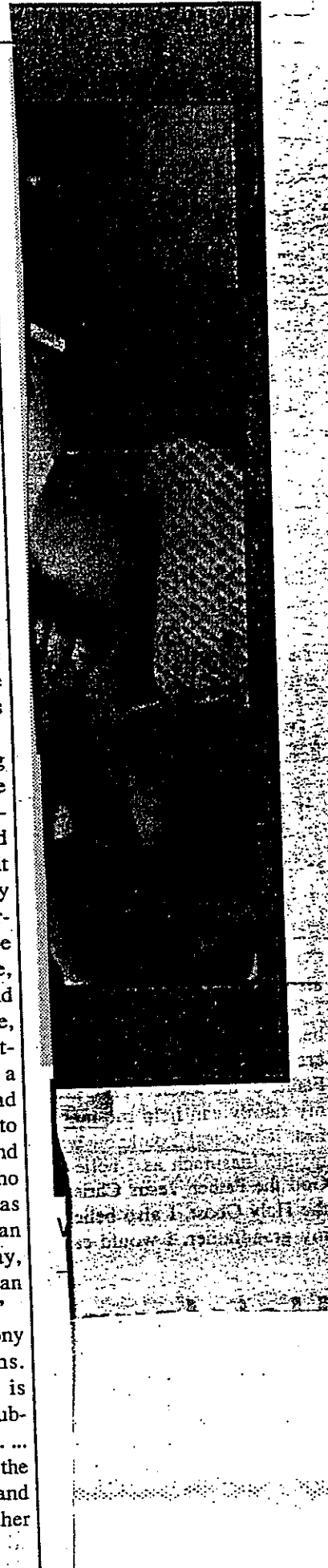
"Let us say today there is enough courage to do it in public."

Kaai talks of different echelons of the 'awa ceremony, which begin with private gatherings honoring the head of a household and gain in intensity to the highest levels; which are part of secret, sacred temple business. The higher the echelon of the ceremony, the more formal the procedures are, and the larger the kānoa. The kānoa, ceremonial 'awa bowls made of Hawaiian kamani wood, are named and have rank.

Kaai learned the 'awa ceremony from his kūpuna in the Kaupō area of Maui, and he doesn't seem to let his critics rankle him.

"There are rumors flying around in Honolulu, and maybe that's what prompted this article, that when Sam Kaai did 'awa for Hōkūle'a they called it a Tongan 'awa. The reason they did that was the regional servant to the family of the canoe was ... Herb Kawainui Kane, and he brought a large tapa, and had everybody sit on its edge, and he served from an eight-legged, large bowl. And so as a servant coming in the second place, not in the first, I had to honor that shape and form. And so for a long time, people who were not aware of what was happening in the Polynesian Voyaging Society, would say, 'Oh, they're doing a Tongan ceremony. This is ignorance.'"

The Hawaiian 'awa ceremony is not new, Kaai maintains. "Let us say today there is enough courage to do it in public, but it always was with us. ... It's not a big deal, it's just the song that my father sang, and his father sang, and his father sang."



The discussion continues ...

Kane: Hawaiians did have tradi

Editor's note: This commentary was sent to Ka Wai Ola O OHA in response to "Three Views on the Modern Hawaiian 'Awa Ceremony," which ran in the August 1993 issue.

by Herb Kawainui Kane

Contrary to the statement by Kamaki Kanahale, as quoted by Jeff Clark in the August *Ka Wai Ola* Hawaiians did have a traditional 'awa ceremony.

The fateful battle of Moku'ōhai was initiated by an insult—an unforgivable breach of protocol in an 'awa ceremony. In 1782, at Kealahakua Bay, the young Kamehameha received a visit from Kiwala'ō, hereditary ruler of Hawai'i Island. Kiwala'ō, perceiving Kamehameha as a growing threat, hoped to lure this upstart chief into a battle and destroy him before he could grow any stronger.

As an act of respect, Kamehameha prepared the 'awa himself. But when he passed a bowl to Kiwala'ō, Kiwala'ō did not accept it, but passed it to someone of lower rank. In this way, and without a word spoken, the insult was given, and the two sides withdrew and prepared for war.

But in the battle Kiwala'ō was killed and his forces routed, and Kamehameha began his long climb to supremacy.

Here is historical proof that a

formal 'awa ceremony existed in traditional Hawaiian culture. The breaking of such formalities started a chain of events that ultimately resulted in the establishment of the Kingdom of Hawai'i.

There's more. The Cook Expedition described British observations of the formalities of an 'awa ceremony as the preliminary to every meal of an ali'i (Cook and King, 1784,3:161). This is also found in *Kingship and Sacrifice* (Valerio Valeri, 1985, p. 125):

"Whilst the ava (sic) is chewing, of which they always drink before they begin their repast, the person of the highest rank takes the lead in a sort of hymn [chant] in which he is presently joined by one, two, or more of the company; the rest moving their bodies, and striking their hands gently together in concert with the singers. When the ava is ready, cups of it are handed about to those who do not join in the song, which they keep in their hands until it is ended; when, uniting in one loud response, they drink of their cup. The performers of the hymn are then served with ava, who drink it after a repetition of the same ceremony; and, if there be present one of a very superior rank, a cup is last of all, presented to him, which, after chanting some time alone, and being answered by the rest, and pouring a little out on the ground [pre-

sumably as an offering], he drinks off. A piece of the flesh that is dressed, is next cut off without any selection of the part of the animal; which, together with some vegetables, being deposited at the foot of the image of the Eatooa [akua], and a hymn chanted, their meal commences. A ceremony of much the same kind is performed by the Chiefs, whenever they drink ava between their meals."

Kamaki Kanahale is correct in asserting that we do not have an exact record of the chants by which such ceremonies were practiced. However, Sam Kaai and Parley Kanaka'ole are also correct in observing the basic protocol of these ceremonies as these have been passed down to them orally over the generations, and as corroborated by similar formalities in the ceremonial use of 'awa in other Polynesian cultures—the host prepares the 'awa, and the 'awa is served to guests with some recognition of rank in the order of serving.

Kaai is correct in stating that he did not initiate the 'awa ceremony at the 1975 launching of Hōkūle'a. This ceremony was offered to us as a gift from a hānai member of the royal family of Tonga, including the use of the largest *lanoa* (kūmala, or bowl) in existence, and there was no pretense about it being Hawaiian. We felt honored by the offer. To decline would have appeared ungracious. Moreover, the idea appealed to the cultural purpose of Hōkūle'a as an instrument that might help bring all Polynesians closer together—an active symbol of a shared ancestry. Kaai's involvement was to serve as the cup bearer at my request.

Traditions normally include many authentic variations. Differences in ceremonies conducted by Sam Kaai and Parley Kanaka'ole are simply procedural variations of the same concept.



ional 'awa ceremony

Such variations surely existed in pre-contact Hawai'i, depending on the ceremonial or social purpose as well as on local and family customs, just as there were variations from place to place in the performance of hula or in the patterning of kapa. There was a wide range of uses of 'awa, from the simple farmer chewing it, along with a piece of sugar cane, to ease the pain in his body after a hard day's work to its use in lengthy, complicated religious ceremonies within the walls of the great luakini heiau—ceremonies known only to a privileged few, and we may assume that there was also a wide range of customs associated with its many uses.

Precise knowledge of the formalities involved in certain 'awa ceremonies was lost with the 1819 abandonment of the state religion, and with such foreign influences as missionary condemnation of its use, and the introduction of distilled spirits. Government control by licensing also contributed to the decline.

All cultures must continually adapt to changes if they are to survive. Considering the devastation brought upon them, the most astonishing fact about the Hawaiian people is that they survived at all. Some adaptations are forced by changes in the conditions in which a people must live. Preparing 'awa by chewing the root was not at all repugnant. Polynesians who knew of no diseases communicable by mouth, but with the introduction of foreign diseases the preparation by pounding or grinding the root became a necessary adaptation. And, whereas some ceremonies in the old culture were only for the male ali'i, we now are brought up to a sense of fairness and equality, respecting the ideal of democracy in which no person of good will should be excluded on the basis of sex or class. In the

'awa ceremony as practiced today, we see how the Hawaiian culture has been resilient to change.

Today's 'awa traditions have been necessarily modified, but they remain *distinctively* Hawaiian, because they are firmly connected to Hawaiian cultural roots. What is distinctively Hawaiian is not always easy to explain. Most kama'aina can immediately distinguish music composed by an expert in the musical tradition from a malihini's "Hawaiian song" which lacks the Hawaiian cultural nuances, but these nuances cannot be described in words.

As our culture changes, there is always the need for informed criticism to keep innovations firmly connected to our cultural roots. And we must always have those dedicated cultural practitioners whose innovations form the living, growing edge of the culture and thereby keep it alive.

We may also be experiencing the dawn of a new (or simply rediscovered) "Pan-Polynesian" cultural development as a result of the increasing frequency of cultural exchanges among all Polynesians. When meetings occur between Hawaiians, Tahitians, Maori, or Western Polynesians, much enjoyment is derived from exploring the astonishing similarities within the basics of their respective languages, customs and traditions. From such similarities, bridges of communication and bonds of mutuality and friendship are being created; out of these will grow cultural traditions that will be understood by all Polynesians. The Hawaiian 'awa ceremony as interpreted by Kaai and Kanaka'ole, because they express the fundamentals universal to the Polynesian concept of good manners, may be counted among these traditions.

Forenander

HISTORY OF THE AWA.

THIS plant is plentiful in Hawaii nei, and perhaps in other lands also; it is large underneath, and it has branches which are jointed like the sugar-cane; it has large leaves, though there are some with small leaves.

WHERE THE AWA¹ IS FOUND.

It is said that this plant was brought from Kahiki by Oilikukaheana. He brought it for fishing² plant. When he came and landed at Kauai, he saw a beautiful woman, Kamaile; she became his wife, and the plants were cared for by her. Afterwards she threw them away and they grew at Waialeale. Some were pulled up by Moikeha and brought by him from Kauai; and without his knowing the kinds of plants they were, he planted them at Halawa, on Oahu. When Moikeha saw that the plants grew he went and told the owner of them, Oilikukaheana, who said the name was Paholei. Moikeha waited until the plants grew large, and because he had forgotten the name, he went to Ewa. This was the time when Ewa and Halawa were living³ separately; Halawa was not available to every one, hence the saying: "Halawa is not to be seen; 'tis a land at the end of Ewa," etc.

He went to Ewa, and she told him to go and get the plant. So he went for some, and found that the roots had grown large. So he pulled up the plants, roots

¹Olona, Hawaiian hemp (*Touchardia latifolia*), a fiber highly prized for tenacity and durability.—Hillebrand's *Hawaiian Flora*.

²Awa (*Piper methysticum*), the intoxicating plant throughout Polynesia.

³Tradition shows it to be a favorite with sharks at the hands of kahunas.

⁴This living separately may refer to a time prior to Halawa's becoming a part of the district of Ewa.

and leaves, and brought them to Ewa. Ewa said: "Let me first eat of this plant, and should I die, do not plant it, for it would be valueless; but should I not die, then we will be rich." When Ewa ate it she became drunk and was intoxicated all day. When she awoke she called the plant "*awa*"; from thence forward this plant was called *awa*, the *awa* of Kaumakaeha, the chief.

There are many other places mentioned as to where *awa* came from. It is said that birds brought it and planted it in the forests of Puna, Hawaii. Others say that a son of Hiilei brought it. But this is what I have been told by friends as to the origin of the *awa*.

HOW IT IS PROPAGATED.

It is said that the *awa* is propagated from the joints, that is, the branches; it is pressed down and weighted with a stone until the rootlets develop; then it is taken to where it is desired to be planted. Again, when the *awa* roots are being dug up, that is, when it is pulled, the branches are chopped up and thrown back into the holes from which the roots have been taken, then covered over with soil, and when the sprouts appear, called *Nihopuaa*,⁴ they are taken and planted. The method of planting that I have seen is the same as that followed in the planting of cane.

NAMES OF VARIOUS AWA.

Papa, *Makēa*, *Mokihana*: these have white branches and large leaves. Should the *Papa* be planted it would produce *Papa* and the root *Moi*; these have black skin on their branches. There is also the *awa* root *Hiwa*. These are the principal kinds that I have learned of.

VALUE OF AWA ROOT, THE PART FROM WHICH THE BRANCHES SPROUT.

Awa was a valuable article in the olden time; a great deal of it was bought by the people for drinking and for medicinal purposes. This is what is done if for a sick person: it is used as a medicine together with a black pig for its accompaniment. *Awa* is chewed and placed in a container, and when there is sufficient it is mixed and strained and poured into the cups; then the priest⁵ prays to the guardian spirit, sprinkling some *awa* for them. Then drink of the *awa*, and eat of the fat pig. This will cause one to see things hazily⁶ at night, and to sleep heavily during the day. So it is with those who are possessed by the gods. When the god comes on a visit and sits⁷ on one, *awa* is quickly gotten ready for the deity; it is hastily chewed, prepared and drank up. And every time the god visits the same process is gone through until one gets inflamed; and when you see some one blear-eyed it reminds you of the following saying: "Inflamed! Inflamed! First go down to Piheka. What food will you have to eat? *Awa*."

Again, if you have sinned against your guardian spirit, with the root of the

⁴*Nihopuaa*, lit., hog's tusk, probably from a resemblance in the sprouts.

⁵This relates one of the ceremonies of a sorcerer-priest.

⁶Drunk with *awa*.

⁷This is the *Akua noho* of the sorcerer.

mu o ka lau, ku ana imua o Ewa, a olelo aku o Ewa: "E ai mua au i keia laau a i make au, alaila, mai kanu oe aohe waiwai, aka ina aole au e make, alaila, waiwai kaua." I ka ai ana a ua o Ewa, ona iho la ia a po ka la, alā mai la ia a kapa mai la i ka inoa he awa, mailaila mai ke kapaia ana o keia lau he awa, o ka awa a Kaumakaeha, ke 'lii. He nui aku no na wahi i olelo ia no kahi i loaia mai ai ka awa; ua olelo ia he mau manu ka mea nana i lawe mai a kanu ia ma ka nahelehele o Puna, ma Hawaii. O kekahi, he keiki pono no na Hiilei, o na wahi wehewehe no ia i loaia ia'u no kahi i loaia ai ka awa, mai na hoa mai.

O KONA WAHI E ULU AI.

Ua olelo ia o kona wahi e ulu ai oia ka aka, oia hoi ka lala, aia a kakiwi ia a kaomi ia me ka pohaku, a kolo ke a-a, alaila lawe e kanu i kau wahi e makemake ai, a o kekahi i ka wa e ka ia ai ka awa oia hoi ka uhuki ana, poke ae no i ka lala a hoolei iho iloko o ka lua o ka puawa i huhuki ia ae ai, a kanu apaa, a omaka ae, ua kapaia ua omaka he nihopuaa," alaila lawe e kanu. O ke kanu ana a'u i ike he like me ke kanu ana o ke ko.

NA INOA O NA AWA.

Papa, makea, mokihana; he keokeo ko lakou mau lala, he nunui ka lau. A ina e kanu ia ka papa, puka mai he papa ame ka puawa moi, he eleele ka ili o waho o kona mau lala. He puawa hiwa, na puawa ano nui iho la no ia i loaia ia'u.

Ka waiwai o ka puawa; oia hoi kahi i ulu mai ai na lala. He nui na waiwai o keia mea i ka wa kahiko, he mea kuai nui ia e na kanaka, i mea inu, i mea lapaau mai. Penei e hana ai ina he mea mai, o ka laau iholā no keia ame ka puāa hiwa, i loaia ka pu-pu o ka awa; e mama a loko o ke kanoa, a nui a hoka, oia ke kalana ana ae i na oka awa oloko, apau ia hoo-hee aku iloko o na apu, alaila, pule aku ke kahuna i na aumakua a pi aku i kekahi awa no lakou, o ka wala aku la no ia, hoonuu mai na poke puāa ae, hoonoenoe kela i ka po, loaia ka mea e kunewa ai i ke ao. Pela no hoi ka poe hoonohonoho akua, ina e hoi mai ke akua a noho iluna kena koke i awa i ai na ke akua; o ka mama iho la no ia o ka awa inu aku la apau, pela aku ana no, hele ia a ukolekole, nana aku oe makole launa ole, ka mea hoi i olelo ia:

"Makole! Makole! Akahi hele i kai o Piheka, heaha ka ai e ai ai, he awa."

Pela no hoi, ina ua hewa oe i kou akua me kahi huluhulu awa e kala ai i ka he-

awa you could be forgiven;⁸ then the anger of the guardian spirit would be appeased. If you have a house to move into do not forget the awa root. The awa drinkers desired their skin to be rough just as if they had been daubed over with poi and it had dried; it then becomes: "Stained is the white, the dark (black) has won."

Again, if one has sworn not to talk to another, and later they wish to make up, they must use some awa root. There are other things where awa root is needed and used. Another thing, it is not proper to eat food before drinking the awa; drink the awa first, then eat the food; then one becomes intoxicated.

Awa root is one of the valuable things sold in our kingdom. You can see the quarters disappearing frequently evening after evening, to secure that which would cause profound sleep at night.

THE VALUE OF THE LEAVES.

The leaves are large and flat, somewhat like those of other plants. Here is the value: when one is sick, spread the leaves underneath and lay the patient on them, and the illness will disappear, provided it is such as can be cured by that medicine.

PLACES FAMOUS ON ACCOUNT OF THIS PLANT.

At Kamaile, Kauai; at Halawa, Oahu; at Maui are the awa roots of Eleio, but I do not know where they grow; at Puna, Hawaii, if I mistake not; whereat on Molo-kai, I do not know. Another famous place is Hakipuu, Oahu, at a place called Hena; there is located a stone awa container and a stone awa cup. A man named Kapuna went there and drank some awa; and when he came home he was drunk and went to sleep, and died from the intoxication of the awa; and where he died there appeared two ridges; the ridges were joined at some place; those were the legs; there is also a small hill at the place; that was the head of the man. That place is known as Kapuna; this place is mauka of Hakipuu, Oahu. This place is also called Hena, where the awa is noted for its intoxicating quality.

This is what I have gleaned from friends through inquiry.

JOHN MANA.

wa, alaila na ka huhu o ke akua, pela no hoi ina he komo hale aole e haule kahi hulu-hulu awa, hele ia a me he kanaka ala i hamo ia owaho o ka ili i ka poi ka hele a nakakaka, ka ka poe inu awa mea makemake loa ihola ia, i hele ia a: "Hapala ke ke-a, na ka ele ka ai."

A o kekahi; ina ua hoohiki kekahi me kekahi aole laua e ike, aia a makemake laua e ike, me ka puawa alaila ike, ame ke kahi mau mea e ae no, me kahi huluhulu awa no e pono ai. Eia kekahi, aole e pono e ai e mamua o ka wa e inu ai i ka awa, o ona ole ka oia, a pau ka awa i ka inu alaila ai ka ai, alaila ona.

O ka puawa nohoi kekahi mea waiwai e kuai ia nei ma ko kakou aupuni nei. Nana aku oe o ka oiliili mau no ia o na wahi hapaha, i kela ahiahi keia ahiahi, i loaia mea hoomoemoe o ka po.

KA WAIWAI O KA LAU.

O ka lau he palahalaha nunui, ane like no me kekahi mau laau e ae, eia ka waiwai o ua lau nei; aia a hiki i ka wa mai, haliilii ia ka lau malalo alaila moe iho maluna, e ola no i na no o ka mai kupoia ia laau.

NA WAHI PANA NO KEIA LAU.

Aia ma Kamaile i Kauai, ma Halawa i Oahu, ma Maui nei o na puawa a Eleio, aole nae au i ike i kahi i ulu ai; ma Hawaii, Puna, ke ole nae au e kuhihewa, ko Moloai aole i maopopo ia'u. Aia no ia wahi pana ma Hakipuu, ma Oahu, o Hena ka loa, aia no malaila he kanoa pohaku, he apu pohaku, a i ka hele ana o kekahi kanaka, o Kapuna kona inoa; a inu i ka awa, a i kona hoi ana, ona ia a moe a make loa i ka a o ka awa, a i kona make ana malaila, kualapa ihola malaila elua kualapa ua hui ma kekahi wahi; oia ka na uha, a he puu uuku kahi malaila, a oia ka ke poo o ua kanaka i; kapa ia ia wahi o Kapuna, aia ma uka o Hakipuu i Oahu. Kapaia ai keia wahi Hena, kahi o ka awa ona.

O kahi mea iho la no ia i loaia'u, ame ka ninaninau ana aku i na hoa.

JOHN MANA.

The Works of the People of Old

Na Hana a ka Po'e Kahiko

By Samuel Manaiakalani Kamakau

Translated from the Newspaper Ke Au 'Oko'a

By Mary Kawena Pukui

Arranged and edited

By Dorothy B. Barrère

1976

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THE CULTIVATION OF 'AWA

'Awa was one of the choice foods of the planter. 'Awa is a handsome plant, with nicely rounded leaves and stems and shiny jointed sections like the short rounded sections of the red *papa'a* sugar cane. The low-growing *papa 'ele'ele* and *papa kea* varieties of 'awa grow to be very handsome and decorative; the stems of the *hiwa* and the *mo'i* varieties grow straight up, with sections like those of the *honua'ula* sugar cane; the *makea* has dark green stems like the bamboo, and the *mokihana* stems grow thickly, like a clump of bamboo growing in a sunny place. These are some kinds of 'awa.²¹

'Awa grows well on lands with plenty of rain, and on warm lands. It grows in gravelly soil where there is water seepage and in wooded places where the *kukae'pua'a* grass and the 'ama'u ferns grow. From of old there are places made famous by the intoxicating quality of their 'awa, such as Ko'uko'u on Kauai, Hena on Oahu, Lanakila on Maui, and Puna on Hawaii. In places where *wauke* and dry taro are planted, 'awa may also be planted. These plantings, together with those of bananas and sugar canes, were the pride of the farmer. In the old days, there were some 'awa fields, but most of the 'awa was planted on the borders of taro or *wauke* fields.

To plant 'awa, the planter first went to fetch stems and broke off a quantity of them. He carried them on his shoulder to a suitable place, where he broke them into sections, being careful not to break off the nodes on the joints, and laid them in a trench in a compost of muck and trash. He cut a lot of greenery (*pulu*) for mulch, and left these grasses until they had

dried, then mixed them with soil. Then he fetched the stems which had been laid in the trench. Some of them had sprouted "ears" (*pepeiao*; stipules), some had sprouted leaves, and some, fine roots. The farmer took them and planted them in the mulch, along with some plants that had been ground-layered before. When the root portion, the *pu'awa*, of the plant was big, the farmer layered the stems. By the time the *pu'awa* got very big, the layerings had put out new *pu'awa*, and when the first *pu'awa* matured, the layerings also matured. If the farmer wanted to keep the main *pu'awa*, then he pulled up only the layered plants. That is how *'awa* was cultivated. It takes from two to three years for *'awa* to mature, and it will keep on growing for many years and be a bequest to one's descendants.

'Awa was good for a farmer when he was weary and sore after laboring day and night, and for the fisherman who had been diving, paddling, pulling, and stooping with his head down, until his thighs and buttocks were chafed from rubbing on the edge of a canoe. He went ashore, and in the evening the *'awa* was prepared for the fisherman.

The *'awa* was chewed and the *kanoa* bowl filled. Then the heads of *kahala*, *uku*, *mokule'ia* and *uhua* fishes, and the *kumu* and *'opule lauli* fishes which had been wrapped in ti leaves and cooked were taken out of the *imu* and laid on the eating mat. A bunch of dead-ripe bananas, sections of sugar cane just on the point of souring, sweet potatoes ridged in shape and deep red in color, were all ready at the eating place. Then the *'awa* was strained through fibers. Water was added, and the *'awa* stirred (*kuakuai*); the dregs gathered up in the straining fibers (*mau'u 'uwi*) and squeezed until there were no dregs left, then the drinking cup, *'apu*, was made ready and the *'awa* poured in. When the cup was filled, a prayer was offered with gladness—for the afflictions and the blessings received from the gods, and for their help to their offspring in this world and in the bright world beyond. The after-drink of *noni* juice and water (*aumiki*) at hand, the fisherman gulped down the *'awa* and then reached for the gourd (*hūewai aumiki*) and rinsed out his mouth; spat out the mouthful of *noni* water taken to remove the bitter taste, grasped a section of sugar cane to eat to cool his throat, and then for a banana and a mouthful of sweet potato. Then he reached for the eyeball of the *uku* and the *mokule'ia*—so full of fat—and the cooked *kumu* and *'opule lauli*, and then for a piece of *imu*-cooked pork. By that time he felt a sharp ringing in his ears. He was given some water and he washed his hands. He could not eat another mouthful for nausea; he was felled because of the intoxication of the *'awa* (*ua 'oki mai la ka 'ona o ka 'awa*).

The house in which the *'awa* drinking took place was like a chief's house—there was no gaiety, no talking, no jollity, for these would bring on vomiting. Burning *kukui* nuts were the only thing wanted; one or two of them would give warmth. There would be a whistling sound in the ear, like that of the *kahuli* and *pupu-kani-oe* land shells, and, with sounds like musical

instruments playing sweetly or strong winds roaring, the drinker would slip into peace and contentment.

Thus did the fisherman do, and as he slept until morning his aches and pains would ease. Then he would reach for his paddle and fishing gear and go off to fish. Or, if he were a planter, he would grasp his 'o'o and go off to his cultivating.

Ka po'e kahiko liked 'awa as a means of reducing weight. When a man saw himself growing too fat, or perhaps constantly being sick, then 'awa was the thing to restore health or to slim the body. The way to do it was to drink 'awa like the 'aumakua or the kaula prophets, that is, copiously, until the skin scaled.

Such a man looked for a place where grew very potent 'awa, 'awa 'ona, and obtained a large quantity. When the drinking of the 'awa began, all foods—'ai and i'a—were prohibited until after the 'awa treatment had been taken; only then could he eat. It was also tabu to go out in the sun and rain, for the feet would crack if wet in water or mud. The first "dose" ('apu 'awa mua) was one cup of 'awa, which caused intoxication for two days; a second cup, added to the first, had the same effect. This 'awa 'ona was drunk in the evening, and the next day, if the person were to drink water, or bathe, or eat, he would become intoxicated. In two or three days his head would grow heavy, and his eyes would pucker up. With the third cup, the effects of the 'awa would go down to his chest, and when the cups were continued, the effects would spread downward (*iho makawalu*), and he would feel sensations of solidity (*papa'aku*), of lightness (*puahilohilo*), and of rolling (*ka'a*). After this, a medicinal 'awa was taken, which was like a fine-meshed net (*naepuni*). This 'awa was drunk with a good purgative and acted like a two-finger-mesh net going gently down through the body. After three, four, or five cups, the body was spare. Then a pig was sought for an offering at the breaking of the *kanoa* bowl [dedicated to this treatment]; a feast was made, and the *kanoa* broken. When the drinking of the 'awa ended, sea water was drunk. When all the effects of the 'awa were gone, the body was slender, the illness gone, and the body restored to health.

'Awa is indigenous to Hawaii, and from Hawaii it spread to all the lands in the ocean. At the time when the earth and the Hawaiian archipelago were established, 'awa was not obtainable. It was held tabu by the gods. At the time when gods mingled with men and they talked to each other, the gods fetched this food down from Hoanianiku, a realm of the gods, and gave it to man to plant and to drink.

'Awa was a refuge and an absolution. Over the 'awa cup were handed down the tabus and laws of the chiefs, the tabus of the gods, and the laws of the gods governing solemn vows and here the wrongdoer received absolution of his wrongdoing. That was the way, and the priestly practice, of *ka po'e kahiko*. With 'awa they soothed and appeased the burning wrath of the gods. This was how it was recognized that the gods heeded the repentance of the people: they granted blessings to the race; they increased "food" and

"fish" and mankind; and they warded off misfortunes that might come, such as diseases, epidemics, contagious diseases, and sudden disasters.

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Awa lau hinano

fragrant; ^{scent} resembling
hinano blossom of kahu

formander IV-I ~~II~~ pp 358 fn 2

reference to "the king that grows on
tree.!!~~!!~~"

"...he awa no luna o ka laau.
formander IV - III pp 580-581

"Drink the awa, while it is yet warm"

formander V - II pp. 306-307

"... most essential offering to propitiate
the favor of the gods..."

formander VI - I pp 92 fn 5

"... the several kinds had their respective
degree of appropriateness as to the proper
offerings to the gods for the service of land."

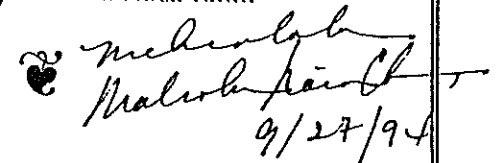
formander VI - III, p405 fn 55

*A New Revised and Enlarged
Translation*

NATIVE HAWAIIAN MEDICINES

Originally published as
**HAWAIIAN HERBS
OF MEDICINAL VALUE**
by the Territorial Board of Health
in 1922

Translated and Edited with an
Introduction by Malcolm Nāea Chun


9/27/94

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Ili 'ino ⁸⁶ is the illness, Ho'ohune [?] is the treatment, Kowali 'apu is the purgative and Ko'oko'olau liquid is continually drunk.

33. 'Awa.

Piper methysticum G. Forster

There are many types of 'Awa. They are each distinguished by their leaves, stalks and roots.

Their value is very much alike and each one has a potency for use as a medicine. One of its important aspects is as a very good medicine for the illness Maka'ā, that is insomnia.

This is how the preparation is done: The 'Awa [root] is dried in the sun until it is half dry, then it is shaken and cleaned of any dirt. The 'Awa is cut up into pieces and chewed or pounded on top of a board. If it is chewed then five "branches" of 'Awa root are mixed with three fourths a cup of Niu water and it is prepared by hand mixing. 'Awa liquid is thoroughly squeezed into a drinking bowl (the container in to which 'Awa is strained).

The 'Ahu'awa sedge is used to strain the liquid. It is not too good to use too much sedge lest the liquid becomes too filtered (o miki 'ia ka wai 'awa a koe 'u'uku) and perhaps using four and two extra and up to eight 'Ahu'awa flower stalks might be enough to clean the liquid. Then, some sap is squeezed from the lower parts of four young Kī leaf shoots. The 'Awa liquid is then warmed with some suitable small stones that have been heated in a fire.

The medicinal liquid 'apu is drunk while it is still warm and this is done until a good sleep has been induced. Two pieces of dried Ma'ā Lele and Iholena, which have been scraped with an 'Ōpihi shell and steamed in Kī leaves (lāwalu), are eaten to reduce the aftertaste.

⁸⁶ Note: This phrase was apparently edited out in the 1922 publication.

He Ili ino ka ma'i, Hoohune ka laau: apu Kowali ka hoonoha, a inu mau i ka wai Kookoolau.

33. Awa.

He nui a lehulehu wale na ano Awa, a ua hoomaopopo ia hoi lakou pakahi ma ko lakou lau, kino a me aa.

He like alike ko lakou waiwai a ikaika hoohana no lakou pakahi iho ma ka mea pili laau lapaau. A ma ke ano nui he laau maikai loa keia mea he Awa no ka ma'i makaa, oia hoi maka loa ole o ka hiamoe i na maka.

Penei e hana ai: E kaulai i ka la i ka Awa a hapa maloo, alaila, lulu a hoomaemae i ka lepo, pokepoke no hoi a mama a i ole ku'iku'i iluna o ka papa. Ina ma ka mama alaila elima mana Awa, hui me ekolu hapaha apu Niu wai, alaila, hoka oia no lomilomi i ka Awa me ka wai, a uwi a pau ka wai me wai Awa iloko o ke kanoa (mea hoa ia i ka Awa).

A kanana me ka mauu Ahuawa, aole pono e nui loa ke Ahuawa o miki ia ka wai Awa a koe uuku, a ina paha mai ka hookahi kauna me elua keu, a i ka elua kauna kanokano pua Ahuawa lawa kela, a maemae ka wai Awa, alaila, e uki aku i kahi wai e loa mai ana, mailoko mai o hookahi kauna keokeo o lalo o ka mu'o La'i, hoopumehana i ka wai Awa me kahi pohaku uuku kupono i hoowela ia i ke ahi.

A e inu mai i ka apu wai laau Awa i ka wa ano pumehana, a e hana ma mau me keia ae la a hiki i ka loa ana o ka hiamoe maikai. O ka hoomanalo mahope aku o ka inu ana i ka apu laau Awa, oia no, he wahi Pika'o o elua Ma'ā Lele a Iholena paha i wau ia me ka iwi Ōpihi a lawalu la'i ia.

Spring water is drunk. Maka'a is the illness and Ho'onaku (gas pains) are the symptoms of the illness; 'Apu wai 'Awa is the medicine; Miloloa [?] is the secret named used for this medicinal 'apu.⁸⁷

The young leaf and flower buds of the 'Awa are a good medicine for 'Ea and Pā'ao'ao when mixed inside of a child's body.

This is how the preparation is done: For children a week old⁸⁸ - one young 'Awa leaf bud, chewed with four of the bottom half of the Pūwahanui flower buds, or perhaps the 'Ilima flower, until it is a fine pulp. It is then fed to the child. This is done two times a day in the morning and the evening, and milk is fed later. The all the 'Ea and Pā'ao'ao should cease.

The 'Awa leaves, stalks and roots are a good medicine for many illnesses and in particular for LĪ (chills), Anu nui pinapina'i o ka hanu (repeated coldness of breath) and Anu ha'ukeke (a form of being cold, such as shivering).

This is how the preparation of the 'Awa is done to make a medicine for these illnesses:

The 'Awa [root] is dried in the sun until it is half dry. It is shaken until all the dirt has fallen off, then it is cut up into small pieces and beaten to a pulp, but not over done. Then, it is put into a gourd container and mixed with a Niu shell of water (to increase the amount of 'Awa pieces, fill up a woman's hatful with cut up roots and stalks).

The 'Awa is allowed to stand in the water and then it is pounded with a Niu shell full of 'Ōhī'a 'ai leaves and leaf buds, the peel of one green Kukui nut, twenty Ko'oko'olau leaf buds and flowers, and the meat of one section of Kō Kea.

⁸⁷ ¶ Note: This section was apparently edited out in the 1922 publication.

⁸⁸ The term used is anahulu which was the traditional term for a "week" or ten days.

He waipuna ka wai e inu mau ai, he Makaa a Hoonaku ka noonoo ka ma'i, he apu wai Awa ka laau. Inoa huna o keia apu laau he Miloloa.

He laau maikai ka opuu mu'o lau opio o ka Awa no ka Ea a me Paoao i hui ia iloko o ke kino o ke keiki.

Penei e hana ai: No na keiki hookahi anahulu i hookahi lau mu'o opio o Awa. Naunau pu me hookahi kauna o ka hapalua malalo (okole) opuu pua Puwahanui, a i ole, pua Ilima paha, a wali maikai e pua ahu i ke keiki. I elua manawa o ka la kakahiaka me ke ahiahi, a o ka waiu aku no mahope e hanai ai pau na Ea a me na Paoao a pau.

He laau lapaau maikai ka Awa mai ka lau, a ke kino a me ke aa no na ma'i he nui. A no ka ma'i Li, Anu nui pinapina'i o ka hanu, a me ke Anu haukeke.

Penei e hana ai i ka Awa a lilo i laau no keia mau ma'i ae la:

E kaulai ia ka Awa a maloo hapa, e lulu a pau pono ka lepo alaila e pokepoke a apanapana liili, paku'iku'i a wali aole wali loa aliala waiho aku i ka Awa wali iloko o ke poi, a hoo hui mai i hookahi puniu wai, (o ka nui o ka apanapana Awa e piha ka papale wahine i ka aa, me kino i pokepoke ia.

A hooku ka Awa iloko o ka wai alaila e ku'i i hookahi puniu piha loko a me lau Ohia ai, ka alualu o hookahi hua Kukui maka, elima kauna mu'o me pua Kookoolau, ka i'o o hookahi puna Ko Kea.

All these ingredients are mixed and pounded into a mash and mixed with water inside of a gourd container. It is left standing. The liquid is prepared, as with drinking 'Awa, by being strained with 'Ahu'awa sedge until thoroughly clean of any sediment. It can also be strained again with dried Niu sheath.

The liquid is boiled with four hot stones until it has cooled down. One full kualimu 'Ōpihi shell is drunk and this is done three times a day, perhaps for three to four days. There is an aftertaste after drinking this medicine.

The 'Awa is a very quick cure for the illnesses of Luhi (*tiredness*), Ma'uhā (*weariness*), Mā'opa'opa (*achiness*) and such illnesses that overcome the body of both men and women when they have been strenuously working night and day.

This is how the preparation is done: first take a bath in a stream deep enough to dive head in or into a spring. Upon returning from the bath, the 'Awa rootlets are first mashed and then strained with three fourths a Niu cup of fresh Niu liquid. It is strained and cleaned with 'Ahu'awa sedge and then drunk while eating half a section of Kō Kea to sweeten the aftertaste. Or perhaps some Ma'ia lholena, some "tasty" fish and poi that has been prepared by members of the household can be eaten and drunk with a mouthful of water, followed by smoking a pipe.

The action of the 'apu 'Awa begins with a tickling sensation and then sleep is induced for one whole night without awaking even to urinate. In the early morning the patient can dive into the water before eating, and goes back to their work. The patient is like a "new person" who has never worked before in his or her life.

These 'Awa are very good medicines: 'Awa hiwa, 'Awa Mo'i and 'Awa Papa 'ele'ele for the illnesses of Mimi pa'a (*inability*

Ku'i hui i keia mau mea a pau i ka wali hui pu aku iloko o ke po'i wai me Awa i hooku ia, a hana e like me ka hoka ana i ka Awa, a kanana no hoi me ka mauu Ahuawa a maemae pau pono loa ka opala me ke oka, a ina no e kanana hou aku iloko o ka aa Niu maloo maikai loa no ia.

A e hoopaila ia me hookahi kauna pohaku wela, a maalili inu i hookahi iwi Opihi kualima piha, ekolu manawa o ka la, a ekolu a eha la paha, pau ka inu ana ke mulea loa mai ka laau.

He laau lapaau hoola hikiwawe ka Awa no na ma'i Luhi, Mauha, Maopaopa a me na mea like, i loohia i ke kino na lala o ke kane a me wahine i hooikaika i na hana kaumaha a po ka la.

Penei e hana ai: E auau ka mua iloko o ka wai lu'u poo kahawai a i ole mapuna. I ka hoi ana mai mai ka auau mai ua wali mua na mana Awa elima, e hoka me ka wai Niu haohao o ekolu hapaha ka piha o ka apu Niu kanana a maemae me ka mauu Ahuawa, a inu aku a hoomanalo me ka hapa puna Ko Kea, a i ole, Ma'ia lholena paha, a ai aku ka i'a ono me ka poe i hoomakaukau ia e ka poe noho hale, a maona komo ka olopu wai a pulhi no hoi ka piha ipupaka.

A ke hoomane'o mai ka hana a ka apu Awa, haule aku no hiamoe, hookahi no ia moe ana ao ka po ke ole e hoala ia e ka pu'a mimi, a i ke ao ana kakaliaka nui hele hou e lu'u wai mamua o ka ai ana, a hele hou i ka hana e ike iho no oe ua like oe me ke kanaka hou i pa hana mua ole.

He laau lapaau maikai loa keia mau Awa hiwa, Awa mo'i, Awa papa eleele no ka ma'i Mimi paa, a me Mimi kulu paha.

to urinate) and even perhaps Mimi kulu (*difficulty urinating*).⁸⁹

This is how the preparation is done: Five 'Awa root branches are chewed, and if more 'Awa is desired then a Niu shell full is made with 'Awa pieces that have been pounded. The 'Awa is strained with 'Ahu'awa sedge and let to stand in a Niu shell cup. Then, four inches of 'Ōlena, that have been crushed to soften it, are placed in the liquid. The liquid is mixed with half or more of the ripe Niu liquid.

Some suitable small sized stones that are glowing hot are tossed into the liquid to heat it up. The hot rocks inside of the liquid are stirred with four young Kī leaf shoots that come from plant. The very top of the shoots, one at a time, is used to stir the liquid until it turns dark. The liquid is stirred until all the leaves are used up, then, the liquid is drunk while it is still warm. When the 'apu has been drunk, then half of a 'Uwala Huamoa or a Mōhihi, the size of a fist is eaten. Half of it can be eaten raw with the skin peeled off.

This works well as a purgative to end constipation and the patient would drink a lot of spring water, one to even three drinks are enough.

The 'Awa Mo'i and the 'Awa Papa ke'oke'o are good medicines for ka ma'i 'eha iloko o ke po'o a holo i nā mahamaha me nā maka (*headache that travel to the temples and eyes*), that is, Po'o hua'i (*splitting headache*).

This is how the preparation is done: The 'Awa is dried until half dry, and then it is cut up into pieces suitable for chewing, both flesh and roots. One to two pieces of flesh and even roots are chewed, every half hour and broiled Niu meat is chewed to counter the aftertaste of the 'Awa. The sediment of both 'Awa and Niu are spat out.

From the third to the fifth day, the 'Awa is chewed and

Penei e hana ai: E mama i elima mana Awa, a ina ma ke Awa alaila, e piha ka puniu i ka apanapana Awa e ku'i ai. Hoka i ka Awa a kanana me ka mauu Ahuawa, a ku ka Awa iloko o ka apu puniu alaila e hookomo iho i hookahi kauna iniki Olena, i lomilomi ia a aeae a e hookomo iho iloko o ka apu wai Awa i hui ia me hapalua a oi iki apu Niu wai Niu oo.

E kaa iho i wahi pohaku uuku kupono wela ano enaena no ka ho'omo'a ana i ka wai Awa laau, e koaikoai iho i ka pohaku wela iloko o ka apu Awa me ho'okahi kauna mu'o La'i o luna o ka mu'o la'i kahi e koaiai ai, ma ka pakahi e hana ai a hauli ae ana ia mu'o a pela aku ana a pau na mu'o la'i. Alaila e inu aku i ka wa ano pumehana no o ka wai Awa, a pau ka apu Awa i ka inu alaila e ai aku i ka hapalua o ka Uwala Huamoa a Mohihi paha i like ka nui me ka puupuu lima, a o ka hapalua o ia ke ai maka kolikoli ka ili a pau.

E hoonoha laau noha ke paa ka lepo, a e inu aku i ka waipuna he hookahi a i ka ekolu paha ihu ana pau.

He laau lapaau maikai ka Awa Mo'i ame Awa Papa keokeo no ka ma'i eha iloko o ke poo a holo i na mahamaha me na maka oia hoi ka ma'i Poo luai.

Penei e hana ai i ka laau: O ka Awa i kaulai ia a hapa maloo e pokepoka a apanapana kupono no ka naunau ana i ka i'o Awa a me aa, alaila, i hookahi a elua apana i'o a me aa paha e naunau mau ai i kela a me keia hapalua hora, a i Niu pulehu ka hoomanalo mahope aku o ka moni ana i ka wai o ka Awa i naunau ia a puhi ke oka a pela no e puhi ai i ke oka o ka Niu.

Mai ka ekolu la a i ka elima la e naunau mau ai i ka Awa a

⁸⁹ Translated in the 1922 publication as, "For difficulty in passing urine".

spring water and fermented sea water is constantly drunk. Half a 'apu kai that is drunk works as a purgative to undo the constipation.

With the treatment described above, only the 'Awa as prepared can counter the illnesses of Lele, Pala, Pu'upu'u 'ōhune (bumpy skin rash), Mē'ēau (itch) and other types of Pu'upu'u (lumps) known and familiar that are contagious, and so too, for the illnesses Maka 'ula'ula (Pinkeye, lit. reddish eyes) and 'Ea Makahonu.⁹⁰

The ashes of the 'Awa are a good medicine for 'Ea and Pā'ao'ao.

This is how the preparation is done: The sediment from the preparation of 'Awa, that has been drunk, is set out to dry. It is then burnt in a fire until ashes have formed. These ashes are mixed with the ashes of Pili (*Heteropogon contortus* (L.) P. Beauv. ex. Roem. & Schult.) and the blacked remains of a Kukui nut that has been broiled to a crisp.

These ashes and the blacked Kukui nut remains are blended together, and this is the medicine used to smear and treat the tongue of children with 'Ea. The symptoms are mucus running down from the mouth and a pale whitish matter which swells up on the tongue and is scratched off with a piece of pa'ūpa'ū kapa.

This is done three times a day and for five days. The child drinks Ko'oko'olau liquid, which has been warmed with hot stones and allowed to cool down before drinking.

All the types of 'Awa can (except the 'Awalauaneakāne) be mixed in the many medicinal 'apu for serious illnesses like Kohepopo and Waiōpua.

This is how the mixing is done: One woman's hatful of pieces of 'Awa flesh and root that have been half dried, one

e inu mau no hoi i ka waipuna a wai hukahu kai paha. Hapa apu kai ka laau hoonoha e inu ai ke paapaa mai ka lepo.

Me keia hana ana ae la no e hana ai ka Awa wale no no ke pale ana aku i na ma'i Lele, Pala, Puupuu ohune, me Meeau, a me na ano Puupuu e ae i ike a maa ia he lele mai kekahi mea mai a i kekahi, a pela pu ka ma'i Maka ulaula a me ka Ea makahonu.

O ka lehu o ka Awa he laau maikai ia no na ma'i Ea a me Paoao.

Penei e hana ai: O ke oka o ka Awa i inu ia e kaulai ia ia o ka Awa a maloo, a e puhi ia i ke ahi a loa mai ka lehu, a oia lehu hui aku me ka lehu o ke pili hale a me ka elele o ke Kukui i pulehu ia a mo'a papaa.

E kawili hui ia keia mau lehu me ka elele o ke Kukui a hui maikai a oia ka laau e hapala a e hana ai i ke alelo a me ka lehelehe o ke keiki i loa i ka ma'i Ea, e kahe nui mai ana ka wale o ka waha a e pepelu ae ana ka mea keokeo o luna o ke alelo, a e kope mai no hoi ia me me kahia apana kapa paupau.

E hana i ekolu manawa o ka la a e i elima la e hana mau ai. A e inu ke keiki i ka wai Kookoolau i hoomo'a ia me ka pohaku wela aia no hoi a maalili ka wai alaila inu aku.

He hiki i na Awa a pau (koe ka Awa Lauaneakane) ke hooihuihui ia iloko o na apu laau he nui, no na ma'i ko'iko'i no hoi e like me ke Kohepopo a me Waiopua.

Penei e hana hooihuihui ia ai: Hookahi papale wahine piha i na apana i'o Awa a me aa i maloo hapa, hookahi piha papale wahine i ka mauu Ihiai (ka mu'o ka lau me ke kino), hookahi hua Noni oo

⁹⁰ Translated in the 1922 publication as "to bar off contagious diseases of all sorts, especially skin diseases and eye trouble."

woman's hatful of 'Ihiai (the leaf buds, the leaves and stalk), four yellowish ripe Noni fruit, one woman's hatful of the 'Ōhīa 'ai leaf bud, one piece of 'Ōhīa 'ai bark, the size of a large open hand [are gathered].

All of these ingredients are pounded into a mash and mixed with one cup of Niu water and prepared like drinking 'Awa. The liquid is strained using 'Ahu'awa sedge until it is free of any sediment. Then it is covered with four glowing hot stones and the stones are left in the liquid until they have cooled. The liquid is then strained again with dried Niu roots.

One mouthful of the medicine is taken once and this is done three times a day for five days. However, if the medicine is bitter and tastes rather awful or weak, then it was not to be drunk again. A whole day would pass until the treatment discussed just above was started again as directed.

This medicinal 'apu and treatment is called Pīpīiolono [?], which is also the name of this 'apu.

The 'Awa, all types of it except the 'Awa LauaneaKāne, are used for the illness Pu'upa'a (Haku ala), that is 'eha a nā waliwali o ka pu'upa'a (*the pain and weakening of the Pu'upa'a \kidneys?*).

This is how the preparation is done: One Niu cup full of 'Awa flesh and roots, chewed or perhaps thoroughly pounded. The 'Awa is hand kneaded until a very good mash is formed, then four Kī leaf shoots, two arms length, are pounded until both the whitish and dark parts are mixed well into a mash. This is then mixed together with the 'Awa and also with three fourths a Niu cup full of spring water.

It is strained and prepared in the customary way drinking 'Awa is done. The 'Awa and Kī leaf liquid is squeezed, mixed and strained using 'Ahu'awa sedge until it is clean, then it is drunk before eating. This is done twice a day in the morning and the evening. One to two mouthfuls of spring water are taken to counteract the aftertaste of swallowing the 'apu 'Awa.

halena, hookahi piha papale wahine i ka mu'o Ohia ai, hookahi papaa Ohia ai like me ka peahi lima ka nui.

E ku'i ia keia mau laau a pau i ka wali, hui aku hookahi apu Niu wai hana e like me ka hana ana o ka Awa inu, a kanana me ka mauu Ahuawa a maemae oka ole, alaila, e poipoi ia me hookahi kauna pohaku enaena, a maalili lawe ka pohaku a kanana hou me ka aa Niu maloo.

Alaila e inu i hookahi Olopu laau i ka manawa hookahi a i ekolu manawa o ka la a i elima la e inu mai ai. Aka nae, ina e mulea a awaawa pinaea ka laau mai inu hou aku. Hoalo i hookahi la a ia la e hoomakaukau hou ai i na laau i hai ia ae la, a hana no e like me na kuhikuhi ana.

Ua kapa ia keia apu laau a hana laau ana, he Piipiolono oia no ka inoa o keia apu.

He laau lapaau maikai ka Awa na ano Awa a pau, koe ka Awalauanekane, no ka ma'i o ka Puupaa (Hakuala) oia paha eha a nawaliwali o ka puupaa.

Penei e hana ai: I hookahi piha apu Niu i ka i'o a me ke aa Awa, mama a i ole ku'i paha a pau pono ka apu Niu piha kaomi i ka Awa, a wali pono loa ka Awa alaila e ku'iku'i iho i hookahi kauna mu'o la'i o elua kikoo lima ka loihi, e ku'i mai ke keokeo a ka uliuli a wali maikai ka mu'o la'i, e hoohei aku me ka Awa wali hui aku me ekolu hapaha piha apu Niu i ka waipuna.

A kanana hoka iho e like me ka hana maa mau ana i ka Awa, e uwi i ka wai Awa me La'i i hui ia a kanana me ka mauu Ahuawa a maemae, alaila inu aku mamua o ka ai ana. A i elua manawa o ka la kakahiaka me ahiahi a e hoomanalo aku me hookahi a elua olopuwa waipuna, mahope o ka moni ana i ka apu Awa.

Two mouthfuls of spring water are to be constantly drunk if at all possible, perhaps even taking it eight times a day.

Eating a lot of salty foods with meats and fish with dark colored meat is forbidden. Pikonia is the illness; 'Awa hōkale (watery or diluted 'Awa) is the medicine.⁹¹

The 'Awa is a good medicine for Pū'ao kūlou (and perhaps Pū'ao pelu)⁹² of women who have or have not given birth.

This is how the mixing of the 'Awa and other plant materials is done to obtain a medicine:

Four knobby nodes of 'Awa (only the flesh), one handful of ripe Pōpolo berries, four 'Akoko leaf buds and two leaves from just below the leaf buds, the top portion of two Kikawaioa fern shoots (no stems), one handful of Kūkaepua'a leaf buds and leaves.

All these ingredients are pounded together into a mash, and two kualimu 'Ōpihi shells full of fresh Niu water is mixed in. The liquid is then prepared as is done for drinking 'Awa. It is squeezed and strained with dried Niu sheaths until it is clean of any sediments, then it is ready to drink. When it is time to eat, eight 'Ilima flower buds are first chewed and swallowed, then the medicine is drunk afterwards. After a little while has passed, half of the fresh Niu water is drunk.

This is done two times a day, in the morning and the evening until five medicinal 'apu have been taken. Spring water is drunk a lot with Ko'oko'olau liquid that has been heated up with glowing hot rocks. This is done with the same restrictions placed upon the medicinal 'apu used for the illness Pu'upa'a, just discussed. It is an excellent medicine for girls twelve years of age to drink.

⁹¹ Note: This last phrase was apparently edited out in the 1922 publication.

⁹² Translated in the 1922 publication as, "For displacement of the womb".

A e inu mau aku i elua o olopu waipuna ina paha elua kauna manawa i ka la e inu olopu waipuna ai maikai loa kela.

E kapu hoi ka ai nui ana i na mea paakai me na i'o holoholona a me ia i'o eleele. Pikonia ka ma'i, he Awa hokale ka laau.

He laau lapaau maikai no hoi ka Awa no ka ma'i Puaou kulou (a Puaou pelu paha) o na wahine i hanau a hanau keiki ole.

Penei e hana hoohuihui ai i ka Awa me na laau e ae a loaai mai ka laau lapaau.

Hookahi kauna pu'u haka'i o ka Awa (i'o wale no), hookahi piha poho lima hua pala o ka Popolo, hookahi kauna mu'o a me elua lau malalo iho o ka Akoko, elua pepe'e (aole ke kanokano) Kikawaioa, hookahi piha poho lima mu'o a me lau Kukaepuaa.

Ku'i hui i keia mau mea a pau i ka wai, hui aku me elua piha iwi Opihi kualimu i ka wai Niu haohao. A e hana e like me ka hoka ana i ka Awa no ka inu ana, uwi ka wai a kanana me ka aa Niu maloo a maemae, makaukau no ka inu ana, ia wa e ai naunau a moni mua aku i elua kauna opu'u Ilima, a inu aku no hoi ka laau mahope, a li'uli'u iki alaila inu mai ka hapalua o ka wai o ka Niu haohao.

I elua manawa o ka la kakahiaka me ke ahiahi a i elima no hoi apu laau. Inu nui i ka waipuna a me ka wai Kookoolau i hoomo'a la me ka pohaku wela enaena, like na mea kapu me ko ka apu laau no ka ma'i Pu'upaa mamua ae. He laau maikai loa kela e inu ai na kaikamahine ekolu kauna makahiki.

The following are the various types of 'Awa and their individual names:

'Awa Hiwa. Its leaf is kind of round like the Maunaloa and perhaps the 'Ōhi'a 'ai. The leaf is kind of smooth, shiny and brittle. This type of 'Awa is very black and its sections are very long. The use and sanctification of this plant was done by the kāhuna ho'omanamana. Its fruit is very rare and the kāhuna I lāhā used its leaf bud and tap roots for medicines.⁹³

'Awa Mo'i. The general appearance of its stalk is a darkish color, and its sections are slightly shorter in length than the 'Awa Hiwa. It is sort of pale at the joints of the sections. The leaf buds of the 'Awa and the roots are a good medicine and the leaf is shiny.

'Awa Papa 'ele'ele. The body is like the 'Awa Hiwa, but, the sections of the stalk are short and its leaves are slightly bigger, and in this regard its general appearance is like the 'Awa Mo'i.

'Awa Papa ke'oke'o. It is whitish all around. Its leaves, body and sections are like the 'Awa Papa 'ele'ele. This is a commonly found 'Awa in the forest. Its growth is prolific and spread out.

'Awa Mākea. The body and the stalks of this 'Awa are pale white. Its sections are kind of long like the 'Awa Hiwa, and its joints at the sections are kind of reddish. The leaf is perhaps like the 'Awa Papa ke'oke'o and the fruit is numerous like other types of 'Awa.

'Awa Nēnē (Awa Kua'ea is the secret name). The stalks of this 'Awa are like the 'Awa Mākea. Furthermore, its general appearance is spotted and kind of lumpy like the spots of a turtle's back or also like the Moa hulu Nēnē.

'Awa Mokihana. The leaf and its pale white color are like the 'Awa Mākea's. The sections are very small like the young

Eia iho ke ano o na Awa a me ko lakou mau inoa pakahi.

Awa Hiwa. He lau ano poepoe like me ko ka Maunaloa a Ohia ai no paha, he ano mahumahu a hamani ka hinuhinu o ka lau. He eleele paa loa keia ano Awa, a loloa no hoi ka puna (pona), he hoozana a hookapukapu e na kahuna hoomanamana, he ano kakaikahi kona hua ana, a i na kahuna haha he laau lapaau mai kon mu'o kona mole.

Awa Mo'i. He hauhi ka nanaina o kona akaaka, a emi iki mai ka loaloa o kona pona i ko ka Awa Hiwa, a he ano hakeakea no hoi ma ka hookuina o na pona. He laau lapaau maikai ka mu'o o ka Awa a ke aa, he hinuhinu ka lau.

Awa Papa eleele. Like ke kino me ko ka Awa Hiwa, aka nae, he pokopoko ko Puna, a i ole (akaaka) he ano nunui iki ae ko ianei lau, a like no hoi ka nanaina me ko ka Awa Mo'i.

Awa Papa keokeo. He keokeo no kona mau ano a pau, a like no ka lau ke kino a me ka pona (puna) me ko ka Awa papa eleele. O keia ke ano Awa loa nui a ano ulu ma ka nahelehele hoi ke ano o kona ulu ana kiwalao ana ma na wahi ulu nui o keia ano Awa.

Awa Makea. He keokeo ke kino a me ka akaaka o keia Awa. Ano like ka loloa o ka pona (puna) me ka Awa hiwa, a he wahi mea haulaula nae ma ka hookuina o na pona, like paha ka lau me ka Awa Papa keokeo, like ke nunui o hua me na Awa e ae.

Awa Nene (Awa Kuaea ka inoa huna) . He like ka akaaka o keia Awa me ko ka Awa Makea. Eia na[e] he kikokiko kona nanaina a ano apuupuu no hoi like paha me ke kikokiko o ke kua ea o ka Honu, a i ole me ka Moa hulu nene no hoi.

Awa Mokihana. He like ka lau a me ke keokeo me ka Awa Makea. Pekepeke liilii ka pona i like aku me ka Ohe opiopio liilii.

⁹³ Note: The references to kāhuna were apparently edited out from the 1922 publication.

'Ohe (*Schizostachyum glaucifolium* (Rupr.) Munro). This is the 'Awa in which the fruit and stalks are taken by birds and placed in trees. It is called "Ka 'Awa kau lā'au." There is a kind of fragrance smelled when drinking this 'Awa and its potency increased when it has been properly drunk.

34. 'AwalauaneaKāne
(perhaps 'AwalauaKāne, and Mai'a Pilo
(and Pilo) are the correct names of this plant).

Capparis sandwichiana DC⁹⁴

This is a plant very much like the root and growth of the 'Ūlei. It has yellowish, pale white flowers, and the leaves are sooty and fat like a succulent (hāpā'upa'u pepehu). Its leaves, flower and sap have a foul odor. This is why it is called Pilo. Its flower twists like the Mai'a Iholena, when it starts to bloom, hence it is called Mai'a Pilo [Maia pilo] and Kūpaoa is another name for it.

Its growth is stunted upon the cliffs and at the places close to the mountain. Some people have called it Kupali'i, which is another name for this plant. It has not much value in terms of medicine. In the practice of Hāhā, the sappy, sort of milk of this plant is the only thing used. It is made into a medicine for the illness Hēhē.

This is how it is prepared: Two tap roots of this plant are pounded, two tap roots of the Pūkāmole, one 'Ama'uma'u shoot, and a piece of Kukui bark, not too big are gathered. These ingredients are pounded into a mash and rolled up in dried Niu sheath. The medicinal liquid is squeezed and smeared on top of the Hēhē with some of the medicine retained directly above the

O keia ke ano Awa e lawe ia ai ka hua me ka aka e ka manu a ka iluna o ke kumulaau, a kapa inoa ia ai "Ka Awa kau laau." He ano aala ka inu ana o keia Awa, a he ikaika loa ka ona ke oi aku mamua o ke kupono ka inu ana.

34. Awa Lauaneakane (Awa Lauakane paha,
a he Mai'a pilo (a pilo) ka inoa pololei o keia laau).

He laau maoli no keia i like ke kumu a me ka ulu ana me ka Ulei, he pua keokeo halena, he hapa'upa'u pepehu ka lau, he pilopilo ka ea o kona lau, pua a me ka wai o kona kino, a no ia mea i kapa ia ai he Pilo. A no ka owili like me ka Mai'a Iholena o ka pua ke hoomaka ae e pua, pela i kapa ia ai he Mai'a Pilo, a he Kupaoa kekahi inoa no ke pilo o keia laau.

He ulu aanalii kona ulu ana i ka pali (ke kaulupali), a ma na wahi e pili kuahiwi, a ua papa kekahi poe he Kupalii kekahi inoa o keia laau. Aohe nui o ka waiwai o keia laau ma ka mea pili laau lapaa, malalo o na papa hana hana koe wale no ke kohu ano waiu o keia laau, he hana ia i laau no ka ma'i Hehe.

Penei e hana ai: E ku'iku'i i elua mole o keia laau. I lūi pu ia elua mole Pukamole, hookahi pepēe Ama'umau, a me kahi papaa Kukui aole nui loa. Ku'i a wali popo iloko o ka aa Niu maloo, a uwi ae ka wai laau a hapala maluna o ka ma'i Hehe me ka hookoe ana

⁹⁴ * Note: This heading and subheading were apparently edited out of the 1922 publication and the text was listed under 'Awa.